EFFECTIVE FACTORS IN PROMOTING SOCIAL INTERACTIONS BETWEEN RESIDENTS IN RESIDENTIAL COMPLEXES

Razieh Jafari[1*], Ahmad Mirza Koochak Khoshnevis[2]

[1]Master Student in Bandar Abass Payam Noor University, Bandar Abass, Iran
[2]Assistant Professor in Institute of Cultural Heritage, Crafts & Tourism, Iran

Corresponding authors: (Email: r_jafari66@yahoo.com)

ABSTRACT
The purpose of this study is to look for the relationship between the physical characteristic of a residential complexes and social interactions between residents and to extract laws which have influence on this factor. The independent factor in the present study is effective physical characteristic of residential complexes such as spacing, access ways, aristocracy, neighborhood, etc and dependant variable is the social interactions between residents. The main question in the present study is to extract factors which have influence on promoting social interactions. The information about residence and social interactions and the information about designing which form theoretic basis of the design were collected through library studies and at the end of research four factors recognized; security, mental relaxation, sense of belonging to a place and the acting system of effective factors on social interactions. And finally, using research results, the items which should be observed in architecture and urban planning to promote social interactions have been mentioned.

KEY WORDS: *Residential complexes, social interactions, security*

Introduction

Neighborhood relationship was said to be a necessity for urban society. This necessity can lead to social interactions between families, and answer their needs. Moreover neighbors society requires a territory; this territory along with the social control which forms among the neighbors improves their safety. Satisfying all these needs strengthens the relationship between the neighbors. In our culture, neighborly relations contain physical needs also and their general framework called neighbor's rights is one of our religious teachings. Now an important question may rise: what are the limits of neighborly relations? What are the desired neighborly relations? For example, caring neighbors which we praise it, in some place may be known as interference or disturbance and in the other place the neighbors may reject to have any relations and prefer loneliness. As the human develops his culture, he has domesticated himself and in this process a new group of worlds have been created each of which is different and contains a collection of emotional institutions related to it, so that in a culture one thing causes population growth but doesn't necessarily have the same function in another culture. Also a behavior, which brings tension and encroachment, may cause a group of people feel aggressive and at the same time makes no changes in the emotions of another group. Anyway studying about population growth and social behavior tells us how social behaviors

along with population growth will have obvious physiological consequences (Hall; 2013). Following the beliefs of ethnologists such as Konrad Lorenz encroachment is an essential and basic element of life without which life, as we know it, probably would be impossible. In nature, encroachment finally results in such a conventional spacing in animals that prevents their increase to the extent destroying environment and their own life. When after population growth, congestion and population density go up, interactions also become more severe and it cause more and more stress.

"Hall", American anthropologist in the book "The Hidden Dimension" (Hall; 2013) has discussed the hidden force of "congestion" in the life of creatures and concluded that the criminals, violations, sexual deviations and diffusion of corruption among human beings are mainly caused by the influences of hidden force of congestion. So that in practice it's been seen that population density and privation from sufficient space cause mental or psychiatric disorders, abnormal sexual behaviors and falling apart of families; they also transform social moral which is the basis for the balance of society's life. Therefore it can be concluded that physical matters of neighborhood unit such as population, traffic and cityscape can be some effective factors in ideal neighborhood unit designing, in other words congestion and social behavior determine the optimal population of a neighborhood unit. Nowadays people are forced to live in residential complexes and the purpose of this research is to study effective factors in social interactions between residents in residential complexes.

Literature Review

Reason for Demonstrating Social Interactions
To understand the need of demonstrating social interactions especially neighborly relations (the existence of relations between human beings specially neighbors) taking this matter into account seems necessary: "Do these relations answer residents essential needs?" Therefore to find the answer of this question various models have been established by scientists. All of them have been established to explain "inner forces" such as biology and psychology, consciousness and unconsciousness and also "kinds of needs" from the most fundamental level to the highest level (Lange;1938). Here two of these models which are used the most by the designers will be explained. One of them is a model that has been established by "Alexander Leighton" under the name of " the main emotions scale to compete" and the other one is "hierarchy of human needs" established by "Abraham Maslow" (Lang;1938)
Leighton has identified ten needs in his model:

- Physical security
- Sexual satisfaction
- Expressing enmity
- Expressing love
- Protecting Personal interests
- Being identified
- Expressing spontaneity
- Detecting your own and othersposition in the society
- Maintenance of membership in a certain group

- Belonging to a spiritual discipline

It's clear that answering all needs in Leighton' model is possible only if at least two men form a relation with each other and certainly if there's no possibility to form relations between people then it can't be expected that human needs, which are introduced in Leighton' model, are satisfied. Although for some designers like "Christopher Alexander". Leighton' model is a proper means of understanding environment while respecting human beings but the others like "John Lange" believe it to be without discipline and clear categorization (Lang;1938), for this reason Maslow's model, which suggested a hierarchy of needs from the strongest to the weakest one, is more supported by designers. His suggested hierarchy is as follows:

1- Physical needs; like hunger, thirst (need to eating and drinking)
2- Safety needs; like safety and protection against physical damages (need to have house and shelter)
3- Love and belonging; like belonging to various social groups and having emotional relations (need to have a family and friends)
4- Esteem; It means to be accepted and valued by the others and your own self (need to have a social esteem)
5- Self-actualization; The desire to satisfy individual full potential (need to achieve perfection)
6- Self-transcendence; like the desire to know and the desire for aesthetics for the sake of aesthetics (Rafipoor; 1985 & Lang;1938)

In other words, each man believes that based on his beliefs some of his needs are superior to others and for this he uses all his power to firstly satisfy these needs. Therefore depending on the individual's view point on life, personality, culture & mores and urgency of needs is different in individuals. (Lang; 1938)

Research History
Some researches have been done about the relation between architectural space and social interactions or social interactions' ecology. On the basis of viewpoints proposed by Joseph P Frgas, architectural space can be identified as an important factor in the interaction of human with the others. People as an organized system, active and capable of learning, can modify his behavior against the changes in architectural space. (Frgas,2000).The space between required interaction and relation in this research is at the same level with social-advisory spaces in Edward T. Hall's "proxemics" theory. In another work "how to use manmade space for relation between individuals" using manmade space in relation between individuals with psychological test methods have been obtained. Altman believes that the amount of individuals' desired social contact changes in various situations and even various times of day and these changes happen to achieve desired level of solitude. (Altman, 2003). Creating a balance between solitude and social interaction is possible by physical also cultural-social concepts which provide necessary psychological background. Chermayeff & Alexander also believe that "solitude and social interaction" are one of related and close concepts (Chermayeff & Alexander,1997). On the other hand Torsten Hägerstrand has provided a method in which time and space are basic dimensions of analysis of dynamic processes; this method is known as "Time geography" and analyzes the behavior in the time, space and physical environment in which social activities are going on and tries to study how the physical

environment effects individuals' and groups' daily activities. (Giddenz, 1994). Normal L. Mall Believes that "proxemics" , "homogeneity", "density " , "situation" and "goal" are the main factors in creating interactions among people and can bring cooperation and competition. Based on Lange point of view various architectural spaces can "inhibit" or "facilitate" invidual's behavior but can never "determine" it. Therefore the final outcome of the interaction between human being and architectural space is not possible only through "adaption" behavior to the space but coexistence of space and behavior is the result of "conditional correlation "between these two caused by man's final decision and selection on the basis of his mental and physical abilities, his needs and social and cultural norms. (Lang, 1938) In Cassidi words, "If people are homogenous in public places the possibility of forming interaction between them will increase and heterogeneity will increase the possibility of not forming interaction". Ganz also says: "A potential architectural space provides a vast domain of opportunities for satisfying individual's needs, whereas anything an individual achieves any time is because of effective architectural space". In conclusion how to use architectural spaces is depended to the number of "opportunities" and their "quality" (Motallebi, 2001, Ganz, 1968)

Research method
According to the variable aspects of human needs, a background which can accept these various and continues changes in it, is required. By increasing space capacities, architecture enables the space in such way that in answering their various needs individuals can achieve a proper interaction with it. In this study the information about residency and social interactions together with the information about designing background, both of which form the theoretical basis of a design, were collected through library research and by studying scholars' and designers' ideas the effective factors on social interactions were recognized. After recognizing the effective factors on social interactions, the effect of these factors on architecture and design is mentioned.

Data Analysis

Identifying Conventional Tensions in ResidentialComplexes
Two items which cause the most contention in high density residential complexes are using shared facilities and noise pollution. All high density residential complexes contain some public spaces. These spaces consist of corridors, entrances, lobbies, parking, riding way, spaces for waste containers, gardens, yards, pools and common rooms. Public spaces are important in that they provide opportunities for social interactions between the residents and also between the residents and their friends (Beer, 2003). On the other hand the small size of the apartments don't let the residents to have a space for the entertainment or playing games and the public spaces can compensate this problem (Foth & Sanders 2005: 5-6). In places where lack private open spaces the importance of open public spaces doubles. (Mulholland Research and Consulting 2003). In a research in Sydney Henderson & Wilson resulted that many of the residents who didn't access external spaces for entertainment, mentioned it as a main factor in not experiencing sense of social solidarity. Contrary to this if open spaces exist in the industrial complex, they can have a significant role in developing the sense of collectivism. (Henderson & Wilson, 2008). But if there are public spaces in the residential while residents' values to use them differ with each other contentions among them will be inevitable. For example Mulholland et al in a research on the privacy and

density in London concluded that heterogeneous residents in a residential can cause the problems about using public places; especially when for instance a family sees a public space as a place for playing games while an old couple prefer calmer social space and teenagers tend to use it for noisy entertainments. (Mulholland Research and Consulting, 2003: 14-15). In some cases to agree on the proper level of privacy and freedom, board of directors has reached a dead end. In a similar research in Quebec, Seguin understood that the contention caused by the use of places which connect private and public places (e.g. entrance hall & stairs) by the youth has been associated with a concern that youth don't respect to keep public places clean. (Seguin 1997). Another factor which can cause contention between the residents is the between residential and commercial tenants in using public spaces. For example the services which are used by commercial part but residential part pay for it. In high density residential complexes there is another concern over public spaces: the standard of maintaining these spaces. The design and the landscape of public spaces, especially those which are aimed to develop opportunities of entertainment and interaction, are so important and therefore the way of maintaining them also should be mentioned. What seem probable is that people don't like to spend their time in unsafe and dirty places.

Different Levels of Social Interactions in Residential Complexes
Articles which have been written about the residents' social interactions has divided it to two or more levels which are: familiarity (knowing the neighbors in the level of formal greeting) mutual assistance (levels of confidence and availability for example borrowing something from the neighbor or the request to care your baby for some hours), contribution (contributing in activities such as having barbecue or group games), socialization (becoming friends with the neighbors and informal & friendly meetings) in each of these researches at least one of them or none of them has been seen. (Forrest et al; 2003, Dixon & Dupuis; 2008, Bretherton & Pleace; 2002). The fact that the life of human being is impossible without social dealings and interaction is confirmed by Islam thought so to prevent isolation it values social relations. Islam encourages group life and more broadly social life and has established a set of relations between Muslims named "agreement" and items such as interaction, cooperation, kindness, usefulness to others, and avoidance of harming to his fellowman are parts of it. The domain of this interaction has been well described in Quran (Ayah 103, Sura Al-e-emran) while Islam wants the Muslims to have strong relations with each other. These relations which are beyond family relations, equal to commitment between Muslim brothers. Strong social relations as Islam's most prominent necessities are emphasized frequently in Quran with the name of "Brotherhood "as the basis of public activities in Muslims' community. God has declared Muslims as real brothers and know them united because of "Brotherhood" not only in humanity but also in Islam. In a rule written in the second ayah of Maedesura God tells to Muslims: "but help ye one another unto righteousness and pious duty. Help not one another unto sin and transgression." And in the 10 ayah of Baqarasura God states: "The believers are naught else than brothers. Therefore make peace between your brethren and observe your duty to Allah that haply ye may obtain mercy". Islamic Prophet also has emphasized on the social aspect of Brotherhood and called it an essential matter in Islam. He states: "believers are like bricks of a building. Each brick is supported by the other one." In a similar Hadith in "Sahih al-Bukhari" (Death time: 870) quoting Islamic Prophet is written: "You Muslims are like a body of a human being, when an organ aches, other organs ache" by stating a relational and social-religious principle this Hadith tries to build a matched community with "Ommat" through strong social interaction in

all social levels. M.Holland in his new book named "Brotherhood duties in Islam" wrote that Al-Ghazali a Muslim jurist and theologian (Death time:1111) confirmed the fact that Islamic Brotherhood is actually an agreement between people. This is his interpretation of this agreement. (Al-Ghazali; Death time:1381). Strong social interaction in Muslims communities is shown through the kindness and close relations, also in the commitment invites Muslims to consider and regard each other. In fact Islamic Prophet has stated that even planting a tree because it benefits the others, is greatly valued by God. Performing "Ehsan" (perfection) or similarly "Sadaghe"(Alms) is also an instant of these commitments. There are many Ayahs in Quran and prophetic Hadiths which indicate the importance of social characteristic of "Ehsan". "Ehsan" should not be seen from the material or worldly commitments' point of view but it should be known as one of the many ways of maintaining social relations between Muslims. As mentioned in several collected Hadiths by "Ahmad ibn Hanbal; the ahl as-sunnah scholar and theologian " (Death time:855) In fact greeting is also one kind of "Ehsan". The strong social interaction between Muslims also can be provided by avoiding the actions which may harm the other Muslims. Quran and Sunnah prevent Muslims of any action that can in any way inflict physical or psychological damage to the positive relations among Muslims. For example in one instance of several Ayahs that mention the punishments of damaging others it is said: "And those who malign believing men and believing women undeservedly, they bear the guilt of slander and manifest sin." (Ayah 58 SuraAhzab).

Effective Factors in social interactions promotion

After reviewing the literature about human beings social interactions four factors have been identified as major factors in social interactions promotion.

Safety

Increasing criminals and its distribution in urban societies have concerned city residents over life safety in the big cities. Enhancement in residential density can have positive and negative influences on the residents' safety. In one hand the density of resident and referents can make it possible for residents to control abnormal social behaviors. While social abnormalities are more related to more general social problems than to a kind of residential complex and density, researches have been done in western countries so far show contradictory results. Some studies state that in high density residential complexes, personal criminals and robbery statistics has grown but the same studies also show that old and lonely people who scare social criminals mostly attracted by high density residential houses. Any way the results of these researches since done in specific conditions can't be easily generalize to other countries' social-cultural conditions. Psychological aspects of sense of safety in residential areas must be known and studied correctly in each culture. These aspects are affected by a number of factors such as residents' social-cultural characteristics, physical accessibility of potential troublemakers, defining and controlling house territory, watching accessibility paths and other places through which disturbance may be possible. While as a design over reforming social issues is not allowed, but in fact designing together with the management and social contribution of the residents, work together to successfully keep residential complexes safer and more secure. Sense of security by environmental designing can be improved through designing self defendant spaces and the possibility of watching the residential complex for residents and Separation of walkways and riding ways.

Image 1: Fluid motion in Stairs (semi-open space) for visibility to increase the security (Reference: Delta real estate site)

Sense of belonging to a place

Sense of belonging is caused by the actions and behaviors between human and environment (Relph, 1976, Aluman, low,1992). Interaction with the social and physical environment leads to formation of emotional, behavioral and cognitive links. Which are the result of individuals' attachment to their environment. (Bonaiuto et al.1999, Green, 1999). This is effective in users' activities and behavior. Jikaber believes that sense of belonging to a place is a deep human characteristic and says that individuals in some places tell: "I belong to it" and by this they give the concept of home to that place. (Daneshpoor at al , 2009). Alexander believes that a place with a stronger sense of place helps the life to be more satisfied and fresh (Partovi, 2008). The places to which people feel belonged are active and lively places. Committed people feel responsible about these places and try to promote its desirability; therefore always changing and dynamism are in process in these places. Sense of belonging to a place is the result of some qualities in that place which make individuals to feel committed to their environment. Therefore accessing these qualities can be or of the main purposes of each designer. Other than space and environmental qualities, one aspect of sense of belonging roots in social links and human interactions which exist in the environment. Place shapes these interactions and it is the common factor between all the individuals. Social characteristics affect sense of attachment from two sides. Individuals' social assessment of the environment and the amount of his cognition and interactions from one side and place capacities to promote interactions from the other side affect the sense of attachment. Individuals are more attached to the places where they know others and have interactions or dealings with them. In fact social links in the place have direct and positive effect on the individual's linking to the environment. On the other hand creating the opportunities and spaces for establishing interactions also increases the sense of attachment. Sense of belonging to a place has the following aspects:

1- Space Solidarity
2- Naturalism
3- consistency
4- Residents' contribution
5- Flexibility

Image 2: Using open space designing to increase the sense of belonging to a place
(Reference: Delta real estate site)

Mental Relaxation

Mental relaxation in a residence may be affected by a set of factors such as existence of contention and congestion in the residential complex. Contention between the residents causes abnormal interactions which then leads to social disintegration. No-existence of negative interactions is considered as a precondition for forming positive interactions. According to what said in previous chapters about conventional contentions in residential complexes, it can be concluded that contentions mostly happen when individual's' privacy is invaded. Defining privacy and territory is one of the most important issues in designing house and it plays an important role to provide privacy and security. Controlling territory means to take charge of space through defining a specific area .Territory can be "private" (like open private spaces in residential units), "semi-private" (like inner and outer shared spaces in multi-unit apartment complexes) and "public" (like open spaces in streets and walkways). While usually the "private" territory of the residence is defined and controlled and it is well maintained, "semi-private" territory" is often ambiguous and controlled naturally. (Cooper and Sarkissian 1986). If in designing we can control the private boundaries of the individuals, so that clear boundaries for private ownership exist, these contentions can be decreased. Concerning spatial hierarchy, some spaces can be made out of boundaries of house in which individuals feel ownership and try to keep them clean and safe. On the other hand some conventional contentions caused by visual, auditory, and olfaction invasion to individuals' privacy which can make them to lose their solitude and feel disability in controlling interactions. By enhancement in residential density usually open private spaces of each unit decreases and considering physical neighborhood individual's life became more compact. As a result giving a clear definition of territory and privacy in residential spaces designing becomes increasingly important. Unwanted social interactions between residents can increase because of the ambulation existed in the poor definitions of private and semi-private territories. On the other hand clear explanation of territory and privacy can help to identification, privacy and security enhancement and decrease social conflict and neighborly problems. (Cooper and Sarkissian, 1968).

Image 3: using curved soft linesin consistent with the basic lines of building design
(Reference: Delta real estate site)

Social Homogeneity

Since modern cities are a combination of various cultures and Subcultures, it is necessary to predict necessary backgrounds for designing and planning so that each social, ethnic or religious group can have their specific spatial territory or in other words their desired neighborly units in city and can establish their own ways of life in these areas. In this situation according to their own needs and moods individuals can specify, maintain and control their territory. Researchers such as Jephcott & Robinson found that demographic characteristics such as age, career, the status and size of the families who live in high density residences affect significantly their need to space, relationship with the neighbors and their expectation and satisfaction of their residence. In fact, the relations between the neighbors have a strong connection with their ways of lives' similarities, age group, ownership and race and religion. Therefore in designing residential complexes with the purpose of promoting social interactions mentioning factors such as social heterogeneity and residents' similarities is necessary.

Conclusions

Ideas presented in this research which study the effective factor in establishing social interactions between the residents of a residential complex, can help the designers to promote housing qualities and in this way cause an improvement in the presence of individuals in house and society. Also by increasing social interactions it is possible to creat mental relaxation for the residents on the basis of physical design of residence and proper changes in form and operation and in this case residential complexes will live longer than other residential complexes. Moreover in equal conditions financial value of residential units in these kinds of residential complexes is more than other residential complexes. Social stability, maximize the efficiency of residential complexes. In this research four factors which promote the social interactions, introduced. At the end the items designers of residential complexes should meet are mentioned. We hope that using these ideas designing good residential complexes with high social status becomes possible.

- Specific family spaces which produce noise shouldn't be next to adjacent calm spaces
- Using noise sensitive parts of the building as a barrier for noise

- Openings should be posited as far as possible from the noise sources
- Locating residential units considering noisy spaces in the site
- Using soundproofs in outer walls and in between residential units
- Separating noisy spaces from calm spaces and locating indifferent to sound spaces between them
- Public and semi-private spaces should be visible for the surroundings buildings or busy paths
- Natural monitoring should be strengthen but in the residential units necessary considerations should be mentioned to prevent private territory invasions
- For residential complexes parking should be visible for residential units or near to them
- From inside the residential unit it should be possible for the parents to monitor the kids' playing spaces or a place near them
- The residential complex should be designed in a manner that the residents can have frequent contact with the nature; by daily passing through the green space or can see it from the inside
- mentioning enough space for tree shadowing in designing site, especially in eastern-western side of the building

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