



# The Relationship Between Spatial Inequality of Development and the Level of Social-Emotional Strengths and Difficulties for Students at Primary Schools of Tehran

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## Abstract

**Background:** Primary schools have the highest quota in children's education. In all urban regions of Tehran, it is required to know whether the problems and capabilities in spatial inequality of development range have been distributed in the same way and whether all the schools care about the same issues, or whether some regions require a greater focus.

**Objectives:** This research aimed at surveying the relationship between different regions of Tehran based on the spatial pattern of inequality in urban development of capabilities, and social and emotional difficulties among students in the early years of primary school.

**Methods:** Based on the ex-post facto research design and its statistical population, 270 students (7 to 9 years old) from the early years of primary school in the academic year of 2017 - 2018, were included in this study. By multi-stage cluster sampling method, three regions were selected for sampling, based on the pattern of inequality in Tehran's development centers. Then, one female and one male school were randomly selected from each region and the strengths and difficulties questionnaire (SDQ) was distributed among the students. This measure is a brief behavioral screening questionnaire that assesses three to sixteen-year-old students. The data were analyzed by SPSS 23. Multivariate analysis of variance (MANOVA) was run for data analysis at the significance level of  $P < 0.01$ .

**Results:** The findings showed that the residential area of students affects their social and emotional health. This effectiveness can account for 8% of students' social and emotional status. Also, a significant difference was observed between relatively developed and undeveloped regions in students' level of emotional ability ( $P < 0.01$ ), yet the developed region did not show any difference with relatively developed and undeveloped regions. Complementary effect was obtained as 0.82, which was the sum of the effect of social and emotional health and shows student's social and emotional development.

**Conclusions:** There was a significant difference between students' residential area and children's social skills and abilities. Children's social and emotional abilities are more considerable than their social and emotional difficulties. Therefore, attention to training for families and children is strongly recommended.

**Keywords:** Schools, Tehran, Inequality of Development, Social and Emotional

## 1. Background

One of the most important issues in urban management is distribution, as a strategy for social justice, which is followed by planners. It includes the best possible way for the distribution of services and accessibility to facilities in urban regions (1).

In fact, distribution of basic requirements, facilities, and urban services in different urban regions with the equality of all neighborhoods in having space advantages and the observance of equal accessibility, is impossible. Indeed, due to differences caused by natural foundations

and unfit patterns in space management, unequal urban spaces may result.

Therefore, the most important mission of designers and urban managers is to achieve equal idealistic opportunities in providing various groups of the urban population with accessibility to urban services and removing differences in receiving educational opportunities, healthcare services or else.

Nowadays, disturbance in mental health has become one of the most severe problems in urban regions and accounts for almost 14% of global illnesses (1). In addition,

it is considered as one of the main reasons of risks and threats in general health. These problems are among the most fundamental reasons for the prevalence of illnesses in children and adolescents (2). Lying, drug abuse, different types of violence, running away from home, crime rates, level of drop-outs, eating disorders, increased struggles, disorders, and other similar social difficulties (3) are all examples of the lack of mental health in social and emotional domains. Thus, the main onus is on planners to devise the best possible solutions to tackle these issues.

Schools, especially primary schools, have the highest quota in children’s education. As a result, the idea of using schools as a helpful entity for children and adolescents’ mental health seems to be worthy of assigning more value and credit.

Schools are the best foundation, where some activities can be done to boost the society’s health. Schools exist in all urban regions of Tehran, including privileged, average, and deprived areas; however, it is required to know whether the problems and capabilities in spatial inequality of development range are the same and whether all the schools care about the same issues or some regions require a greater focus. Furthermore, it should be determined if some schools in certain regions must focus more on training mental health in the field of capabilities, and social and emotional difficulties.

A wealth of research has been done on the effect of the environment on human behaviors and psychological traits (4-8); however, limited research has been carried out on the impact of the environment on capabilities, and social, and emotional difficulties.

## 2. Objectives

This study aimed at collecting the needed data for planning at schools in the field of social and emotional difficulties, and abilities of early years of primary school students in order for schools to make more effective plans about the mental health of the society.

This research sought to explore the relationship between different regions of Tehran, based on the spatial pattern of inequality in urban development of capabilities, and social and emotional difficulties among the students in the early years of primary school.

## 3. Methods

The present study employed an ex-post facto or after-the-fact research. This is a category of research, in which the investigation starts after the event occurred without interference of not from the researcher (9) and it is possible to study it now through the effect it has on other variables (5).

The statistical population of this study included all students in early years of primary school, residing in Tehran in the academic year of 2017. The sample size was 270 (seven to nine years old) and the number of returned questionnaires was 261. By the multi-stage cluster sampling method, three regions, namely “developed”, “relatively developed”, and “undeveloped” were selected for sampling, based on the pattern of inequality in Tehran’s development centers.

Then, two schools (one female and one male) were randomly selected from each region and the questionnaire was distributed among the teachers.

Tehran’s regions were classified to five categories. Table 1 shows Tehran’s regions in terms of economic and social development (7).

**Table 1.** Zoning of 22 District of Tehran in Terms of Economic and Social Development Indexes

Zoning Development	No. of Regions	Regions
Developed	4	1, 2, 3, 6
Relatively developed	2	5, 7
Moderate developed	6	4, 8, 11, 13, 21, 22
Less developed	5	9, 10, 12, 14, 20
Undeveloped	5	15, 16, 17, 18, 19

The northern part is considered to be developed; the central and western parts have been regarded as relatively developed and moderate, and the southern and south parts are considered as less developed, and undeveloped.

The researchers homogenized the sample units in some features, including age, where students in the age group of 7 to 9 years old were chosen, the presence of both parents living with each other, and the participation of equal students from both genders in the sample.

Each student’s social and emotional difficulties, and abilities were extracted by strengths and difficulties questionnaire (SDQ). The strengths and difficulties questionnaire (SDQ) is a brief behavioral screening questionnaire for three-to sixteen-year-olds developed by Goodman and co-workers in 1997 (6). In the Persian version of SDQ, the factor analysis demonstrated that there are four factors (10). This questionnaire is scored from totally disagree (= 1) to totally agree (= 3).

The construct validity of the questionnaire has been assessed and the five factors reported by Goodman et al. were not approved in the Iranian context. Indeed, in the exploratory factor analysis, such as emotional difficulties, emotional abilities, social difficulties, and social abilities were identified (7). In this study, the revised SDQ questionnaire as per the validation results in Iran, was used.

Questionnaires were approved by the Education Department of Allameh Tabataba’i University. Written in-

formed consent was obtained from the parents and teachers.

The scope of the research encompassed all the 22 municipal districts of Tehran. Tehran, the capital of Iran, is one of the 30 largest metropolises in the world and its area is 75 000 hectares. Its population is over 8.5 million people. It consists of 22 urban districts, the largest ones being districts 4, 22, and 18, respectively, and the smallest district is region 17. The most populous areas of Tehran are 5, 4, and 2, respectively, whereas and the least populated region of the city is region 22 (7).

The data sources used to describe the spatial pattern of developmental inequality include the census data of 2011 (11) as well as information on the prices and rent of housing in Tehran from 1993 to 2015 (12).

In order to verify the economic and social development, 16 indicators were studied. Social indicators were: Literacy of adults (30 to 59 years old), the literacy level of the elderly (60 years old and above), university graduates, the ratio of males to females with university education, and the number of people using the internet. Women's economic participation, employees with high-ranking jobs, families with a private car, families with a personal computer, families using public facilities, families with a place of residence, families with a home with skeletal structures, the average price of a square meter of land, the average price of a square meter of residential space, and the average rental price of one square meter of residential space, constituted the 10 economic indicators. The data was analysed using the SPSS 23 software. Multivariate analysis of variance (MANOVA) was used. The level of significance was considered as  $P < 0.01$ .

This study was approved by the Ethics Committee of Al-lameh Tabataba'i University.

#### 4. Results

The demographic characteristics, considered as variables, included level of first period of primary school education (i.e. first, second, or third grade), the student's gender (i.e. male or female), and the residential region (i.e. 2, 5 or 19) (Table 2). According to descriptive results, 31.4% of the students were in the first grade, 34.1% in the second grade, and 34.1% third grade, 47.9% of them were males and 51.3% were females. Furthermore, 31.0% were chosen from region 2, 35.2% region 5, and 33.3% from region 19.

##### 4.1. Question 1: Does the Residential Area Affect the Students' Social Difficulties?

The effect of four factors on different regions, calculated by pairwise comparisons, is shown in Table 3.

In terms of social difficulties, the students of region 19 were different with regions 2 ( $P$  value  $< 0.001$ ) and 5 ( $P$

Table 2. Demographic Features of the Participants

Variables	Frequency	Percent	Valid Percent
<b>Level of First Period of Primary School Education</b>			
First grade	82	31.4	31.5
Second grade	89	34.1	34.2
Third grade	89	34.1	34.2
Total	260	99.6	100.0
Missing value	1	0.4	
Total	261	100.0	
<b>Gender</b>			
Boys	125	47.9	47.9
Girls	134	51.3	51.3
Total	261	100.0	100.0
<b>Residential Region</b>			
2	81	31.0	31.2
5	92	35.2	35.4
19	87	33.3	33.5
Total	260	99.6	100.0
Missing system	1	0.4	
Total	261	100.0	

value = 0.001). There was no significant difference between regions 2 and 5 ( $P > 0.01$ ). With respect to the mean difference, there was a higher prevalence of social difficulties in region 19 than in regions 2 (Mean Difference = 1.765) and 5 (Mean Difference = 1.667).

##### 4.2. Question 2: Does the Residential Area Affect the Students' Social Abilities?

There was no significant difference between regions 2 and 5 ( $P$  value = 0.879,  $> 0.01$ ), yet regions 2 ( $P$  value = 0.001) and 5 ( $P$  value = 0.001) were different from region 19 in terms of social ability ( $P < 0.01$ ). Considering the mean difference, it can be inferred that regions 2 and 5 showed a greater power in the management of social relations, and region 19 acted in a weaker manner in this regard.

##### 4.3. Question 3: Does the Residential Area Affect the Students' Emotional Difficulties?

Regions 19 and 5 ( $P$  value = 0.01) were significantly different from each other in the prevalence of emotional difficulties ( $P < 0.05$ ), while there was no significant difference between regions 5 and 2 ( $P$  value = 0.471) and there was a significant difference between regions 2 and 19 ( $P$  value = 0.014). With respect to the mean difference, it can be argued that regions 5 and 2 were less problematic than region 19 with regards to the students' emotional problem.

**Table 3.** The Effects of Regions on Social and Emotional Difficulties, and Abilities

Dependent Variable	Region	Regions	Mean Difference	Std. Error	P Value	95% Confidence Interval for Difference	
						Lower Bound	Upper Bound
Social difficulties	2.00	5.00	-0.097	0.487	0.842	-1.056	0.862
		19.00	-1.765*	0.491	0.001	-2.732	-0.797
	5.00	2.00	0.097	0.487	0.842	-0.862	1.056
		19.00	-1.667*	0.482	0.001	-2.617	-0.718
	19.00	2.00	1.765*	0.491	0.001	0.797	2.732
		5.00	1.667*	0.482	0.001	0.718	2.617
Social abilities	2.00	5.00	0.074	0.482	0.879	-0.875	1.022
		19.00	2.044*	0.486	0.001	1.088	3.001
	5.00	2.00	-0.074	0.482	0.879	-1.022	0.875
		19.00	1.970*	0.477	0.001	1.031	2.910
	19.00	2.00	-2.044*	0.486	0.001	-3.001	-1.088
		5.00	-1.970*	0.477	0.001	-2.910	-1.031
Emotional difficulties	2.00	5.00	0.238	0.329	0.471	-0.410	0.885
		19.00	-0.817*	0.332	0.014	-1.471	-0.164
	5.00	2.00	-0.238	0.329	0.471	-0.885	0.410
		19.00	-1.055*	0.326	0.001	-1.697	-0.413
	19.00	2.00	0.817*	0.332	0.014	0.164	1.471
		5.00	1.055*	0.326	0.001	0.413	1.697
Emotional abilities	2.00	5.00	-0.395	0.208	0.058	-0.804	0.014
		19.00	0.307	0.209	0.143	-0.105	0.720
	5.00	2.00	0.395	0.208	0.058	-0.014	0.804
		19.00	0.702*	0.206	0.001	0.297	1.108
	19.00	2.00	-0.307	0.209	0.143	-0.720	0.105
		5.00	-0.702*	0.206	0.001	-1.108	-0.297

**4.4. Question 4: Does the Residential Area Affect the Students' Emotional Ability?**

There was a significant difference between region 5 and region 19 in the students' level of emotional ability (P value = 0.001, < 0.01). However, region 2 did not show any difference from regions 5 and 19 (P value = 0.058). According to Table 3, region 5 was stronger than region 19 in terms of the students' emotional ability.

**5. Discussion**

There was a significant difference between the students' residential area and children's social skills, and abilities, with a probability value of P < 0.01. In the same way, this difference in children's social and emotional abilities is more considerable than the difference between the students' social and emotional difficulties.

Therefore, residential area plays a more effective role in children's social and emotional enhancement than in the creation of emotional and social difficulties. These findings are consistent with those of other studies that have proven the impact of the environment on increasing emotional and social skills. In this regard, the design of the learning environment affects mental and physical health (4) and environmental psychology asserts that space characteristics and human needs in the environment greatly influence emotional and social characteristics (13).

Deprived areas have a significant difference with well-equipped and moderate regions in terms of the students' social difficulties. The vast density of immigrants in deprived areas may be considered as a factor contributing to the incidence of social difficulties and their underlying causes (14). Some of them live in conditions lacking basic facilities and cause an increase in the excesses of social inequalities. Unemployment is a source of replete with high

rates of delinquency as well as cultural differences and illiteracy. The migration of people from neighboring countries to Iran due to the political unrests and economic turmoil in these countries has also contributed to these problems, and the shadow of cultural differences makes it impossible to develop a mutual understanding between immigrants and residents (8). Therefore, because of the lack of security in metropolitan areas, migrants have a lot of social concerns and feel more vulnerable to the damages from the society; hence, they may appear anti-social and suffer more from social difficulties (15).

In the area of social ability, the areas with a developed and moderate state were different from deprived areas. This can be attributed to the relative welfare of the families and their economic conditions as well as the facilities provided to the children. This finding is consistent with the results of a study conducted on the impact of deprivation on the social background of pre-school children (16). The impact of extreme economic deprivation and low facilities on individuals acts as a barrier for them to be generous or volunteer for help, and prepares them to fight for opportunities (17), which are in disharmony with the items used to measure social abilities; thus, the person obtains a low score.

In terms of the emergence of emotional difficulties, the areas with high and moderate developmental levels showed fewer problems than deprived areas. Of course, there were several causes, such as the problems of economic well-being and its impact on students' emotional issues or issues related to marginalization (15). Economic welfare draws attention to the design of the exterior and interior spaces of home, and this affects the individual's emotional issues (5) and vice versa, which may cause emotional difficulties.

There was no significant difference between the middle, upper middle class and the deprived in terms of emotional ability (self-management), while there was a significant difference between the middle areas and the deprived areas. People in region 5 were expected to have a moderate level of risk.

However, region 19 was exposed to a high risk while region 2 was at a very low risk. In other words, they are expected to be in both ends of the spectrum in terms of self-management; and the middle zone is expected to lie in the middle of the spectrum. Therefore, the significant difference between region 5 and 19 is reasonable, yet the lack significant difference between regions 2 and 5 and region 19 is a subject of debate. It seems that the element of enjoyment and development has a negative impact on accountability and self-management of some children in the region, which makes it impossible to come to a meaningful difference between these groups (privileged) and deprived and moderate classes. Students' scores in region 2

(upper and lower bounds) indicate the similarity of some sample units of the privileged regions in the category of self-management with the individuals in the deprived and middle classes. It seems that people in this privileged region enjoy a similar self-management ability as those, who live in a disadvantaged region, although they may have different reasons for the enjoyment of this self-management ability.

Finally, the difference in the level of development leads to a difference in the level of social and emotional difficulties among the students. This difference represents the increase of problems and reduction of capabilities in the deprived areas. Therefore, it is required to provide students with assistance and create schools that focus on social and emotional learning in disadvantaged areas. In addition, it is suggested for more actions and measures to be taken in disadvantaged areas; in particular, families and children should be provided with some types of training by schools in terms of self-management and accountability, especially children in the first grade of elementary school. It is also recommended that planners and educators assign top priority to families and children in disadvantaged areas and increase the level of emotional and social learning by making them effective in mental health.

Similar studies for students in the second grade of elementary schools and other programs is suggested.

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## Footnotes

**Authors' Contribution:** Nasrin Ansari: Study concept and design, acquisition of data, and statistical analysis. Dariush Noroozi: Administrative and study supervision. Khadijeh Ali Abadi: Critical revision of the content and Ali Delavar: Consultation and analysis of questionnaires.

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