

Investigation of the Architectural Aesthetics and Its Impact on the Children in the Psychology of the Child

Hossein Sardari Ghasemabad^{1,*}, Siavash Rashidi Sharifabad²

¹Department of Art and Architecture, Rafsanjan Branch, Islamic Azad University, Rafsanjan, Iran

²Department of Art and Architecture, Shahrabak Branch, Islamic Azad University, Shahrabak, Iran

Abstract Attention to the architectural aesthetic aspects has an especial importance, because its users do not have the same aesthetic perception and the space does not necessarily meet all spectra of these perspectives. There are different perceptions between different age groups about the perception of the architectural aesthetics of the environment. And priority of the variables related to the architectural aesthetics is different in the two age groups of children and adults. The architecture along with different sciences such as psychology has associated with passing the time and the progress of the sciences and becomes the current mode. The children architecture is a branch of the architecture that has the importance greatly in the perception of people about architecture and it has various influences on their life. The purpose of this paper is the categorization of the children in different stages of age and the investigation of the characteristics of each stage by considering the psychology of children, aesthetics and the design elements as well as expressing the beauty of the child living room space impacts on the children. In fact, the beauty of the child living room space impacts on the child's creativity, feelings and confidence. The design of the child's space has been done according to the child psychology approach includes growth, age and so on. Items such as creativity and emotions play a special role in this model. This research in terms of data is qualitative and in term of the objective, is applied, that the data is collected through the interviews with experts in the field, field observation and library study. The raised issue in this paper is about the beauty of the child living room space impacts on the child's creativity, feelings and confidence.

Keywords Architectural aesthetics, Child, Child psychology

1. Research objectives

1. Identifying and explaining the beauty as an architectural style according to the child psychology,
2. Recognition of the effective factors in the aesthetics of the interior design for children and increasing children's creativity and talent.

2. Research Method

The nature of the used method of this research is based on the descriptive-analytical method which its aims are to specify the phenomenon of beauty in the architecture of the interior space of children according to the researcher perspective to the psychology of children.

3. Introduction

From the architecture of the womb to the grave architecture, which the mankind begins and ends his life in them, he finds permanently himself in the interior space, but the interior spaces that the mankind lives in during his life have less the architectural skeletal characteristics like the first and last architecture of the mankind life (Chang, 2007).

Children are a huge population of the world and their public spaces share is equal with the adults. Since the urban space is known as the public spaces and belongs to all citizens, it is necessary to involve their views in the design of these environments. Typically for the design and improve the quality of these spaces, adult opinions are concerned. So, pay attention to the views of these two groups in the urban aesthetics area can reduce somewhat the challenge of urban planners and managers in this area. The environmental aesthetics relate to the various fields, including the environmental perception, environmental psychology and the social researches.

On the other hand, the need for the aesthetic perception in the hierarchal model of Maslow's hierarchy of needs is known as one of the most sublime of the human needs. Therefore, the identification and position of this concept are important in order to improve the quality of urban spaces. According to the connection between the environmental

* Corresponding author:
editor.hamyari@gmail.com (Hossein Sardari Ghasemabad)
Published online at <http://journal.sapub.org/arch>
Copyright © 2017 Scientific & Academic Publishing. All Rights Reserved

psychology with the urban aesthetics as well as the different psychological characteristics in the different age groups, the

necessity of the study it from this aspect is important (Porteous, 2010).

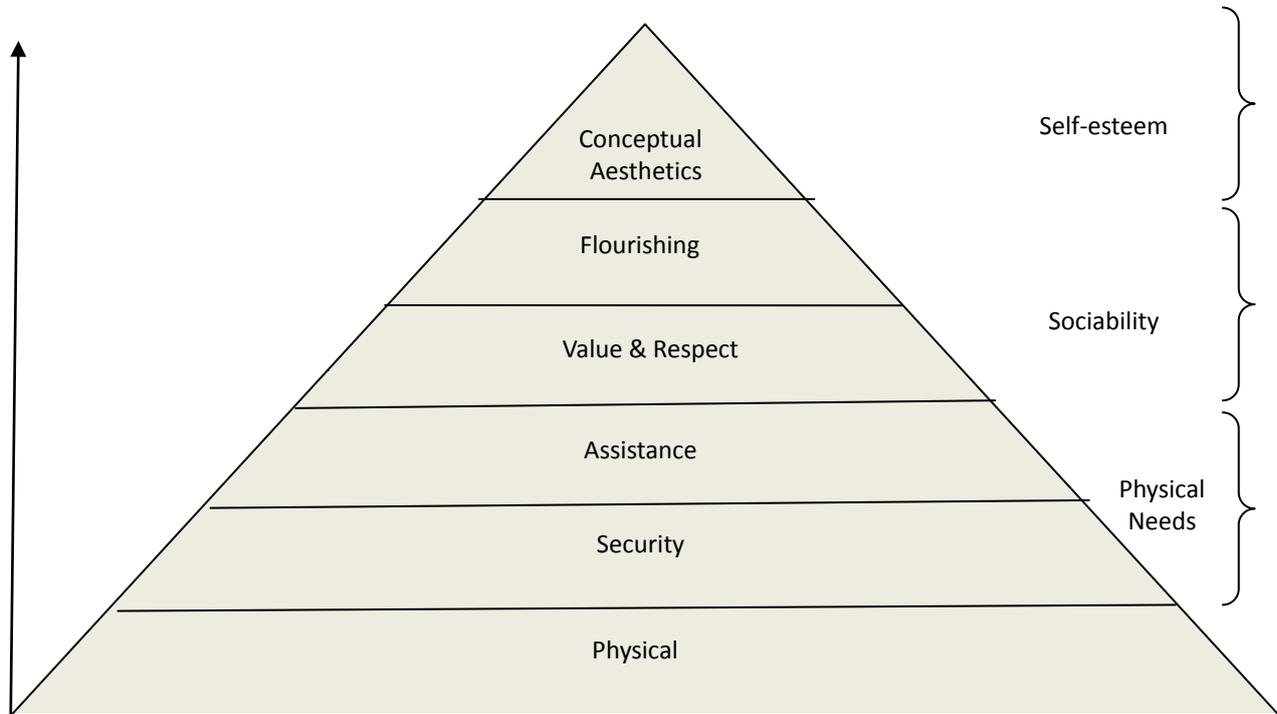


Figure 1. Maslow's hierarchy of needs (Porteous, 2010)

There are a number of different elements to the interior designing, when putting these elements together, in addition to the functional aspect of the elements, it should be considered their aesthetic aspect and creating this harmony requires special knowledge. Animals, like humans build shelter for themselves, but, the difference between the humans and animal is this that the humans, not only build the shelter for their own safety, but he seeks the peace and relief and when the shelter design is with the interior design as well as attention to the human tendency for the beautiful environment, this sense of relief will be doubled.

The interior design includes the planning, composition and design of the interior spaces within the building. In fact, the physical environments can meet the people's basic needs for the shelter and protection. Prepare the ground for the work environment. And on how these activities affect. The environment prepares the way for the acts and affects the way of performing them as well as bringing up the ideals and expresses the intentions of the performances and also affects the person's attitude, mood and personality. Therefore, the aim of the interior design is to improve the performance and richness of the aesthetic principles and the psychological correction of the interior spaces (Cheng, 2007).

The effective factors in the interior design include the interior design, employer and the elements of the interior design. Since the employer is the child in this paper, it should be specially paid attention to its features as well as the physical and emotional needs in design-time. Plato in his

book, namely "The Republic", referred to the innate differences of the children and said that the talents of the children should be recognized (Ahmadvand, 2007).

4. Division of the Children Age Periods

• From the birth to age three

It can be said with certainty, that the family is the most important factor to form the child's personality. Children spend the sensitive years of his life in the family and home environment and each of the above two factors (family and home environment) impact on the child's behavior and generally on the child's character (Sharidan, 2003).

Child growth at the time after the birth (especially to three month age) is the foundation for its later life. This period is known as breastfeeding, the child grows up in different aspects, until it reaches to the higher stages of the growth. The five senses of children are roughly active against the various stimuli, and give appropriate responses to stimuli. A very important factor that regulates the activities of the child's body is the sleep and rest. Newborn babies sleep about 98 percent of a day and with increasing age its sleep time decreases. Need of children for sleeping is different in the various ages and many factors are involved in this issue, including the disease, excitement, noise and other factors (Nejati, 2011).

The aim of the environment at this stage is to create the

make-decision in the child, so, the environmental approach must be a way that the child can be guided for the autonomous decisions and without doubt in its dynamic spaces (Omranipour, 2011).

During this period, the child begins to walk. Accordingly:

- A) Physical proportions and dimensions of the space in which a child can move into it should be commensurate with the child's movements and activities.
- B) The existing risks in the child movement space must be removed. The use of dangerous furniture should be avoided. The wall and floor coverings should be chosen, that there is no risk for the child.
- C) Selecting the children tools and furniture for sleeping or playing should be commensurate, such a way the child feels somewhat independence and freedom of action.

Since the child at this age start to walk, the defined space for it should be such a way that the child be encouraged to walk. For example, designing the furniture and the space in terms of proportions, texture and color should be such a way which the child can take help of this design for walking and choosing its path.

• Between the age of three and six

The second period of the childhood that called the preschooler period includes between the age of three and six. During this period, the child is vibrant and shows tendency to the freedom and independence. Although he has no fixed position and move as a pendulum between the period of the past and the present is fluctuating, but child likes more freedom and expressing itself. The child is not disability during this period as the past. It has some general ideas about the life and shows its emotions and imagination of the life and environment in the various forms, especially through the children's games. During this period, growth is faster in all areas. Its social activities increase and gradually decrease its monopoly. The child's curiosity increases in the period and many questions come to its mind and asks a great number question about what he/she hears and sees. In these years, the child achieves to understand the concepts of the space and the time and its world becomes a sensible and objective world (Nejati, 2011).

The child can distinguish between the home and elsewhere and likes the painting and drawing. Whatever the age of the child is added, its reactions get more specific. To create a favorable environment for the child's play, dedicating a space on the wall for children to fit a child's drawing (even a small place), considering the points about the environmental aesthetics commensurate with the child's age are some of the most important tasks of the parents and educators. The environment should not be outside the real-world of Children. And this principle must always be respected. Children have a keen interest in nature and this main principle must be always observed. Children love the nature and like to contact with it and experience and touch what that they see in the

nature. Thus, creating such an environment is very important for children.

The desirable goal of the around the world of the child at this stage is, to create a concept of the purpose in the child. A targeted approach must provide the initiative field in the child and gets it away from the guilt feeling. During this period when the child has the tendency to the initiative and also the imagination develops in it, the childish games play a basic role as an environmental factor in its growth. Because he/she can independently choose the game and during the game can think and fantasize as well as perform and accomplish its imagination in a real environment (Omranipour, 2011).

• Between the age of six to eleven

During the third period that called the school-aged child, Children enter the school and begin their formal education. During this period, Children have faster mental growth and gradually learn the reading, writing and counting and enter into a wider world. During this period, children have a more logical mode and function and show more dignity. They have a clearer picture of itself and understand better their position in their around and act somewhat as the adults (Ibid).

Theorists such as "Piaget" and "Bruner" believe that the kids are active to learn and they learn by working. That is why that the game often make the children to revise about the personal experience, illustration and emerging the creativity of them with the social customs. Piaget is taken into account as one of the main theorist for the cognitive development theory about children. His work on the cognitive development was based on the following four-step sequence:

- The sensory-motor stage (from birth to age 2)
 - The preoperational stage (from 2 to age 7)
 - The concrete operational stage (from 7 to age 12)
 - The formal operational stage (from 12 to adulthood)
- (Amir Hosseini, 2009)

The appropriate surroundings in the mentioned stage are defined with the aim of reaching to the person's ability. The approach of these surroundings related to applying skill and child's intelligence to follow and complete the assignments and hard work (Omranipour, 2010). In this stage, The child enters into the socialization phase and looks for the creativity in all issues due to the presentation in the school and seeing their classmates and participating in the school activities. The child's surroundings should provide a bed that can increase their creativity.

Anything the child does or says can be taken into account as an innovation if the two criteria provide; first it should be different in comparison to all pervious things that he/she has done, seen and heard. Second, in addition having difference, this action also should be correct and in order to achieve a goal as well as they should be attractive and meaningful for children. Finally, it should be noted that novelty and having target are two criteria of the creative behavior. The creativity is a capability that all people have, but it needs training and supporting to reach the flourishing (Amir Hosseini, 2010).

5. The Place of Beauty in Architecture

All outstanding and lasting work in the art history with having aesthetic characteristics has gained an eminent place and a dignity and reputation position. Meanwhile, it is the architecture as a four-dimensional work can encompass all aspects of the life. Other arts have manifested the aspects of the life and the human existence as periodical and with more limitation aspects and introduce themselves with its special language. However, due to the multidimensional nature of the architecture, the various aspects of human life are considered as a parallel manner with each other. Since the human beings have started to architecture, the spiritual needs and the aesthetic sense have been in the focus of their attention, for example, the first residential samples shows the establishing such a relativism. The cognition and understanding the role of beauty in the architecture is divided into two parts.

Table 1. Cognition and understanding the role of beauty in the architecture (Pakzad, 2009)

Quantity	Needs the theoretical knowledge and aesthetics and the criticism and evaluation power
Quality	In ratio of the spiritual talent

The mankind attraction to the beauty in the architecture area is due to his/her origin with the essence of the beauty, because the mankind is created by the beauty material and that's why, he/she fined the architecture in the beauty and the beauty in the architecture.

6. Affective Factors in the Perception of the Architectural Beauty

With regard to all aspects related to the types and levels of beauty the various elements and factors can be named as the signs of architectural aesthetics. The architectural aesthetic component is divided into two main groups; the symbol and identity, that of course other naming can be selected for the two groups, including: Appearance/reality, overt/covert, skeletal/conceptual, and subjective/objective. In the first group can be named, the light, color, dimensions and structure and so on, and in the second group, issues such as culture and religion are notable.

7. Environmental Aesthetics

The aesthetic subject can be investigated in both the theoretical and experimental area. A theoretical aesthetics outline the philosophical discourses related to the nature of beauty and has not much related to the issue of the urban-environmental aesthetics, but the experimental aesthetics have the ability to generalize to the public and outlines the aesthetic experience analysis. According to George Santayana perspective (2004, Lang), the experimental aesthetics are separated into three main categories as follows:

• **Sensory aesthetics**

When the mankind becomes aware of the senses that are outside of the usual norms and a pleasant or unpleasant feeling are created. Sometimes, the received feelings of the mankind become excited enjoyably. In this case that includes the waking up and activating the person's perceptual system is multidimensional and arising from the colors, smells, sounds and structures of the environment (Tarcísio & Dias Lay, 2010) (Gruter, 2009).

• **Formal aesthetics**

The formal aesthetics have been attractive for designers due the consideration of the conscious to designing. The main point in the formal aesthetics is due to the consideration to the visual structure of the environment. The formal aesthetics deal with the structure of the forms "for themselves". Formal aesthetics consider the geometric or semantic qualities or performing characteristics of an object that arise from the cognitive organization processes. Formal aesthetic include the regular thinking and variables such as rhythm, complexity and proportionality (Ibid).

• **Symbolic aesthetics**

The symbolic aesthetics outline the association ideas and enjoyable meaning, so, the symbolism is the main factor of the environment liking or disliking. Thus, the image of a place related to the symbolic aesthetics that deals with the features beyond the form, meaning the affiliated features in the object are recognized by the cognitive organization process (Gruter, 2009).

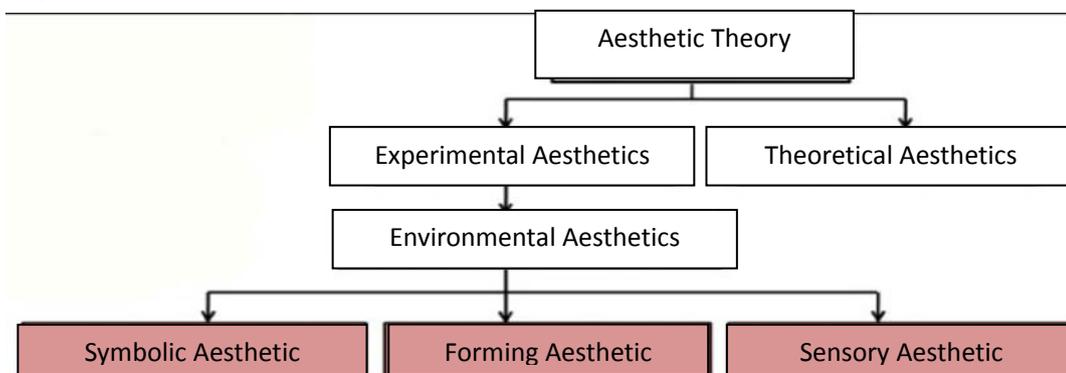


Figure 2. The position of the environmental aesthetics

8. Environmental Aesthetics from the Child's Perspective

In the knowledge of Environmental Psychology, whatever embraces the mankind and his spiritual and physical existence called environment. From this view, a set of physical and skeletal factors of the concepts such as social, culture and even the self is among the environment (Omranipour, 1390).

Psychologists believe that until before age two, the most important feature for the child's space is security and stability, because each change and removal in this space means the destruction of that object in the child's mind. So, the child cannot have properly a mental map of its surroundings, as a result, if there is no stability, the child would not feel the relief and cannot have a good relationship with the space. In the normal children, there are the five main senses of sight, hearing, touch, taste and smell. The idea that the children are the passive creatures and their minds can be compared with a raw CD is not accepted anymore. Now, it is believed that the children have been somewhat programmed at the birth time to participate actively in their experiences of the life. Children interact with the environment through their senses; as a result the senses play an important role in children's perception of the surrounding space.

• Sight Sense

- A) Visual acuity and Accommodation: Infant's eyes are shorter and smoother than the eyes of adults. The ciliary muscles that control the lens cannot work well. This feature affects the ability of the child for seeing the objects clearly (acuity and accuracy) and for bringing the objects at the focus of the lens for different distances (Accommodation).
- B) Looking for and seeing carefully: Newborns can follow and locate the place a single moving object with their eyes for almost ninety degrees. However, tracking of the eyes is slow and irregular, but the tracking movements will be calmer and more harmonious commensurate with increasing the age. In most infants the ability to follow an object from a side to other side grows in the three months old.
- C) Visual preferences: Some preliminary studies showed that the newborns prefer to look to the human figures more than other stimuli. They also prefer the real figures than the face images and mannequins. Newborns are capable to respond to the brightness changes of the lights.
- D) Depth perception: More researches about the vision capabilities of the newborns have been directed in order to find out that when the depth perception is developed. The depth perception requires things like seeing the objects in three dimensions, decision about the sizes and the distance of the objects and the heights perception of the falling risks.
- E) Color vision: Adams and Maurer found in his research in 1894 that the three days old newborns can recognize

the red, yellow, green, blue and gray. Based on these studies, it is possible to conclude that even newborns have the ability to see the colors. The ability to perceive the color and to distinguish between them increase with an appropriate speed during the early infancy. Even most skeptic scientists agree generally that at two months old, the newborn can understand the difference between the three main colors. More the fundamental aspects of the understanding colors are similar to adults.

• Hearing Sense

Now, it is specified that newborns can hear and respond to the sounds even before the birth, unlike the initial theories that believe the newborns are born "deaf".

- A) Determine the area: Despite the limitations, babies are surprisingly sensitive to sounds. Several studies have shown that infants have the ability to locate the sound. Two to four days old Infants return their heads to the place of sound, though for reasons that are not entirely understood the ability to orientation toward the sounds declines apparently during the second and third months of the birth. This ability re-appears in four months old and it becomes more complete.
- B) Voice recognition: Newborns are able to recognize the different sounds with height, volume and continuity. Apparently, newborns are more aware of the sounds which have the moderate durability in the ratio of the less durable or intermittent sound. The infants prefer the sounds which are in the range of the human voice. It is observed that the babies move its arms and feet commensurate with the sounds and tend to listen to the music that accompanied with the verbal sound. The newborn prefers his mother's voice to the voices of other women. They like to hear the voice of a woman than a man's voice, although they prefer their father's voice than the other masculine voices.

• Taste Sense

It seems that at the birth time the sense of taste has been well grown. When a drop of water is poured on the tongue of a baby, it smiles and in response to a drop of lemon juice or salt solution, the infant frowns reluctantly on it. Hence, they recognize to four main tastes (sweet, salty, sour, bitter) as adults respond to them. When the sweet taste is given to the newborns, their hearts beat faster, and they suck stronger and longer. Apparently, when a solution is sweeter, babies love them more. Even premature babies prefer the sweet liquids to non-sweet one.

• Smell Sense

A few researches have been carried out about the growth of the smell sense during the infancy period. Some researchers argue that the ability to detect the odors does not develop until the age of one month. Although, much of the evidence shows that newborns have the ability to smell at least to some smells. In any case, the sense of smell can play an important role in shaping people's interest in the cause, as

it occurs in animals.

• Touch Sense

The touch sense has been considered as the mother of the senses. Between 7.5 and 14 weeks of the pregnancy, almost the whole of the fetus body become sensitive to the tactile the touch sense is the first tactile sensory system that grows and is the most complex and difficult to study. The word of "Touch" and its synonyms, meaning the "contact" and "tactile" usually refer to the creating of feelings. The sense of touch embraces the perceptions of pain, temperature, pressure, weight, texture, hardness and several other feeling. The tactile related to the sensations of the muscles and joints and motion feelings and has a very important role in the infant growth as well. One of the most effective ways to calm the babies who cry is, to touch them. There is some evidence that affects the newborn, such as the touch or related senses, the attachment between parent and infant, cognitive development, socialization, ability to cope with stress and the immunologic cognitive development (Ahmadvand, 2007).

Piaget concluded with his experiments on the mollusk that these species adapt its physical structures with the physical environment. He brought out several of the mollusks from the lake and then they are placed in the stagnant water without wave for a time. The other time he realized that some changes are created in their bodies. Thus, the "accommodation between the living organisms to the physical environment" was raised and he guessed that the child accommodates its mind with its surroundings during its contact with it.

Without a doubt one of the most important periods of the mankind life is the childhood and is the period in which the character is founded and shaped. Today, it is an undeniable and proved fact that the child does not need only the physical care and attention in the infancy age, but also it needs the social, emotional, psychological and mental development as a determinant and basic factors. A child at all stages of growth, not only needs the physical attention and care, but has urgent and fundamental need the scientific and knowledgeable conduction and guidance and from other aspects (Nejati, 2011).

We outlined the five senses in this paper, because they

have an important role in the human perception of their surroundings This issue beside the understanding the physical and psychological needs of the children can help us to propose some ideas for beautification of the surroundings of the children according the applying the children tastes and the aesthetic sciences (in the paper in terms of the architecture).

9. Architectural Aesthetic Factors in Child Psychology

Interior design of a building is a history that the main character of the story is the mankind. The environment as one of the effective factors on the human spirit should care the differences of people and meet the different needs. Thus, it should be attempted the environment is adapted to the basic needs of the human spirit. In the child's space designing, this condition becomes more specific. Because many children are visual learners, therefore, the use of the visual tools like color is important to create the psychological relief for them. The color scheme and the interior design of the children's living surroundings are very effective in its morale and relief psychological of them.

• Floor

During to beautify the space, the issue of selecting the material and arrangement arises in the floor design (Designing according to the aesthetic principles). The observation of the dimensions and sizes for selecting the furniture, lose or tight arrangement, circulation based on the standard sizes are some points that must be considered.

• Walls

The Wall is an essential element in the architecture of any building. Interior walls divide the indoor spaces; provide their privacy and the control of noise, heat and light passing from one space to the adjacent space. Since, the walls include a large level of the child space; a part of the wall can be designed somehow that the child could draw its picture on it. Because painting for children have special significance in the different ages. Painting is a bridge for communication with the inside of the child (Fars Education & Training, 2011).



Picture 1. Design of the wall for the child's surroundings



Picture 2. Color variation for the soundings of children (Falihat & Tajali, 2015)

• Ceiling (Roof)

The Ceiling is the third key element of architecture in the interior design. Although, the ceilings are out of the reach and are not used such as walls and floors, but play an important visual role in shaping the interior space and limiting its vertical dimension. The ceiling is the protective element of the design that does psychological and physical support of the residents under its canopy. The ceiling height has a tremendous impact on the space size. Despite the ceiling height should be related to other dimensions and application of the room, but can still be found some general conclusions aesthetically about the vertical dimension of space. The ceiling as a functional element impacts on the illumination of the space, its acoustic qualities and the energy in need for the heating and cooling of the space. The height and the surface of ceiling impact on the amount of light into space. Finally to design the floor, the ceiling and walls should be considered in terms of the aesthetic principles and used the tools such as color, light and texture commensurate to the space.

• Color

The first things that children are able to recognize them are the colors. Initially, Children recognize the black and white colors (light and dark). Usually, any color has a special meaning psychologically. The Color has been always an indicator and a means to express the feelings and ideas, so that we can speak with the language of colors. A color can have a concept in a certain social system that in the other system means the opposite of it. The issue that is considered more about colors is their psychological content. Colors are divided into two groups; warm colors and cool colors that each group induces some certain features. The warm colors are stimuli and cause activity, movement, happiness and vibrant, while the cool colors on the contrary, lead to the passive state, stationary, motionless and grief. Children are usually attracted by the warm colors. Numerous studies show the tendency of children to colors will vary during the different stages of growth. Many children who are under ten years old select the red or pink as their favorite color; but these children when their age exceeds of the ten prefer blue. This change occurs in the growth process. Le Corbusier believes: The color backs to our existence; perhaps each of us has its own specific color.

• Light

We have two types of light; natural and artificial light. In the case of natural light, the sun is the source of it that the direction of its light has the utmost importance in the interior design of the space. Among the artificial lights, the Light color and the light intensity are very striking. Sun (Momeni, A.F, et al 2013), stars and different lamps generate the Light from own themselves, but some objects are seen by the reflected light. Man's ability for seeing well, meaning the recognition of the shape, color and texture and also to distinguish one object from another is due to the amount of available light for illumination as well as some factors such as: brightness, contrast, glare, dispersion and color (Najafvand S, et al 2016).

• Texture

According to the above expressed subjects, in the case of touch sense can be found the effect of the texture to beautify and the interior design. The aesthetic sense has been mixed with the personality, that's why, the artworks of each painter can be well recognized based on the method of the colors and shapes to use. The way that each child uses in its artwork and the different methods of the space and shapes use and a set of experiences which is often done unconsciously are exclusive and belong to itself own. Irregularities, inconsistencies and dispersion of the components in a painting arising from often the disability of the person to unite its components and making a whole of those components (Vaseghi, 2011).

10. Conclusions

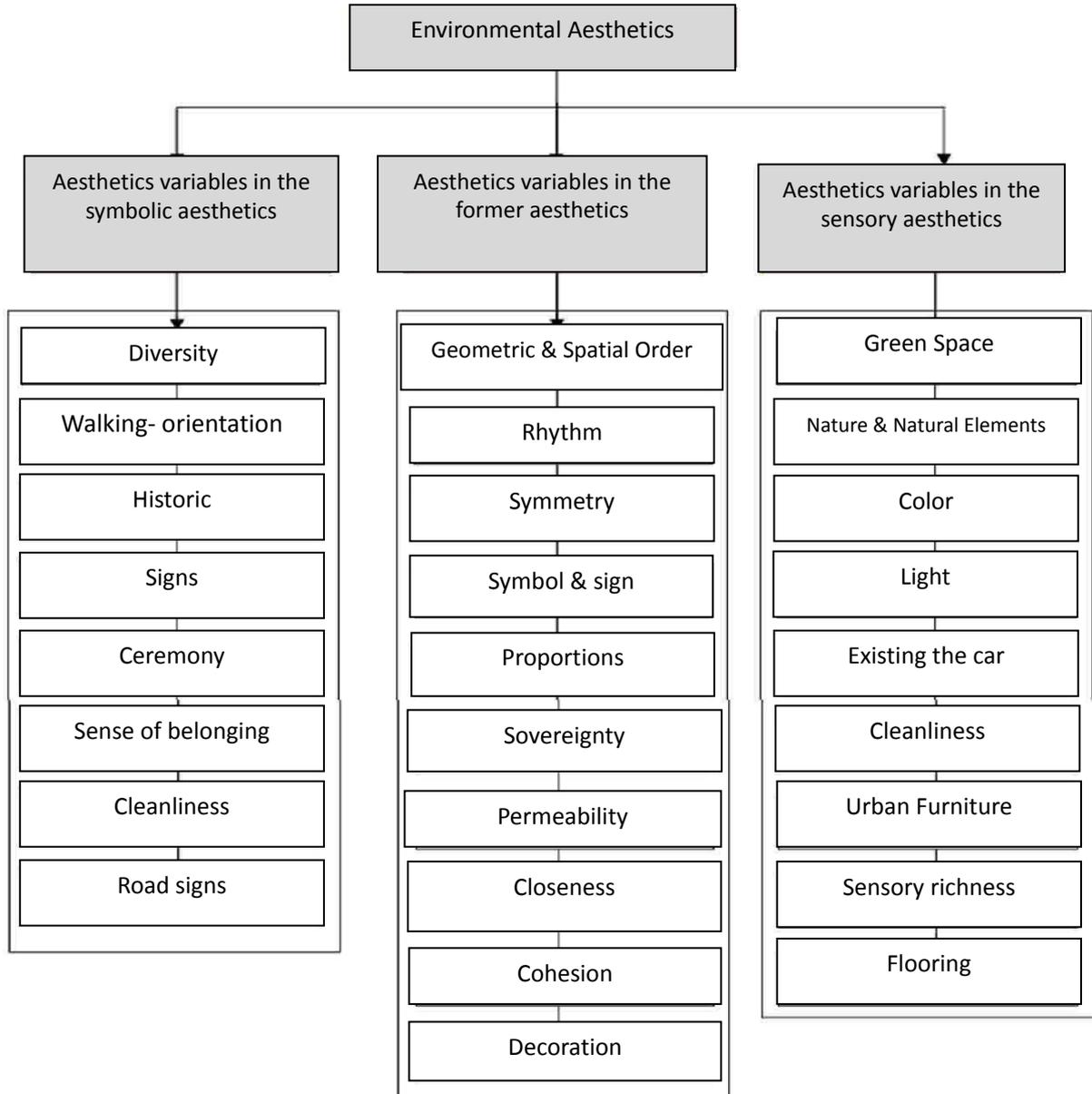
According to the concept of aesthetics in the architecture it should be noted that the beauty in the social- psychological aspects have a significant influence on the human perceptions and also determines what is considered as a beauty. In this study, first, the five senses introduced and the importance of each one is defined summary. To express any sense, the introducing criterion a sense is from the birth, because according to the growth of the newborn, the senses evolve as well. Then, the children classified by the age group and the characteristics and needs of each period have been determined. Finally, we outline to introduce of the architectural elements and it's important by the introduction

of the child space, according to the effect of the beauty factors. The obtained results, include as follows:

For children up to one year of age, the space design should not be crowded. Relatively a free space is needed from age one to age three to walk, play and other activities. From age three to five age, the child’s room should be designed such a way that the child plays comfortably with your friends in this space and gets preparation for entering the larger environment like the school. From six ages to eleven ages, this space should have the independent spaces to do the main tasks of the child, a more private space than the previous stages of the child growth, that the child can understand its independence.

According to the child development and its different needs in different age periods, the child space must be designed such a way that meets the spiritual and physical needs of the child and helps the growth and creativity of it.

The necessity of applying the principles of the Environmental Psychology is inevitable in the interior design of the child’ space according to the factors such as color, texture, light that are the subset of the effective factors to improve the child’s behavior. Because of the sensitivity of the subject, the interior architecture designer must have the background of the study and research about the children in the different ages as well as about the color, culture, color psychology and spatial perception of the color, light and texture for reaching useful results in the use of color, light and texture in the space of designing. Given the psychological differences in children, It should be noted which cannot be named a specific color as a girlish color or as a boyish color. Each child can choose its desired color according its interest and desire, but it is not true about the light, because each space needs a certain standard given the specified use of it.



When the child plays a role as an employer in the design and beautification of its environment will be more responsible for it, and this issue increases the child's self-esteem. Children with this background accept their responsibility better commensurate with themselves when they enter the school and the community.

The space where the child spends most of their time plays a significant role in the creativity, calm and confident of the child. Creating the harmony between the needs of children and designing an appropriate space for them can double the impact of the harmony on the growth and creativity of the child.

REFERENCES

- [1] Chang, F., Interior design, translated by Mohammad Ahmadinejad, Khak Press, 2016.
- [2] Ahmadvand, M., Child and Adolescent psychology, publisher of Payam Noor, 2016.
- [3] Omranipour, Moradi, A., M. Utopia, 2009.
- [4] Amir Hosseini, KH. Creativity and innovation, 2016.
- [5] Sheridan, M., Role Play in the child development, translations Doctor Falamak, Navid Shiraz, 2013.
- [6] Nejati, H., Child psychology and motion and trying, trying, Publication bikaran, Tehran, 2009.
- [7] Fars education & Training, Teacher training booklet for children, Shiraz, 2009.
- [8] Vaseghi, M., Children Painting, Sabz Publishing, 2011.
- [9] Pakzad, Jahan, Aesthetics in Architecture, Tehran, Shahid Beheshti University, 2009.
- [10] Falahat, M., Tajaly Far, N., The role of architectural design of the Children Medical Center in reducing the child fear child and facilitate the recovery process, 2015.
- [11] Porteous, J. D., (2010). Environmental Aesthetics, Ideas, Politics and Planning. Translated by Mohammad Reza Masnavi, Publication: Jahad Daneshgahi Mashhad, in Persian.
- [12] Lang, J., (2004). Creating Architectural Theory: the Role of the Behavioral Sciences in Environmental Design, Translated by Ali Reza Eyni Far. Tehran, Publication: Tehran University, [in Persian].
- [13] Gruter. Y. K. (2009). Aesthetics in Architecture, Translated by Jahanshah Pakzad and Abdoreza Homayoun, Tehran: Beheshti University Press. (In Persian).
- [14] Tarcísio da Luz Reis, Antônio and Maria Cristina Dias Lay. 2010. Internal and External Aesthetics of Housing Estates. 42 (2): 271-294.
- [15] Najafvand, S., & Heydari, K. B. (2017). Survey and Analysis of underground Concrete Structures Tunnel Doors, Under Explosive Loading. Journal of Innovative Research in Engineering Sciences ISSN, 2476, 7611.
- [16] Momeni, A.F, (2013), Effect of concrete properties and prestressing steel indentation types on the development length and flexural capacity of pretensioned concrete members (Doctoral dissertation), Kansas State University, College of Engineering.