Investigating the effect of color on spatial tolerance

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Abstract:
Considering that the psychological effects of color in an architectural space are considered as one of the effective factors for occurrence of behaviors and abnormalities, and the color of a space is one of the main components in the understanding of the body, therefore, The qualitative and quantitative aspects of color effects in the architectural context are essential to the behavior of users. The purpose of this study is to point out that the color of a space is considered as one of the effective factors in the understanding of its architectural architecture, and the diversity and difference of different colors is one of the most influential factors in terms of the time it takes for an architectural space to be tolerated. Let's look at how the various colors can influence the space-carrying capacity of the architecture. The results of this research show that the color of an architectural space during a period of tolerance of that space is influenced by the same user in similar comfort conditions. This is the solution to design spaces with a specific use time, such as: inductor Services, classrooms and more.

Key words: color, calf, tolerance, space
Introduction:

Design theories have never been needed from the findings of other disciplines and the basics that are needed to understand the characteristics of the environment and how they function. It should be used to match predictions and theories. Designers are remarkable about the design of their design and what actually happens, theoretical foundations of design development are significant. This need is especially true for designers' claims in the field of design effect on the lives of more people. In this regard, the role of philosophical views Designs can not be denied [5]

Since architectural and educational design of the university has been found, the relationship between human and environment, especially the scientific mechanisms of this relationship, and the ability to translate it into the language of architecture and design of the environment are questioned by designers and researchers in the fields of science related to architecture and The design of the environment has been [11]

In modern psychology, colors are one of the criteria for assessing personality. Because each of them has a special mental and physical effect in one person, the color indicates the mental and physical condition of individuals in the account. This is evidenced by the advancement of the two knowledge of physiology and psychology. It is clear that human beings have been influenced by the colors of their surroundings from now on [2]

So far, many studies in the field of psychology have focused on human perceptions of different colors and their psychological effects on humans. Also, the effects of the environment on man and his actions in architecture are one of the topics of these days. But so far An effective link has not been made to achieve the spatial tolerance of individuals based on the proposed component. It is important from this perspective that the link between studies of these two disciplines is examined theoretically and practically and the size It achieves quantitative limits in the objective range. [11]
Research Methodology

According to the research topic, to describe the relationship between variables, the research method has been selected as correlation. To this end, the main resources used are books, related research projects, the global communication network, and the use of questionnaires.

Not.[15]

In relation to the design of the questionnaire, it is necessary that the questionnaire is designed based on the definitions model proposed by Abraham Maslow's human needs model for the maximum adaptation. In three different colors with the same conditions and area. A total of 30 open questionnaires were presented and categorized according to the statistical community that were targeted and available for sampling. Examples reviewed after the presence of space and recording their duration were sensory perceptions have determined the space of experience.

The concept of color

When it comes to color, we will all imagine it and immediately our colors or colors will appear, such as red, blue, yellow, green, etc. First, the color the original ones are more than any other color, and they draw attention to our attention. By hearing the word, the color of the elements of color is remembered from nature and the world around us. For example, colorful flowers or the things we deal with and are colorful. In the end, we imagine that color means many things and applications and the role that color can play in seeing, recognizing and understanding the meanings. The objects and shapes are generally color-coded. And light is always considered as the most important factor in the recognition and viewing of colors, because without light, colors cannot be seen and the shapes are not recognizable. Life is rich in color and color effects. The significance and role of color revives various and varied concepts of it in our mind. That is why the presentation of a definite definition and a brief interpretation not only does not cover the comprehensive and broad concept of color. But it will also be misleading to understand its wide dimensions. Color is in all aspects of life, and therefore its concept is as broad as the concept of life. Or, in the words of ethen, it is the color of its life.[19]
The application of color in volumetric works, urban public spaces, and architecture can bring a special life into a collective life. Nowadays, the effects of color and its role in everyday life are considered as one of the main pillars of urban design, architecture and sculpture.

-Physio-logic color

Experiments that have forced people to spontaneously redraw the psychological aspect of garlic and at different times have shown that this color stimulates the nervous system, which increases blood pressure and it speeds up breathing and heart rate. For this reason, red is a stimulant for the effect on the nervous system, and especially the sympathetic branch of the autonomic system. On the other hand, experiments similar to the blue-garlic, the result has been reversed. That is, blood pressure is low and the rate of breathing and heart rate decreased. Psychology has put in place ideas that relate color choices to personality psychology, while the structure of a color is fixed and is defined as the real meaning of color, and is the same for everyone. For example, it can be said that dark blue is the meaning of calm and silence, regardless of whether a person likes this color. On the other hand, function is the mental tendency toward color, and so on that of different individuals. Different interpretations of the color test are based on this. Someone may like a particular color; another may find that color boring [7]

Therefore, the purpose of the discovery is to interpret the structure of the color because of the effect of the structure on perception. Because the function of the individual is different.

-The mental effects of colors

Artists, philosophers, scholars and psychologists have talked a lot about the effects of color on humans, a lot of things have been described in this regard. Today, even with the type of selection and use of specific colors, it's possible to understand the psychological characteristics and personality of the person to a large extent. The colors usually have a direct effect on the senses and the human psyche. Sometimes these effects are pleasant and sometimes unpleasant and hateful. We are also against these effects. We show the effect of the positive effects of the color. We feel satisfied with its negative effects. Color influences are sometimes so intense and so on. Perhaps it may lead to some sort of moral and physical action. As a result, the perception and emotion that is created by seeing the color is a very
complex reality, which, on the one hand, depends on its reality and its color, and on the other hand it relates to the mental and mental personality of individuals.

The feeling of warmth and warmth of colors and its effects on spatial dimension perception

Coldness and warmth of colors are an inner feeling that comes from seeing the colors. Of course, the feeling of coldness and warmth is related to the sensation of touch, and it may seem very strange that we see through the sight and seeing the color we feel them, but the fact is that the colors directly and by the sense of sight affect all of our existence. Just as the sound of some of the instruments may sound like this feel the physical pain, or seeing some tissues feel roughness and violence, or softness and delicacy. The color of the thing is what, through the sensation of vision, has profound effects on the psyche and the human body and other beings. Y=gZard. (Foundations of Visual Arts, 1384: 138.)

The warm colors are usually more closely related to the creation of the spatial dimension. While cold colors, even if they are at the same distance, are more rearward and more distant. The sequence Cold and hot colors play an important role in creating distance and proximity. Typically, colors like yellow, orange red and some of them are hot and blue, green and some of their combinations. Other colors are known as cold colors. Among them, green-blue is considered as the coolest color, and red-orange as the hottest color. [20]

Therapeutic Color

Color affects us both physically and emotionally, and it has been proven that if we use colors in our own interest, we can improve the health and the life of our lives. The aulin Wels paint specialist therapist, about the color of the treatment explains and shows that the color, especially the particular healing properties, is relevant[21]

104 .History of Color Therapy

Frank Alper in his books on the lost city of Atlantis attributes the use of color therapy to the people of Atlantis. He describes that circular temples had rooms for healing. Interconnected
ceilings. The glass cut off sunlight and sprayed the room out of spectral colors. Scientists have discovered that the Egyptians also had special treatments in their temples. The rooms were designed in such a way that the beam was detected in the color spectrum when the sun came in. Those who were diagnosed with the disease were in a room with prescription color. The medical treatment of mineral materials and precious stones was also included in ancient India. Because they believed that these rocks were the accumulation of seven cosmic rays and each stone was related to a certain beam. Among the ancient Anjuna, treatment through solar radiation was common practice, and the city of Baalbek was famous for its healing temples. During the early Christian era, any type of practice that was used as a resort was deemed to be absurd. Many ancient texts disappeared in the field of General Medicine. The Therapeutic Therapy in the eleventh century Christianity movement was revived by the prominent Iranian physician Ibn-e Sina. The most famous The wisdom of Ibn Sina, the law states his hypotheses in the therapeutic application of color.[17]

In the 19th century, the science of narration, surgery, and therapeutic medicine achieved great advances. Emphasizing the physical aspects, the spiritual aspects, The emotional and psychological aspects of treatment were discarded and the notion of treating the entire person's existence was ignored. With these shortcomings, the use of color therapy also decreased, however, the treatment was again discovered in the mid-19th century through sunlight. In the early centuries The 20 Austrian philosopher, mystic, and Austrian teacher Radolf Stainer took note of the supernatural view. He believed that the color of the living being is alive, and every color is of spiritual significance. And he said that the diseases are the result of a separation of material consciousness from a higher perception, and we can treat this gap through art. Doctor Max Leucher, a professor of psychology, believed that by measuring one's tendency for certain colors, It is possible to detect physical and psychological states. She supported the Losher-based laws on Russian scientist [2]

5. Characterization of colors

-blue
The blue color indicates complete relaxation. Thinking about this color has a calming effect on the central nervous system. The blood pressure, pulse, and respiration decreases, while self-protective mechanisms are adapted for re-energization. So that during illness and fatigue this color needs more. Dark blue, like the four other main colors, is a chromatic sign of a biological need. From the point of view of psychology it means calm and from the physiological point of view it gives meaning to pleasure. Everyone is in a balanced state of harmony and free from anxiety. Stability and integrity and security. So the blue color represents the extent that a person around them creates and also reflects the integrity and sense of belonging. Blue means loyalty. In the Pali word, the word Nile is used for blue. It has a Sanskrit root and it has recommended it as the most suitable environment for thinking. Water is of deep and great perfection, especially showing happiness and prosperity. The glorious fulfillment of the unity, unification and Rejoin the mother of the earth. The illustrator is Truth and Trust, Love and Sacrifice, Surrender, and Sacrifice. The Blue Rose represents the unceasing eternity of tradition and values. Idar and tends to the eternal past [9]

The blue is calm and patience. The water-colored, intrinsically cool, celestial and casual, is very deep and respectful. It has a celestial and invisible force that can appeal to its audience. Inner calls.

Correct

The red color, which blends it with a pale yellow orange, indicates the physical condition of energy use. It speeds up the disease, increases blood pressure and increases respiration. Exposure represents the vital activity of the activity Nervous and ganglia, and hence the meaning of desire and all forms of desire and passion. Extent is the necessity of obtaining the desired results and gaining success. A sign of intense wish for all of the things that cover the intensity of life and perfection of experience. Red means driving the will to win and all forms of passion of life and power from sexuality to revolutionary change. It is a motive for intense activity and sport, struggle, competition, sexual desire and fertility. Extent is the effect of will or Power of will [13]
It ultimately manifests itself on the excitement and inner energy. It is a form of life that illustrates revolutionary excitement and rebellion. It is a colorful reverberation that illuminates the vitality and the life of the life, yet signs It is a love of fire and an unwanted desire for life. The heat and red heat when it is mixed with orange becomes climaxed and symbolizes the burning flames and the burning flames and when they are purple Becomes a symbol of spiritual power [12]

-white

The color of white covers all colors and completely shines the light. This color is related to the innocence of purity and change, and it is strongly related to spirituality. [3]

6. Behavioral Sciences and Environmental Psychology

Behavioral science is a general term, which usually involves anthropology, sociology and psychology. All these disciplines deal with the analysis and understanding of activities of human attitudes and values.[18]

The definition of psychology of the environment (psychological study of behavior in the physical environment of everyday life) [2]. The analysis of the writings of this field provides that the subjects in the field of psychology The environment consists of the theory of perception, cognition, social psychology, anthropology, studying social relations, and the study of culture. Traditional psychology studies focuses on the individual or intrinsic phenomena of the environment and their behavior in the context of It analyzes the relationship between individuals or internal states of the person (Priedmen and Juhasz 1974.)

The fundamental goal of the behavioral sciences is the building of a positive theory. The purpose of these sciences is to describe and explain phenomena. By doing so, the knowledge gained can allow for predictions of patterns of activities and values. When an anthropologist, a society A psychologist or a psychologist values a commentary about the future, that is to say, instead of a prediction, in fact, instead of a behaviorist, it becomes a planner. The planners and designers always think of the future. (Lange, 1388: 24.)
7. The mechanism of feeling and perception

Human beings or animals are informed, through their sensory receptors, of the existence of realities in the inner or outer world. This feeling, after interpreting and interpreting, leads to perception, and the development of this perception ends with the recognition of some of the phenomena of the universe. To make

The subject of the study of psychology is the perception of the discovery of its mechanisms and its laws. These rules, including feelings and perceptions, include observations and experiments that have been carried out since Weber, Fechner, Gestalt school and other schools, precisely in the laboratory. Perceptions have been analyzed and analyzed (Iravani, God Panahi, 2008: 21.)

From the point of view of behaviorists, the subject of perception is perceptual behavior or response that always follows the effect of the internal or external stimulus of the living being. Usually, one responds only to selective stimuli. It should be noted that These perceptual responses, such as verbal, motion, drawing and drawing, electrical response of the skin, etc., provide researchers with a small amount of data, which today's laboratory measuring instruments are as complete as possible. And they are precise, because of the nature of the phenomenon, they do not look sufficient to measure them, and they are more or less related to the phenomenal response. Therefore, Adra Our bodies do not have precise and accurate precautions from environmental stimuli such as light, sound, color, shape and internal and physiological stimuli.[25]

-Definition of feeling

The transfer of the stimulus effect from the sensory receptor to the central nervous system, which is objectively observable, is called. This sensation is not cognitive and passively transmitted and has a 100% physiological basis [10]

The feeling takes place in two stages: one external or internal stimulation, and the other sensory organs effect that is acquired by the senses and transmitted through the nerves of the center to the spinal cord and the nerve centers. In the psychology of perception, the sense of discussion
associated with quality and psychological acts creates an introduction to any potential and visible reaction in the living being.

Individual differences in individuals

Functional theory in sociology that should not be confused with the functional theory in the design of the environment is an approach that has attracted the attention of some environmental analysts and human behavior. Such as Michelson. The most comprehensive form of this theory is explained by Talcott Parsens. He considers the cultural, personality, social, organoleptic, physiological and environmental systems essential for the social test. This theory is of interest to designers due to the more general application of the design of the environment.

Douglas Porthius (1977) writes:

Beliefs, attitudes, preferences, and other personality aspects of individuals, but at the same time, these characteristics are from individual experiences as members of a family, ethnic group, social class, and cultural and national groups in a manner. It is important to remember that they do not treat everyone in the same way in the same culture. There are always acceptable deviations from cultural norms. Therefore, all cultural members of the same category have similar things in The environment does not come across. All situations are not understood by people and all situations that are perceived are not usable. The environment is rich in behavioral capabilities. In addition, if the environment has the ability to provide behaviors and people have the right to use it, it does not mean that behaviors are sure to occur. But if there is no need for some functionality Behavior does not occur. The environment should be planned to provide optimal behaviors, otherwise people will adapt to the environment. These adaptations may be accompanied by biological and psychological pressure. According to the theory of inconsistency, these pressures are caused when people are placed in situations where they do not have a role to play [14]
Conclusion

The hypothesis of the present research is based on the fact that the ability of a person to tolerate space in the same physical conditions is different only with the difference in the color of that space. Therefore, the improvement of the psychological perceptions derived from the proper color in an architectural architecture allows users to tolerate space increases. This is the role of the environment, and architecture, rather than a negative one, is an adaptive rather than an algebraic one. If the built environment does not have the ability to provide behavior, then that behavior cannot occur. That the maximum tolerance time is in square form when its color is white. The lowest tolerance in this space is observed in red-orange color. The significance level indicates that there is a significant difference between the square shape with different colors. The color of the color appears to give more tolerance to the presence of the form. And the warm color reduces the tolerance of the individual.
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