

## Research Paper

# Investigating the Relationship Between Human Temperament and Environmental Color: A Cross-Sectional-Analytical Study in Kerman City (2017)



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## ABSTRACT

**Objective** Environmental factors can affect the brain and affect other organs through the brain. Color and light are among the environmental factors that are considered the main features of architecture and they are more in our control. According to traditional medicine theories, the Temperament of a person and his health is affected by various factors. Color is one of the factors affecting health that has not been investigated by researchers so far, so the purpose of this study was to investigate the relationship between the color of the environment as an external factor and the Temperament of individuals.

**Methods** This research is an applied study in term of aims and it has done by a descriptive-survey method. In this article, we examine the relationship between Temperament and color of environmental elements. To investigate the hypothesis, a survey was conducted on 144 housewives in one of the settlements of Kerman. In this study, data were collected through a medical questionnaire of Temperament and field observation of residential units and recording the colors of elements such as walls, ceilings. Data analyzed using the Chi-square test in SPSS V. 22 software.

**Results** The results showed that there is a significant relationship between the Temperaments of individuals and the colors of walls, In terms of Warmth and coldness ( $P < 0.001$ ). Also, the results of the test show that there is no significant relationship between the ceilings color with the Temperament of the test subjects. ( $P = 0.517, 0.124, 0.115$  &  $0.137$ , respectively)

**Conclusion** It seems that there is a significant relationship between the Temperament and the colors used in the environment and the Temperaments of the individuals affected by the color of the surrounding environment. Therefore, architects as the main designers of the building, in collaboration with traditional medicine practitioners with color Temperament knowledge can design interior design and home decoration that enhance the health of users.

## Extended Abstract

### 1. Introduction

**D**ue to its relationship with mankind, architecture is critical. Thus, it is essential to address the relationship between the individuals and the environment. The perception

and experience of space in architecture is mainly focused on quality; several variables are involved in the quality of this experience, the interaction of which indicates the resulting experience. The basis of the perception of the relationship between individuals and the environment and the quality of such interaction arises from the interaction of environmental components. This is because the quality of the living environment is considered in various sciences, like medicine.

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From the perspective of medicine, environmental characteristics could affect the human brain and through the brain, impact other body parts. In this regard, color and light are among the environmental factors with historical effects on humans. They are both of the main features in architecture and are in our control more than any environmental dimension. Traditional Iranian medicine pays attention to human beings, as the most advanced creatures; it considers the human nature and temperament, and the human-environment interaction plays a strategic role in this area. This science filed is related to architecture in terms of considering the quality of the living environment.

According to the theories of traditional medicine, individuals' temperament changes under the influence of various factors; accordingly, their health is affected. Light and color are the most significant pillars of a healing environment. Therefore, the interaction of architectural knowledge with traditional medicine in the field of light and color of the environment could help improve the quality of human life. In traditional Iranian medicine, special attention has been paid to the physical characteristics of the natural and artificial environment and its role on human health. In the addressed environmental issues by this field, color has been of particular importance. This is because color is among the factors affecting health and treatment. Recognizing pain from a specific color to selecting a medication in a specific color and the method of treatment and maintenance of the patient in a specific color environment, indicate the attention of traditional medicine to color. Despite all the emphases of traditional Iranian medicine on the effect of color on maintaining health and treatment, the relationship between color and temperament remains undiscovered.

## 2. Materials and Methods

In terms of the purpose, this was an applied research, i.e., conducted by cross-sectional-analytical method in Kerman City, Iran in the Spring of 2017. This study explored the relationships between individuals' temperament and the color of the walls and ceiling of an artificial environment. The statistical population of the study included residential houses and housewives aged 20-40 years without a specific disease history. To investigate the hypothesis, research was conducted on 144 housewives and their homes in residential units in one of the towns of Kerman.

In this study, data related to the temperament of individuals were collected through a medical questionnaire to determine the temperament and field observation of residential units, as well as recording the colors of the walls, ceiling of the bedroom, and living room. Before visiting the houses, a checklist, consisting of two columns of space and the color

of the environment was prepared to record field observations in relation to the color of the wall and ceiling during the visit. To complete the checklist, under the color column of the environment, the colors precepted from the observation of the space were placed; according to the temperament of each color, the code related to that temperament was registered. To determine the temperament of colors, the law of color composition and construction was employed; accordingly, due to the specificity of multi-color temperament in medical texts, the temperament of other colors observed in the environment was obtained.

In addition, Chi-squared test was used to investigate the relationship between the color variables of environmental elements and temperament. The results of Chi-squared test suggested the P-value of the relationship between variables. If the results of the study of the relationship between variables were less than 5%, it could be concluded that the relationship is significant.

## 3. Results

The results of statistical data analysis indicated that in general, there was a significant relationship between the temperament of individuals and the temperament of environmental elements. There was a significant relationship between human temperament and the temperament of the color of the bedroom and living room walls, in terms of warmth, coldness, dryness, and wetness ( $P < 0.001$ ). The obtained data revealed no significant relationship between the color of the bedroom and living room ceilings and the temperament of individuals in terms of warmth, coldness, and dryness ( $P = 0.517$ ,  $P = 0.124$ ,  $P = 0.115$  &  $P = 0.137$ , respectively).

## 4. Discussion

There seems to exist a significant relationship between an individual's temperament and the colors used in the environment. Moreover, individuals' temperament is influenced by the color of the environment. The colors of the environment of a place affect the mood of individuals; thus, impact their health. In other words, the environment and environmental elements, due to their special nature and temperament, affect the human nature and temperament. Furthermore, since these elements are the source of actions, they impose a specific state on the human body and mind. If this condition agrees with modifying the individual's temperament, it plays a role in maintaining his/her health, and if it adversely affects the person's temperament, it causes one of the disorders to prevail and endangers the person's health.

## 5. Conclusion

Therefore, due to the multiple subtleties in the design of the environment, architects, as the main designers of the building, with the cooperation of traditional medicine practitioners, and with awareness about the color temperament in interior design, could develop an environment to promote the health of users to create the desired living environment. It is an effective component in guiding individuals towards peace.

## Ethical Considerations

### Compliance with ethical guidelines

All ethical principles are considered in this article.

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### Authors' contributions

All authors were equally contributed in preparing this article.

### Conflicts of interest

The authors declared no conflict of interest.

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