

# The effect and role of colors and environmental psychology in designing nursing home cares

Zahra Mohammadzadeh Moghadam<sup>1</sup> and Reza Mirzaei<sup>2\*</sup>

<sup>1</sup>Student in (M.A) Architecture, Department of Architecture, Mashhad branch, Islamic Azad University, Mashhad, Iran

<sup>2</sup>Assistant professor in Architecture, Department of Architecture, Birjand branch, Islamic Azad University, Birjand, Iran

## Abstract

The effect of architecture and environment on human spirits and controlling feelings has always been considered as an important matter, but the lack of information improvement and architectures' perseverance on this matter has result in no answer. Nursing home cares are among spaces in which much attention should be paid in designing to be compatible with architecture principles in a special way. Nursing home care is a place where a special age group with special spirits spends much time. As health, life standards, and life expectancy have improved in all around the world, the old population has increased in recent decades. Following this matter, more cares and nursing forces are needed, and some changes in culture, lifestyle, and family forms have intensified the effects of old period's features accompanied with financial and spiritual losses. Therefore, the effect and role of applying color and psychological effect of environment on old people's spirit will be considered in this study to create a friendly and suitable environment for the old by the help of necessary indices.

## Keywords:

*The old, nursing home care, environmental psychology, color*

## 1. Introduction

As a result of improvement in health facilities, people's lifetime has increased in recent years. So it is expected to have an ever-increasing improvement in the society of old people. Many of old people preserved in health centers or houses have problem in carrying out routine activities included preserving themselves. Ageing with all mental, social, cultural aspects included serious problems for families is observed in developing countries. In many societies old people spend their life in nursing home cares, this matter result in unfavorable results for mental and physical health. Nowadays, 40% of old people are hospitalized in mental hospitals (Grouter, 2002). Therefore, heeding old people even ones with special physical diseases and features makes try to define suitable spaces, paying attention toward this age group as an important and effective element on spaces, paying attention to needs, and providing optimized conditions to live in. These efforts result in relaxation, security, and the returning of injured feelings and making some changes in temper in old people and society. Therefore, it is tried to consider the relationship between the old and the place living in for a special period of time (nursing home care) to identify the extent and

relation between architecture and color and environment effect on individual's spirits (Hosseini, 2010).

### 1.1 Research question

1. How colors and environmental psychology affect the designing of nursing home cares?

### 1.2 Research purpose

Colors affect the old people's spirit.

Communication with environment can affect old people's spirit.

### 1.3 Methodology

The present study has been accomplished with a qualitative method based on harvest field and library studies to consider the effect and role of color and environmental psychology (the relation between the old and environment).

## 2. Theoretical principles

### 2.1 Old people's definition

People with more than 66 years old are called the old. Old people are in the beginning years of retirement or spend last years of working. There is no obvious report on the old population of Iran but it can be asserted that in recent years this population has been increased by improvement in life quality, health, and access to health centers, so that it is expected to increase the old population to 9 millions in 15-26 future years. Increasing this age group population indicates to improving life quality to the old and authorities should pay much attention toward their needs (Siknir, 2009).

### 2.2 Color definition

In Dehkhoda dictionary, color has been defined as the special effect of light ray on things received by the eyes (Dehkhoda, 1994).

### 2.3 Environment definition

In one hand environment refers to the surrounding space to human and other animals, on the other hand it signifies a limited space being imprisoned by human. Therefore, there are different environments to different individuals (Taghvaie, 2010).

### 2.4 The nature of environmental psychology

Environmental psychology is a subclass of behavioral science. In addition to psychology, behavioral science is composed of some knowledge such as anthropology, sociology and even political sciences and economics. As a result of this matter, some researchers prefer human studying in environment in the form of studying environment -behavior, anyway environmental psychology in which architectures had a vital role in presenting and improving this field considers human behaviors in his/her living quarter. Therefore, this new knowledge is known with some other names such as the relation between human and environment, environmental sociology and human ecology. Environmental psychology considers the relationship between human and physical environment, and their effects on each other in a way so that human values, attitudes, and needs are heeded, and subjects such as comprehension, identification, and space behaviors play an important role in explaining people behaviors. Therefore, environmental psychology studies personal and collective study on places with basic human behaviors.

## 3. Color in interior designing

Architectures and interior designers consider building in terms of form, space, light, color, and texture at the time of designing. Unfortunately color is among factors which are less heeded by architectures and designers. At the beginning of working color should be selected as a composing factor to determine effects created by this vital factor. Necessarily color designing does not result in extra expenses of construction and repairing. Following steps should be planned. It is suggested to select color and other building materials with simple patterns. The most successful color designing deserves the best designing purposes. Color suitability and impact on designing procedure includes following items:

Harmony with environments

Attraction

Space modification to show bigger or smaller than real size

Making the space separated and limited

Space separation and definition

The similarity and homogeneity of space texture (Satun, 2010)

### 4.1 The color psychology to old people

Color is of high importance to old people. They carry numerous meanings. This undeniable fact should be considered that colors affected human spirits. Colors have undeniable impact on old group of people. It is impossible to find out individuals` spiritual conditions in a direct way, but they can be detected by colors. Through color psychology, colors can be applied in living place and create a secured space to the old. Colors applied in the decoration of houses should be delightful, happy, and full of energy to old people. As old age result in some spiritual side effects, light colors should be applied in curtains, upholsteries, bedspreads, and blankets. Yellow has another application of special quality of therapy to decrease joint pains and swelling resulted of rheumatism. The old people suffering from rheumatism need to apply more yellow furniture in their bedroom. They can use yellow curtain, lampshade, or even tiles.

Fig. 1 Color in old people`s living space

### 4.2 Exciting colors for old people

Colors called sight ranges received by eyes are radiations which are not only related to eyes, but they can affect human unconsciousness. Scientists have discovered the relation between different colors and human feelings, and they believe that any color result in a special reaction in human. In color psychology, colors based on the receiver`s age included children and teenagers and different environments included restaurant, or bedroom show different reactions on human`s spirit. Just like other age ranges, the old are affected by colors and can enjoy different sight ranges. Orange is a combination of energy in red and happiness in yellow. Orange creates a happy feeling in old people`s thought, and is considered as a symbol of sun sight. It is a hot color and presents life heat to human. It provides a great extent of oxygen in the brain and increases brain activity. Therefore, if old people use orange in a vast extent in designing curtain, furniture, carpet, and etc, undoubtedly the spirituality will be increases in homes. Despite of relaxing and life-giving effects of orange, it has a great impact on appetite and tempting the old to use various foods. It is a symbol of power and increases focusing in people. In some studies, it signifies the lack of confidence, so it is suggested to apply more bright colors of orange to experience happiness, while reddish orange is a symbol of delightful life, confidence, and pleasant times. If the old lacks focus, it is suggested to apply this color in surrounding (Kolivand, 2012).

Fig. 2 Applying orange for old people

#### 4.3 Suitable color-blending to improve sight function in old people

Generally, people get help from color contrasts to distinguish levels. As age improves, eye lens become yellow gradually and make sight quality different in eye pupil. This gradual yellowness performs just like a filter and creates some disruption in identifying some colors included blue, green, and purple. Yellow, orange, and red can be identified by the old.

Studies have signified that some determined reactions can result in determined behaviors. Some reactions are formed toward colors based on cultural background, lighting, texture, and some other unidentified or identified factors in a less extent (Ghavami, 2009).

#### 4.4 Color appliance in designing spaces for the old (designing suggestions)

It can be used from color contrasts in old people`s houses to separate doors, surrounding frames, stair edge from stair floor, and similar items. Color contrasts can be applied to make lamp keys, the handles of doorways, and the connection place of two levels of a wall to another one or wall with the floor or its side floor more determined.

It can be used from oil paint in 75-centimeter height to color all inside walls of the building.

Because of light reflection, it is suggested not to use sharp and grounded colors to paint parquets.

Supplies and furniture appointed on the wall such as the clock, bulletin board, attracting signs should be colored and exhibited with powerful graphic contrast.

Color contrast helps to many routine functions in the old. As an example, the difference between colors in toothbrush and sink, slippers and carpets with floors, shirts and trousers, food and plate, wall and fences, and many other small and big cases can be helpful to the old.

The old try to keep their body hot, so warm colors show their homes warm and warmer in cold days and especially in the evenings of winter. Also, bathroom walls and floor should be painted with hot colors.

The studies have signified that hot colors are considered as exciting colors increasing appetite in human. So as the old suffer from less appetite to eating, it is suggested to apply hot colors in food courts to increase their appetite. Following cases should be considered to apply color contrasts in food courts for old people:

Bright dishes and dark table clothes should be used to eat dark foods, while dark dishes and bright table clothes should be with bright foods.

As table clothes with too much pictures result in excitement in the old, simple table clothes should be used.

It is suggested to use dishes, mats, table clothes with color contrast simultaneously to create more favorable space.

Not only considered color contrasts and lighter colors appeared in the contrast result in unfavorable pictures in old people`s mind, but also are helpful in identifying colors by old people and create a light and beautiful space to them (Water, 2012).

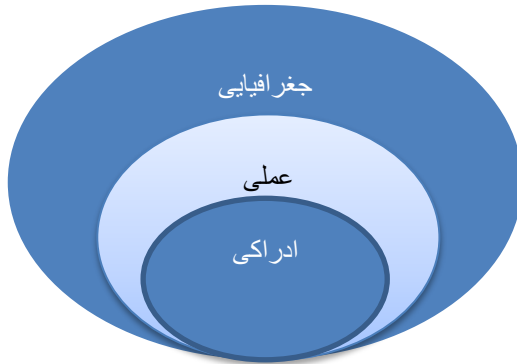
### 5. Designing according to psychological environment

As a result of numerous experiences, designers have found out that special knowledge helping human in building complicated constructions in compatible with human needs are needed. When this change was appeared in designers` thought, some changes were formed in psychologists` thought on human behaviors. Many scholars of behavioral science made questions on experiences and researches based on applying experimental study method as the only method of identifying human behavior. They considered behavior in routine environment and ecology. Considering human studies and his behaviors in behavioral conditions by Rajer Parker in environmental psychology signified this fact that the counter load of traditional psychology neglecting the relation between human behavior and environment was considered in ecological psychology (the relation between human and environment) in a great extent (Porteous, 2013).

Study on the nature of environment has been considered as a social phenomenon by scholars, therefore they studied the role and effect of environment in constructing social behaviors of people. Also, human`s effect on environment and other people to solve his problems was studied too. People`s cultures, attitudes, values, and beliefs were considered by psychologists to have a continuous coexistence on the Earth and to establish a bilateral communication between human and environment. In traditional psychology, environment components and routine surroundings were studied in separate ways. Therefore, idiomatic psychology made try to find determined answers for controlled reactions. What is now known as motivating model of reaction in psychology, is considering mechanisms questioning this forced relation between action and reaction in human behaviors. Traditional psychologists did not consider this matter. The dominance of behavioral psychology by Van Watson and Skinner result in neglecting the relation between action and reaction, while determined attitude in scholars of behaviorism in modern age in psychology accepts it through comprehending the generality of role and effect of

environment on human behaviors in such a way that makes the relation between human values and behaviors reverse. Modern psychology considers urban spaces and architectures and environmental designers to meet customers` and users` needs of designed spaces to start a relation between psychology and designing and to create a new knowledge and paradigm as environmental psychology through the assumption of indirect effect of environment on human behaviors (Long, 2010).

### 5.1 Environments in different viewpoints



The hierarchy of environment in Sanfild's viewpoint (Porteous, 2013)

Geographical

Practical

Cognitive

## 6. The effect of environment on designing the nursing care houses

As environment affect human spirituality, positive effects can be created to them through a suitable designing, meeting their needs in a correct way, and achieving them to purposes. Therefore the architecture should be aware of the effect of numerous environmental factors and the individuals` needs designing to them. As an example, most old people are not prosperous in communicating with other people. Comprehension, thought, and feeling of most old people can result in deep disruptions in social relations. Disruption in social relations and seclusion make abnormalities intensified in a counter way. Therefore spaces living by this age group should be with relaxing conditions of social relations (collecting) to help establishing social relations among old people and with nurses and to decrease the mentioned process (Atkins, 2010).

The way of designing floors makes effect on old people`s satisfaction. Old people`s new houses designed just like hotel rooms and houses with too much exactness and attention promotes and creates good relations between old people. These houses get living rooms, dining rooms, and kitchens which encourage old people to use. Old people are more active in such conditions and they feel to be imprisoned in a closed space in a less extent, therefore they are more relaxed and their health improved in a more rapid way (Rafi`zadeh, 2010).

Also, as creating such a collection result in forming a positive current in all around the country, it can be a cultural pattern and a beginning to other cities. Communicating with human environment can result in some problems. By considering these two factors in this collection, it is tried to achieve comfort and relaxation through creating a peaceful space in one hand and affecting spirits through services and activities relating to relaxation in the other hand. Living in such a suitable space has numerous benefits. It is impossible to control and decrease tense factors in routine life, but living in such a relaxing and peaceful space can decrease surrounding tensions through controlling various factors included correct planning, the quality of a suitable surrounding, communicating with other people, surrounding factors can be enjoyed in proceeding many general tact such as creating positive feelings like self-confidence, self-esteem, security, comfort, and motivation. Undoubtedly favorable conditions will be achieved in a high speed (Pour Ja`far, 2012).

## 7. Conclusion

As old people suffer from physical disability and performance decline, they are subjected to mental diseases in a great extent. When the old lose physical abilities, they become more and more sensitive. As a result of these losses, they feel that they are not loved by family. So their surrounding should be designed in such a way that they experience comfort despite of all possible disabilities. Therefore, the identifying and understanding old people`s different needs, trying to meeting their needs, and heeding their priorities in designing and reforming public spaces of cities can affect life quality, life expectancy, and achieving purposes in old people. By exploiting psychological knowledge of environment, designers play a vital role to create enjoying spaces to spend happy times by old people.

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