

## Urban Stress in Tehran Region 6

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**Abstract:** Stress is one of the biggest future challenges of 21st century. Civilization gives different choices for individuals by providing unlimited opportunities for achieving various information and development and this bombardment of information brings much mental stress by itself. Stress and its effects are expansive on individuals especially in metropolises. Based on universal studies, the possibility of permanent presence in urban and local green spaces is one of the most important environmental factors that help individuals to reduce stress level; therefore it is necessary to consider the effect of urban green spaces on citizen's stress degree in the preparation process of urban development policies. But before policymaking stage, the effect of green spaces on reducing citizen's stress should be studied in Iran. So, in present essay, the amount of applying urban green space and its relation with citizen's stress degree are studied. The research method is descriptive-analysis and applied kind. For studying the relation between using green space and individual's stress degree, the software of SPSS and Spearman test are used. The method for gathering information is field method by questionnaires. The statistical society estimates 384 members by cochran formula among citizens between 20-60 years old randomly who are citizens in Tehran region 6. The research results signify that there is a meaningful relation between individual's presence and activities in urban green spaces and their stress degree. It means how much the degree of using green spaces increase, the degree of stress will be reduced.

**Key words:** Stress, green space, Tehran region 6, urban stress, estimate

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### INTRODUCTION

Living in the urban turbulent environments has special problems and although people lives in more complicated urban and industrial environments, gradually they should tolerate life terms in these situations full of stress, anxiety and quick changes further. Urban life has many differences with traditional and rural lives. For example, individuals are away from natural resources and jungle areas in city and actually, they shelter to iron, cement and buildings.

Naturally living in such areas has various impositions on soul, body and mental and certainly, citizen's social life will not be free from stress and anxiety in cities and metropolises also. The massiveness of place, cities distress, traffic, unplanned transportation, widespread massiveness of styles and interests, various ethnicities and unites and limitation of human's life in private place by iron make individuals more alone and separated nowadays. Stress and its effects is one of the most important subjects in mental health that causes the

eruption of all hearty, respiratory, mental and spiritual diseases. Permanent stress reduces individual's resistance against his environment and has a significant role for afflicting to cancer.

Stress is one of the biggest future challenges of 21st century. Civilization gives different choices for individuals by providing unlimited opportunities for achieving various information and development. This bombardment of information brings much mental stress by itself. Different researches have demonstrated that being in the exposure of choices and various information and being forced for choosing one of these choices are companied with reducing individual's ability in controlling their behaviors (Vohs *et al.*, 2008).

Therefore, the approaches of a health city, a green city and a garden city which all of them are a subset of urban sustainable development idea are signs of the importance of health level position in urban planning literature and other environmental sciences. So, it should be attempted to use all possible instruments to reducing citizen's stress. Accessibility to urban green spaces and

the existence of greenness in the city is one of plans can be lead to reducing stress. But many researchers believe that the issue is not just the existence of green space in the city because the role of green space in reducing stress is important when citizens be in connection with it daily, therefore, it seems that these green spaces which are located in residential environments can reduce citizen's stress. The present research proceeds to this issue and studies the usage of urban green spaces and their relation with individual's stress reducing degree in Tehran region 6.

### Theoretical framework

**The health city and green city:** Based on the definition which is provided by environment protection organization in green congress, people are responsible against their environment and provide a healthy and calm environment full of enjoys with at least environmental standards in corporation with civil organs. In this city, the capitation of green space, audio and visual pollutions are at an acceptable level and the capitation of producing garbage is at least. Also, consuming energy and its material are optimum and near to world standards.

The first theory for accessing to a health city is the theory of harvard's ebenezzer garden city that it can be mentioned as a place with healthy environment and away from any environmental pollution. After industrial revolution and intensification of urban problems, the invasion of rural population to cities caused the quick and unformed growth of cities, intensive rural immigration, crowd, unhealthy slums and reducing the level of unhealthy life that they led to feeling of individual's stress and anxiety. Therefore, Harvard believes that we should search a healthy life in small cities, nature and green spaces instead of stressful and crowded cities.

**Stress:** Stress is one of the most important reasons for producing mental and physical disorders. Different studies reveal that 70-90% of diseases are related to stress. The list of diseases arisen from stress including cancer, heart diseases, asthma and migraine. The definition of stress is the physical, mental and emotional reflexes which are experienced from individual's life changes and requirements. The changes can be big or small. Individual's responses are different against life changes.

The factors of creating stress can be divided to two groups, internal and external. The most important external factors are life problems (economic problems, occupation insecurity, overbearing job) and life changes (husband or wife, children or parent's death, marriage, divorce and

immigration); if stress is increased more than usual, it will be changed to depression and individual's health and function will be disordered. The physical-environmental and social reasons of stress are called stressor factors (Dorostkar *et al.*, 2016).

Some calls stress as an unspecified response of body to any situations that need to adjustment, whether it is a desired situation or not. Although, new defines present that there are physiological differences between stress from desired situations and undesired ones.

**Literature review:** There are different approach and theories for explaining and evaluating life environment effect on individual's health. The contemporary theories such as ulrich stress reduction theory have predicted that natural landscapes reduce stress. While building dense environments with open and little green areas postpone stress reduction (Velarde *et al.*, 2007). Evolution theories in the field of preferring landscapes explain natural landscape benefit in this way that the features of landscapes satisfy individual's biological requirements. Researchers proceed to this issue in environment psychology that reduction effect of natural landscape is the reason that individuals prefer natural landscape to urban ones (Harting and Staats, 2010).

In addition to mentioned matters, the positive effects of presence in nature may be considered as the results of effects that colors have on individuals. Colors excite emotional and cognitional effects. Red color that attracts more consideration causes activity and excitement and increases verve and vitality. While green color that attracts less considerations has calmatime and relaxing effects. Also, it seems those colors impact individual's cognitional, emotional and perceptional senses (Kodama *et al.*, 2010).

Living in nature effects heart and blood-vessels function positively, reduces the degree of physiologic answers to stress and improves adjustment abilities with stressor events. Also, it is specified that viewing green spaces reduces heart beating, removes muscles tensions, decreases blood-pressure and increases Galvanic Skin Response (GSR) (Pryor *et al.*, 2006).

The meta-analysis which has been done by Barton and Pretty illustrates that living and activity in nature improves self-confidence and temper characteristics (Barton and Pretty, 2010). According to Harting *et al.* (2009) have been reported stress reducing as the result of encountering with nature and living in green spaces.

**Research range:** Tehran region 6 is one of 22 regions that it is limited to Hemat highway from North to Chamran highway from West, Modaress highway from east and to

Enghelab street from South. Its area is 213/45 hec about 2/3% of Tehran area. It includes 5 areas and 18 sectors and its population contains 229,980 members (73,212 families), 110,751 men and 119,229 based on 2012 census (Site: Tehran.ir).

## MATERIALS AND METHODS

The dominant approach in this research is descriptive-analysis methodologically and applied one. For studying the relation between using green space and individual's stress degree, the Software of SPSS and apearman test are used. The method of gathering information is a field method through questionnaires. Statistical population by using Cochran formula is approximated 384 members who are chosen among 20-60 years old citizens randomly who are resident in Tehran region 6.

## RESULTS AND DISCUSSION

### Statement of the problem and findings

**Destructive findings:** The applied instrument in this study is questionnaire. These questionnaires include two parts, first part for the questions in relation to individual's demographical information such as age, sex and job experience and education and second part includes questions in relation to stress and stressor factors and the degree of using green space. Before gathering data, validity of questionnaire has been studied by reporters, university professors and experts based on its clarity and transparency of narrations. The content validity index of whole questionnaire is 0.82 and so, content validity of questionnaire has been affirmed.

From the statistical population of 383 members, 211 members are men and 172 members are women who are 20-60 years old. About 62% of studied population has higher education and 38% has diploma degree (Fig. 1).

Analyzing data demonstrates that 24% of studied individuals have used green spaces lesser and 32% of them medium and 44% of them has used less green spaces. Figure 2 of individual's control in crisis situation over them and their area shows that 16% studied individuals has much control 46% have medium and 38% have less control. Figure 3 shows Individual's stress degree generally that 50% of individuals experience much stress, 24% of them medium stress and 26% of them less stress.

### Deductive data

**The relation between using green space and stress degree:** For studying the relation between using green

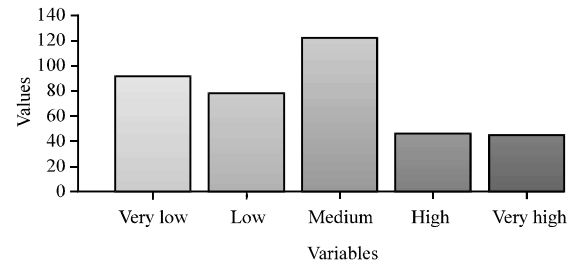


Fig. 1: The degree of using green spaces

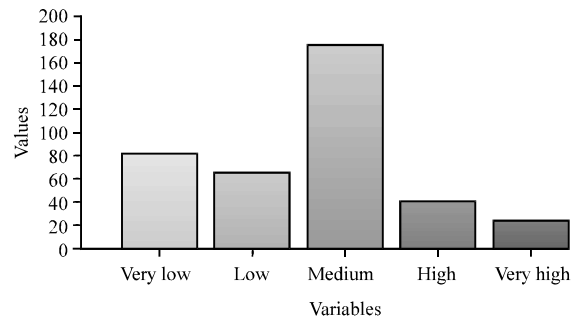


Fig. 2: The degree of controlling himself and environment in crisis situation

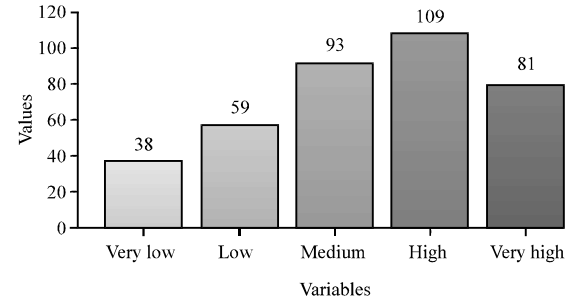


Fig. 3: Stress degree

space and stress degree, the Spearman test has been used that there is a reverse and significant statistic relation between the degree of using green space and stress degree based on spearman's coefficient -0.961 and confidence level 0.99 and default level <0.01. It means how much the degree of individual's usage of urban green spaces increases, individual's stress degree reduces.

## CONCLUSION

Some of individual's relation with nature is considered as a source for satisfying individual's material requirements while they need nature and green spaces for satisfying their mental, emotional and spiritual requirements. Individuals who have accesses to natural

environment are healthier than other individuals and have lesser stress. This effect impacts on around nature including increasing satisfaction from home, work and life indirectly and in long time. Evidences demonstrate that the relation with nature reduces blood-pressure, cholesterol, stress and increasing hope to life.

The existence of green spaces in sectors and partnership in group activities in green spaces and parks increase self-recognition and personification, the feeling of being a member of a group and not be alone, nature unity, awakening of loyalty and responsibility feeling against society and releasing from daily duties that totally all these options reduce stress in individuals in a society.

The results of present research show the importance of green space existence in citizen's stress in improving related factors to mental health, in the way that results show that the number of individuals with high and very high stress is 50% and it means that daily half of population are encountered with stress and if a suitable strategy is not suggested for them and they don't know about their mental health, it will be led to an irrevocable results.

The research results signify that there is a significant relation between individual's presence and activity in urban green spaces and their stress degree. It means that how much the usage of green space increases, individual's stress degree will be reduced. In another word, individuals who use green spaces permanently have less stress and they have more management and control power over their stress and also they have happier mentality and are more active socially. Therefore, the green space is an influenced factor in reducing individual's stress that related managers have understood

the importance of green spaces existence and expanding these kinds of spaces are prearranged in their plans to reduce stress for increasing citizen's mental health.

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