



## Distribution Pattern of Stressful Events in Districts of Tehran, Iran: Evidence from a Regional Survey

Fateh Tavangar<sup>1</sup>, Gholamreza Ghaedamini Harouni<sup>2</sup>, Hassan Rafiey<sup>1\*</sup>

1. Department of Social Welfare Management, University of Welfare and Rehabilitation Science, Tehran, Iran

2. Social Welfare Management Research Center, University of Welfare and Rehabilitation Science, Tehran, Iran

Correspondence: Hassan Rafiey, Department of Social Welfare Management, University of Welfare and Rehabilitation Science, Tehran, Iran Tel: +989123208703, Email: hassan441015@gmail.com

### Abstract

**Background:** Tehran metropolis has been the center of urban growth in Iran in recent decades, which has led to the growth of psychological problems and stressful events. The present study aimed to determine the distribution of stressful events in different districts of Tehran.

**Methods:** The present descriptive-analytical study examined 5,985 citizens of Tehran in 2018. Subjects were selected via multi-stage cluster sampling, and data were collected using a researcher-made questionnaire to measure stressful events. The exploratory and confirmatory factor analyses confirmed the validity and reliability of the questionnaire, respectively. Eleven stressors were extracted based on factor analysis, which were scored from 0 to 100. Mean scores of stressful events were compared using one-way analysis of variance and the Tukey's post hoc test. All statistical analyses were carried out using SPSS 16 and AMOS 18. The statistical significance level was set to 0.05.

**Results:** The mean total score of stressful events was 6.78. The highest and lowest scores of stressful events were related to fear of the future (15.15) and academic changes (1.11), respectively. Results of the Tukey's post hoc test indicated differences between districts 12 and 20 in political problems, between districts 11 and 16 in neighborhood underdevelopment and social harm, between districts 16 and 19 in the livelihood problems, and between districts 1 and 2 in educational problems and educational changes. Moreover, mean scores of stressful events were highest in districts 1 in terms of worry about the future, in district 22 in terms of individual changes, in district 20 in terms of occupational difficulty, and in district 18 in terms of housing problems. There was no significant difference in the mean scores of stressful events due to employment and family relationships between the districts.

**Conclusion:** Based on the results, residents in less developed districts of Tehran, with poor urban facilities, are less affected by events due to subsistence, occupational, and economic issues, while residents in more developed districts are more affected by non-subsistence events, such as filtering, political instability, social constraints, and other factors.

### ARTICLE HISTORY

Received: Jul 19 2020  
Received in revised form: Sep 04 2020  
Accepted: Jan 04 2021  
Published online: Jun 19 2022  
DOI: [10.29252/jgfbnm.19.1.9](https://doi.org/10.29252/jgfbnm.19.1.9)

### Keywords:

Stressful Events  
Distribution Pattern  
Regional Development  
Tehran

Article Type: Original Article



### Highlights:

#### What is current knowledge?

The phenomenon of stress and mental pressure has always been seen in previous studies as a class event and more focused on the lower social and economic classes and less privileged areas.

#### What is new here?

According to the nature and characteristics of stress, its concentration is more in some privileged or less privileged areas, and yet the main concentration of stressful events was in less privileged areas.

### Introduction

According to the theory of stimuli, stressful events are a set of events or conditions leading to physiological or psychological responses that predispose a person to illness or discomfort. According to Lazarus' theory, stress perception occurs at two stages, primary evaluation (evaluation or judgment of an event) and secondary evaluation (evaluation of resources to adapt to a stressor) (1).

Stress is an important and widespread phenomenon of modern urban life. The complexity of urban relationships and the diversity of issues in large cities contribute to the abundance of social sources of stress (2-4). Tehran metropolis, as the political and economic capital of Iran, has been the center of changes and development in the past few decades and is the most immigrant-friendly city in the country (5). The unbalanced development of Tehran metropolis and the concentration of facilities and services in the city as well as the uneven distribution of urban facilities and services in districts and neighborhoods of Tehran have been the subjects of various studies (6-10). The process of rapid urban changes has been associated with the development of various diseases, mental health problems, and increased stressful events (2, 4, 11).

Noorbala et al. (2017) found that 82.7% of Tehran residents had experienced at least a severe stressful event during the past year (1). It is generally believed that

place of residence, physical characteristics, social relationships, services, and opportunities provided in neighborhoods can influence health and well-being (13, 14).

Identification of stressful stimuli and their consequences is of great importance due to the well-established link between stress and various mental illnesses (15). Moreover, there is a clear relationship between stress and suicide rate (16). Stress is also an important risk factor for depression (17-23) and anxiety disorders (24, 25). In addition, stress can significantly influence the recurrence and treatment outcome of disorders (25). Jiang et al. have found that stressful life events are directly related to life satisfaction and depression (26).

Local facilities and the extent to which people enjoy these facilities affect the level of stressful events and individuals' mental health. Neighborhoods and districts with higher socioeconomic status have more sports facilities and access to urban services as well as other leisure facilities (27). Even with equal distribution of resources and facilities, the distribution of the facilities among privileged and non-privileged districts significantly affects the mental health outcomes of local residents (28).

The present study investigated the differences in experience of psychologically stressful events and their distribution in different districts of Tehran, Iran.

### Methods

The present cross-sectional study was performed on residents of 22 districts of Tehran in the spring of 2018. Sampling was done using a multi-stage cluster and probability proportional to size sampling methods. Assuming the highest variance  $[(\sigma)^2 = 0.25]$  in the statistical population, the sample size was calculated for each level of the analysis with a 95% confidence interval and an absolute error of 0.05. Three neighborhoods with different socioeconomic status were randomly selected from each district. Considering three socioeconomic zones (high, medium, and low) in Tehran and also three age groups of young (18-39 years), middle-aged (40-59 years), and the elderly (older than 60 years), 5,985 subjects were selected from 22 districts of Tehran. Based on the housing prices, all neighborhoods in each district were divided into three categories: high, moderate, and low. Sampling was done according to age and gender in each area

of Tehran. Inclusion criteria included age of  $\geq 18$  years and being a native of the same neighborhood. Exclusion criteria were reaching a certain sample size based on age, sex, and location. Necessary permissions were obtained from the research deputy of the University of Social Welfare and Rehabilitation Sciences. Before data collection, the research purpose and methods were explained to all participants, and they were assured about the confidentiality of data.

The initial questionnaire included 159 yes-no questions on stressful events. In order to determine the content validity, the questionnaire was given to 27 mental and social health experts, and a content validity ratio of 0.61 and content validity index of 0.86 were obtained. It should be noted that in order to enrich the questionnaire items and comprehensively review stressful events, in four areas of the city, focused group were held with 10 to 15 residents. This was done to modify some items before presenting them to experts for the validity assessment of the questionnaire.

We utilized the confirmatory and exploratory factor analyses and various factor rotation techniques for evaluating construct validity of the questionnaire. A Kaiser-Meyer-Olkin index of 0.822 was obtained.

The SPSS 16 software was used to perform the exploratory factor analysis, and the AMOS software was used to perform the confirmatory factor analysis. The amount of explained variance was  $R^2=0.49$  and Cronbach's alpha was 0.822. Root mean square error of approximation of  $\leq 0.05$  and goodness of fit index of  $\geq 0.09$  indicated a good fit of the model in the confirmatory factor analysis (Table 2).

The mean score of each district was compared with that of other districts. We provided a basis for comparing the districts given that the score of each district in each factor was between zero and 100. One-way analysis of variance and the Tukey's post hoc test were used to determine significant differences. Due to the high volume of data and tables, we only mentioned important cases and the contrasting homogeneous groups in the text.

**Results**

Based on the results, most subjects were male (51.9%), married (48.9%), employed (58.2%), and with diploma (50.8%) and owned houses (45.5%) (Table 1).

**Table 1: Descriptive characteristics of participants**

|                             |                   | N    | %    |
|-----------------------------|-------------------|------|------|
| <b>Gender</b>               | Male              | 3097 | 51.9 |
|                             | Female            | 2847 | 48.1 |
| <b>Marital status</b>       | Married           | 2882 | 48.9 |
|                             | Single            | 2684 | 45.5 |
|                             | Divorced          | 203  | 3.1  |
|                             | Widow             | 125  | 2.1  |
| <b>Education level</b>      | Illiterate        | 78   | 1.3  |
|                             | Elementary        | 182  | 3.1  |
|                             | High school       | 528  | 9.1  |
|                             | Diploma           | 2377 | 50.8 |
| <b>Employment status</b>    | Bachelor's degree | 1729 | 29.7 |
|                             | Master's degree   | 820  | 14.1 |
|                             | PhD               | 117  | 0.2  |
|                             | Employed          | 3145 | 58.2 |
| <b>Housing type</b>         | Unemployed        | 889  | 16.5 |
|                             | Housekeeper       | 627  | 11.6 |
|                             | Retired           | 268  | 5    |
|                             | Other             | 474  | 8.8  |
| <b>Income to cost ratio</b> | Owned             | 2335 | 45.5 |
|                             | Rental            | 1959 | 38.1 |
|                             | With family       | 640  | 12.4 |
|                             | Organizational    | 65   | 1.3  |
| <b>Income to cost ratio</b> | Other             | 147  | 2.9  |
|                             | Income>Cost       | 835  | 15   |
|                             | Income=Cost       | 3957 | 71   |
|                             | Income< Cost      | 778  | 14   |

The total mean stress score due to political problems was 10.28 in the districts of Tehran. The mean scores of stressful events due to this issue were lowest in districts 12 (4.1) and 20 (4.19). The mean scores of political problems differed significantly between the 22 districts of Tehran ( $F=11.59$ ,  $P<0.001$ ). The Tukey's post hoc test indicated a difference between homogeneous group 1 (districts 12 and 20) and other groups (Table 3).

The total mean score of stress due to underdevelopment of the neighborhood was 8.50. The mean scores of stressful events due to this issue were highest in districts 11 (13.63) and 16 (15.88). The mean scores of stressful events differed significantly between the districts of Tehran ( $F=14.62$ ,  $P<0.001$ ). The results of the post hoc test indicated a difference between homogeneous group 1 (districts 11, 15, 16, 18, and 19) and homogeneous group 2 (districts 1, 2, 3, 4, 5, 7, 8, 10, 14, 17, 20, 21, and 22).

The total mean stress score due to livelihood problems and wages was 10.45. The mean scores of the stressful event due to this issue were highest in districts 16 (16.22) and 19 (14.12). There was a statistically significant difference in the mean stress score due to livelihood problems and wages between the districts of

Tehran ( $F=15.30$ ,  $P<0.001$ ). The results of the post hoc test indicated that a difference between homogeneous group 1 (districts 15, 16, 19, and 20) and other group in terms of stress caused by livelihood problems and wages.

**Table 2: Factors and items related to stressful events**

| Factors   | Stressful Events   |
|---|--|
| Political problems ( $\alpha=0.739$ )                               | 1. Insecurity to express political aspirations and opposition  |
|   | 2. Watch, read or hear the words and actions of politicians  |
|   | 3. Frequent change in domestic and foreign policies and community rules                                    |
|   | 4. Corruption in the police, court, government departments and agencies, municipality, etc.                |
|   | 5. Safety problems (uncertainty about food health, road, and vehicle safety)                               |
|   | 6. Social discrimination   |
|   | 7. Uncertainty about the real people's perspective   |
|   | 8. Watch, read or hear controversial speeches by health professionals                                      |
|   | 9. Internet problems (filtering, slow connections, etc.)   |
| Social problems and neighborhood underdevelopment ( $\alpha=.731$ ) | 1. Living in a place where a person is faced with open drug scenes   |
|   | 2. Living in a neighborhood where a person see signs of poverty (begging, elderly work, and waste pickers) |
|   | 3. Living in a neighborhood where the person deals with other people's unemployment                        |
|   | 4. Low economic, social, and cultural level of the neighborhood  |
|   | 5. Living in a neighborhood where the person see violence  |
|   | 6. Living in a neighborhood where the person see prostitution  |
|   | 7. High rate of crime and poor security in the neighborhood  |
|   | 8. Living in a neighborhood where the person see child labor   |
| Livelihood and wage problems ( $\alpha=0.609$ )                     | 1. Salary problems   |
|   | 2. Uninsured by the employer   |
|   | 3. Expensive daily necessities   |
|   | 4. Education expenditures of family members  |
|   | 5. Exposure to unexpected costs  |
|   | 6. Market instability  |
| Fear of the future ( $\alpha=0.663$ )                               | 1. Concerned about individual and family future  |
|   | 2. Concerns about the financial and economic future  |
|   | 3. Concerns about the future of education  |
|   | 4. Concerns about the future of the job  |
|   | 5. Concerns about the future of the neighborhood and society   |
| Educational events ( $\alpha=0.635$ )                               | 1. Doing homework, presenting content in class, exam, and dissertation                                     |
|   | 2. Interpersonal relationships in education  |
|   | 3. Dormitory problems  |
|   | 4. Educational failure   |
|   | 5. Financial difficulties during the education years   |
| Educational changes ( $\alpha=0.704$ )                              | 1. Change the field of study   |
|   | 2. Changes in education regulations  |
|   | 3. Change in the educational environment   |
| Individual changes ( $\alpha=0.463$ )                               | 1. Change in sleep habits  |
|   | 2. Reach old age   |
|   | 3. Change in your hobbies  |
|   | 4. Change in performing religious rituals  |
|   | 5. Changes in social activities  |
|   | 6. Change in beliefs, attitudes and thoughts   |
| Occupational difficulty ( $\alpha=0.642$ )                          | 1. Extreme and overwhelming job responsibilities   |
|   | 2. Time pressure for job tasks   |
|   | 3. Problem with manager  |
|   | 4. Problems with working physical conditions   |
|   | 5. The problem of transportation between work and home   |
| Housing problems ( $\alpha=0.651$ )                                 | 1. Renting Problem   |
|   | 2. Dissatisfaction with the quality of housing   |
|   | 3. Changes in Housing  |
|   | 4. Expensive housing   |
| Problems of occupational relationships ( $\alpha=0.464$ )           | 1. Emotional abuse at work (disregard, humiliation, disturbance, swearing, etc.)                           |
|   | 2. Problems in interpersonal relationships, disputes, and issues   |
|   | 3. No control over work  |
| Family relationships ( $\alpha=0.689$ )                             | 1. Wife's Treachery  |
|   | 2. Controversy with wife and leave home  |
|   | 3. Interventions of husband and wife families  |
|   | 4. Psychological Abuse by your' wife   |
|   | 5. Conflict with family members  |
|   | 6. Being obliged to live in a different family cultural  |

The total mean score of stress due to fear of the future was 15.15 and highest among the 11 stressful factors. The mean scores of stressful events due to this issue were lowest in districts 12 (12.11), 13 (12.11), and 20 (9.42). There was a statistically significant difference in the mean score of stress due to fear of the future between the districts of Tehran ( $F=14.64$ ,  $P<0.001$ ). The results of the post hoc test indicated a difference between homogeneous group 1 (districts 11, 12, 13, and 20) and other groups in terms of stress caused by fear of the future.

The total mean score of stress due to educational problems was 3.94. The mean scores of stressful event due to this issue were highest in districts 1 (7.63) and 2 (7.42). There was a statistically significant difference in the mean scores of stress due to educational problems between the districts of Tehran ( $F=15.94$ ,  $P<0.001$ ). The results of the post hoc test indicated a difference between homogeneous group 1 (districts 1 and 2) and other groups in terms of stress caused by educational problems.

The total mean score of stress due to individual changes was 6.49. The mean score of stressful events due to this issue was highest in district 22 (12.78). There was a statistically significant difference in the mean score of stressful events due to individual changes between the districts of Tehran ( $F= 11.13$ ,  $p <0.001$ ). The

results of the post hoc test indicated a difference between homogeneous group 1 (districts 1, 19, and 22) and other group in terms of stress caused by individual changes.

The total mean score of stress due to job difficulty was 4.58. The mean score of stressful events due to this issue was lowest in district 20 (1.46). There was a statistically significant difference in the mean scores of the event between the districts of Tehran ( $F= 6.56, P<0.001$ ). The results of the post hoc test indicated a difference between homogeneous group 1 (districts 12, 14, and 20) and other group in terms of stress caused by job difficulty.

The total mean score of stress caused by housing problems was 9.47. The mean score of the stressful event due to this issue was highest in district 1 (14.27). There was a statistically significant difference in the mean scores of the event between the districts of Tehran ( $F= 6.2, P<0.001$ ). The results of the post hoc test indicated a difference between homogeneous group 1 (districts 1, 16, and 18) and homogeneous group 2 (districts 5, 12, and 14) in terms of stress caused by housing problems.

According to the results of the one-way analysis of variance, there was a statistically significant difference in the mean scores of familial relations between the districts of Tehran ( $F= 3.31, P<0.001$ ). The results of the Tukey's post hoc test indicated that unlike the previous stressors, there was no significant difference between urban and rural areas of Tehran in terms of family relations-related stressful events.

Table 3: Distribution of the mean score of stressful events in districts of Tehran

| District | Political problems | Neighborhood problems | Livelihood problems | Fear of Future | Educational problems | Educational changes | Individual problems | Job difficulties | Housing problems | Job relation | Family relation |
|----------|--------------------|-----------------------|---------------------|----------------|----------------------|---------------------|---------------------|------------------|------------------|--------------|-----------------|
| 1        | 14.64              | 7.12                  | 16.64               | 22.88          | 7.43                 | 2.05                | 8.96                | 7.07             | 14.27            | 2.82         | 2.77            |
| 2        | 12.39              | 7.91                  | 10.77               | 17.78          | 7.63                 | 2.68                | 8.46                | 4.97             | 8.48             | 1.39         | 1.59            |
| 3        | 8.73               | 3.59                  | 8.85                | 18.01          | 1.53                 | 0.28                | 4.46                | 6.97             | 8.24             | 1.40         | 3.27            |
| 4        | 10.98              | 8.95                  | 10.39               | 13.97          | 2.33                 | 0.72                | 6.45                | 4.33             | 10.81            | 2.12         | 2.97            |
| 5        | 7.86               | 5.03                  | 7.00                | 11.34          | 2.99                 | 0.99                | 5.08                | 3.86             | 7.23             | 1.62         | 3.01            |
| 6        | 15.23              | 9.74                  | 12.79               | 19.61          | 7.13                 | 2.41                | 7.60                | 4.47             | 10.39            | 2.36         | 4.32            |
| 7        | 11.44              | 8.10                  | 13.45               | 14.27          | 3.48                 | 0.82                | 7.36                | 6.57             | 6.57             | 11.1         | 2.36            |
| 8        | 9.88               | 7.22                  | 9.31                | 15.91          | 3.74                 | 0.71                | 4.92                | 4.47             | 7.84             | 2.24         | 2.42            |
| 9        | 13.37              | 8.34                  | 10.43               | 15.85          | 7.69                 | 1.56                | 5.76                | 4.43             | 8.72             | 2.56         | 4.35            |
| 10       | 11.34              | 8.22                  | 8.74                | 15.04          | 5.29                 | 1.64                | 6.79                | 4.65             | 8.64             | 1.34         | 3.52            |
| 11       | 14.39              | 13.63                 | 11.48               | 12.93          | 3.16                 | 0.97                | 8.28                | 5.72             | 10.59            | 3.40         | 2.60            |
| 12       | 4.10               | 8.39                  | 4.89                | 12.11          | 1.61                 | 0.61                | 4.85                | 3.35             | 6.42             | 0.80         | 1.66            |
| 13       | 8.69               | 8.67                  | 8.08                | 12.11          | 1.67                 | 0.41                | 4.72                | 3.23             | 7.29             | 1.60         | 1.62            |
| 14       | 9.42               | 8.11                  | 8.28                | 14.42          | 6.1                  | 1.05                | 6.92                | 2.7              | 7.04             | 1.33         | 1.96            |
| 15       | 9.31               | 11.26                 | 9.68                | 13.45          | 2.77                 | 0.76                | 5.37                | 4.00             | 10.77            | 1.96         | 2.51            |
| 16       | 13.45              | 15.88                 | 16.21               | 20.04          | 2.92                 | 0.7                 | 6.13                | 5.95             | 11.82            | 2.35         | 1.91            |
| 17       | 9.58               | 7.68                  | 11.6                | 13.92          | 4.86                 | 1.88                | 6.68                | 5.42             | 7.42             | 1.65         | 3.50            |
| 18       | 9.83               | 11.27                 | 12.54               | 14.00          | 2.36                 | 0.52                | 5.68                | 4.08             | 11.71            | 2.41         | 4.21            |
| 19       | 10.09              | 12.64                 | 14.12               | 20.36          | 3.55                 | 1.38                | 10.83               | 6.94             | 10.31            | 2.08         | 3.69            |
| 20       | 4.19               | 5.80                  | 7.61                | 9.42           | 0.97                 | 0.13                | 3.20                | 1.46             | 9.11             | 0.39         | 2.01            |
| 21       | 9.56               | 5.83                  | 10.72               | 17.16          | 5.70                 | 0.97                | 6.70                | 4.32             | 9.01             | 2.29         | 3.12            |
| 22       | 9.24               | 5.66                  | 12.93               | 17.47          | 4.73                 | 1.84                | 12.78               | 3.61             | 10.78            | 1.41         | 3.26            |
| Total    | 10.28              | 8.50                  | 10.45               | 15.15          | 3.94                 | 1.11                | 6.49                | 4.58             | 9.47             | 1.92         | 2.76            |

**Discussion**

If we categorize districts of Tehran into three classes of privileged, semi-privileged, and non-privileged based on previous studies (6, 10, 30) and different indices of urban development, some stressful events can be seen in all three categories. Consistent with findings of previous studies (13, 27, 28), we found that the mean score of stressful events was higher in less-privileged areas, such

as districts 12, 15, 16, 18, 19, 20, and 21. Residents in these districts experience more stressful events due to underdevelopment of the neighborhood, social issues, livelihood problems, and housing problems compared with residents in more developed districts. Previous studies also showed that access to urban facilities and services, social participation, social capital, urban spaces, recreational spaces, and urban welfare affected perception and experience of stressful events (31, 32).

The mean score of stressful events due to political events (insecurity to express demands, filtering problems, administrative corruption, and contradictory words of politicians) was higher in privileged districts (1, 2, 3, 5, and 6) compared with other districts. This factor seemed to be more important for the residents of these districts. The mean score of stress due to other issues such as educational problems (dropout and dormitory problems) and academic changes (e.g. changes in rules and regulations) as well as individual changes (changes in bedtime, changes in beliefs) were also higher in these districts. In general, the type of stressful events differed between the districts so that most of the stressful events in the less-privileged districts were due to subsistence, economic, housing, etc. issues, while residents in the privileged districts experienced more stressful events due to personal, political, and educational issues. This finding is somewhat contrary to the results of other studies that reported a direct correlation between socioeconomic status of the districts and the individuals' stress level (1, 3, 18, 27).

Some studies reported that people with a lower socioeconomic status and residents of urban slums were more likely to experience stressful events due to job difficulties and occupational/family problems (5, 6), but we found no such difference between residents in privileged and non-privileged districts. The mean score of stressful event due to fear of the future was high in almost all districts of Tehran.

In the present study, we sought to determine the distribution of stressful events in districts of Tehran, but there were some limitations. First, if the distribution of the stressful events was achieved by neighborhood, it would be possible to extract more powerful and accurate results. Second, regional level information and determinants could be related to each stressful event. Nevertheless, our study provides an important framework for conducting future analytical studies and planning to reduce the rate of stressful events, which have negative consequences on the lives of citizens. It is suggested to further investigate the causes of stressful events in each districts based on the findings.

**Conclusion**

Based on the results, residents in less developed districts of Tehran with poor urban facilities are less affected by events due to subsistence, occupational, and economic issues, while residents in more developed districts are more affected by non-subsistence events such as filtering, political instability, social constraints, and other factors.

**Acknowledgements**

We are grateful to the office of mental, social, and addiction of the Ministry of Health and Medical Education for their support.

**Funding source**

The study has received financial support from the University of Social Welfare and Rehabilitation Science, Iran.

**Ethical statement**

The research received approval from the ethics committee of Tehran University of Social Welfare and Rehabilitation Sciences (Code: IR.USWR.REC.1397.022). The participants were ensured about the confidentiality of their personal information.

**Conflict of interest**

The authors declare that there is no conflict of interest regarding publication of this article.

**Author contributions**

Fateh Tavangar: Writing and conducting research. Gholamreza Ghaedamini Harouni: Statistical consulting and analytical techniques Hassan Rafiey: Supervision and research framework.

**References**

- Noorbala AA, Rafiey H, Alipour F, Moghanibashi-Mansourieh A. Psychosocial stresses and concerns of people living in Tehran: a survey on 6000 adult participants. Iranian journal of psychiatry. 2018;13(2):94. [View at publisher] [DOI] [Google Scholar]
- Wilkinson R, pickett K. The spirit level: Why more equal societies almost always do better. Tehran: Samt; 2009. [View at publisher]
- Mubi Brighenti A, Pavoni A. City of unpleasant feelings. Stress, comfort and animosity in urban life. Social & Cultural Geography. 2019;20(2):137-56. [View at publisher] [Google Scholar]

4. Roe JJ, Aspinall PA, Ward Thompson C. Coping with Stress in Deprived Urban Neighborhoods: What Is the Role of Green Space According to Life Stage? *Frontiers in psychology*. 2017;8:1760. [[View at publisher](#)] [[DOI](#)] [[PMID](#)] [[Google Scholar](#)]
5. Li J, Liu Z. Housing stress and mental health of migrant populations in urban China. *Cities*. 2018;81:172-9. [[View at publisher](#)] [[DOI](#)] [[Google Scholar](#)]
6. Rezvani mr, motiee langroodi sh, pourtaheri m, azizi f. immigration and social sustainable development in rural areas (case study: host rural areas of tehran metropolitan area). *journal of regional planning*. 2015;5(19):71-84. [persian] [[View at publisher](#)] [[Google Scholar](#)]
7. Sadeghi R, Zanjari N. The Inequality of Development in the 22 Districts of Tehran Metropolis. *Social Welfare*. 2017;17(66):149-84. [persian] [[View at publisher](#)] [[Google Scholar](#)]
8. Saremi HR, Totzaei S. Assessment and Evaluation of Entitlement Levels of Urban Zones of Tehran Metropolitan Using TOPSIS Technique. *Hovieta Shahr*. 2014;8(18):47-60. [persian] [[View at publisher](#)] [[Google Scholar](#)]
9. Kaviani A, Mansourian H, Farhodi R. Urban growth pattern in Tehran City: Sustainability or unsustainability. *International Journal of Urban Management and Energy Sustainability*. 2017;1(1):59-70. [persian] [[View at publisher](#)] [[Google Scholar](#)]
10. Shahiki Tash MN, Yaghfori H, Darvishi B. Investigating the severity of spatial and regional welfare imbalances in Iranian provinces (comparative study of Harvey and Smith's perspective). *Regional Planning*. 2015;2015(17). [persian] [[View at publisher](#)] [[Google Scholar](#)]
11. Mirzaei J, ahmadi s, lorestani a. Spatial Analysis of Prosperity Levels in Tehran Metropolis From the Perspective of Urban Economics. *Journal of Urban Economics and Management*. 2015;3(11):59-77. [persian] [[View at publisher](#)] [[Google Scholar](#)]
12. Yeresyan I, Lohaus A. Stress and wellbeing among Turkish and German adolescents living in rural and urban areas. *Rural and remote health*. 2014;14(2):2695. [[View at publisher](#)] [[DOI](#)] [[PMID](#)] [[Google Scholar](#)]
13. Cubbin C, Egerter S, Braveman P, Pedregon V. Where we live matters for our health: Neighborhoods and health. 2008. [[View at publisher](#)]
14. Ghaedamini G, Sajjadi.H, Rafiey.H, Vaez MAhdavi M. Explaining Multidimensional health inequalities in Tehran. Tehran: University of Social Welfare and Rehabilitation; 2016.
15. Grant KE, Compas BE, Thurm AE, McMahon SD, Gipson PY, Campbell AJ, et al. Stressors and child and adolescent psychopathology: Evidence of moderating and mediating effects. *Clinical psychology review*. 2006;26(3):257-83. [[View at publisher](#)] [[DOI](#)] [[PMID](#)] [[Google Scholar](#)]
16. Ang RP, Huan VS. Relationship between academic stress and suicidal ideation: Testing for depression as a mediator using multiple regression. *Child psychiatry and human development*. 2006;37(2):133. [[View at publisher](#)] [[DOI](#)] [[PMID](#)] [[Google Scholar](#)]
17. Espejo EP, Hammen CL, Connolly NP, Brennan PA, Najman JM, Bor W. Stress sensitization and adolescent depressive severity as a function of childhood adversity: a link to anxiety disorders. *Journal of abnormal child psychology*. 2007;35(2):287-99. [[View at publisher](#)] [[DOI](#)] [[PMID](#)] [[Google Scholar](#)]
18. O'sullivan C. The psychosocial determinants of depression: a lifespan perspective. *The Journal of nervous and mental disease*. 2004;192(9):585-94. [[View at publisher](#)] [[DOI](#)] [[PMID](#)] [[Google Scholar](#)]
19. Burns JM, Andrews G, Szabo M. Depression in young people: what causes it and can we prevent it? *Medical journal of Australia*. 2002;177(7):S93. [[View at publisher](#)] [[DOI](#)] [[PMID](#)] [[Google Scholar](#)]
20. Bhatia SK, Bhatia SC. Childhood and adolescent depression. *American family physician*. 2007;75(1):73-80. [[View at publisher](#)] [[Google Scholar](#)]
21. Garber J. Depression in children and adolescents: linking risk research and prevention. *American journal of preventive medicine*. 2006;31(6):104-25. [[View at publisher](#)] [[DOI](#)] [[PMID](#)] [[Google Scholar](#)]
22. Cuffe SP, McKeown RE, Addy CL, Garrison CZ. Family and psychosocial risk factors in a longitudinal epidemiological study of adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2005;44(2):121-9. [[View at publisher](#)] [[DOI](#)] [[PMID](#)] [[Google Scholar](#)]
23. Hammen C, Shih J, Altman T, Brennan PA. Interpersonal impairment and the prediction of depressive symptoms in adolescent children of depressed and nondepressed mothers. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2003;42(5):571-7. [[View at publisher](#)] [[DOI](#)] [[PMID](#)] [[Google Scholar](#)]
24. Boer F, Markus MT, Maingay R, Lindhout IE, Borst SR, Hoogendijk TH. Negative life events of anxiety disordered children: bad fortune, vulnerability, or reporter bias? *Child psychiatry and human development*. 2002;32(3):187-99. [[View at publisher](#)] [[DOI](#)] [[PMID](#)] [[Google Scholar](#)]
25. Willemen AM, Koot HM, Ferdinand RF, Goossens FA, Schuengel C. Change in psychopathology in referred children: The role of life events and perceived stress. *Journal of Child Psychology and Psychiatry*. 2008;49(11):1175-83. [[View at publisher](#)] [[DOI](#)] [[PMID](#)] [[Google Scholar](#)]
26. Jiang Y, Zhang J, Ming H, Huang S, Lin D. Stressful life events and well-being among rural-to-urban migrant adolescents: The moderating role of the stress mindset and differences between genders. *Journal of adolescence*. 2019;74:24-32. [[View at publisher](#)] [[DOI](#)] [[PMID](#)] [[Google Scholar](#)]
27. Miao J, Wu X, Zeng D, editors. Neighborhood and mental health among Hong Kong elderly. Population Association of America 2018 Annual Meeting, Denver, CO, April; 2018. [<http://hdl.handle.net/1783.1/92100>]
28. Lersch KM, Chakraborty J. Introduction: Connecting Behavioral Health, Crime, and Neighborhood Disorder. *Geographies of Behavioural Health, Crime, and Disorder*: Springer; 2020. p. 1-9. [[View at publisher](#)] [[DOI](#)] [[Google Scholar](#)]
29. Statistical Center of Iran. Selected Findings of the 2016 National Population and Housing Census Iran 2019 [cited 2019 02.26.2019]. Available from: [[View at publisher](#)] [[Google Scholar](#)]
30. Rahnamaei D, Purahmad D, Hatami Nejad D, Manoochehri A. An Analysis on The Spatial inequality of Tehran City and Prediction of Planning Priorities. *Geography and Territorial Spatial Arrangement*. 2016 Sep 22;6(20):35-56. [[View at publisher](#)] [[Google Scholar](#)]
31. Steptoe A, Feldman PJ. Neighborhood problems as sources of chronic stress: development of a measure of neighborhood problems, and associations with socioeconomic status and health. *Annals of Behavioral Medicine*. 2001;23(3):177-85. [[View at publisher](#)] [[DOI](#)] [[PMID](#)] [[Google Scholar](#)]
32. Sumner LA, Olmstead R, Azizoddin DR, Ormseth SR, Draper TL, Ayeroff JR, et al. The contributions of socioeconomic status, perceived stress, and depression to disability in adults with systemic lupus erythematosus. *Disability and Rehabilitation*. 2020;42(9):1264. [[View at publisher](#)] [[DOI](#)] [[PMID](#)] [[Google Scholar](#)]

### How to Cite:

Fateh Tavangar, Gholamreza Ghaedamin Harouni, Hassan Rafiey. Distribution Pattern of Stressful Events in Districts of Tehran, Iran: Evidence from a Regional Survey. *Journal of Research Development in Nursing & Midwifery*, 2022; 19 (1): 30-33



© The author