

An Investigation of the Life Quality Indices for Improving the Mental Health of the Citizens of Kaleybar in Iran

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ABSTRACT

Analyzing different levels of citizens' satisfaction using quantitative methods has a pivotal role in the process of urban planning. Measuring the level of satisfaction with life quality is complicated and at the same time under the influence of many factors. Therefore, for investigating more closely the issue, first, we reviewed the history of the life quality and the definitions of life quality provided by different scholars through a geographical perspective. The indices used to measure the life quality and the main approaches to life quality were also taken into consideration. The approach taken here is an American one. To predict the mental health of the citizens of Kaleybar, the citizens were asked to fill in the GHQ-28 (General Health Questionnaire) and then the WHOQOL-BREF (The World Health Organization Quality of Life) questionnaire to have an understanding of their mental health and life quality indices. The data collected were analyzed using Multiple Regression Analysis to determine the effect of life quality indices on the mental health of the citizens.

Keywords: Life Quality, Index, Mental Health, Multiple Regression

I. INTRODUCTION

Human being as a creature, who is inherently interested in improving his welfare and the comforts of life, has long been trying to improve his life quality in his planning. Achieving this, as the goal of the development, depends on a better understanding of the factors influencing life quality of human beings. Hence, scrutinizing the life quality is among the important goals of the practitioner's active in different areas of knowledge and implementation which has received attention from various fields of study due to its broadness. Studying life quality seriously dates back to 1960s during which it was revealed that economic growth and development did not necessarily lead to an improvement in life quality [1]. Although improving life quality in individual and social levels has long been taken into consideration by planners, in recent decades, because of the priority given to social objectives in the development paradigms and the formulation of these objectives in the form of development programs, a

humanistic and social view of life quality has gradually found a position in the literature of development and also in the planning and macroeconomic policies of developed countries. With the popularity of the humanistic view of life quality and the place given to life quality in the literature of sustainable development, and modern social and economic development program, many research centers and institutes have started to investigate the life quality, the indices for measuring it, and the ways for improving it [2].

To meet these needs, human beings have always tried to make some changes in the environment throughout the history. However, these changes have not always been very favorable and in some cases it can be seen that the changes have created some places all over the world where the life situation has got worsened. Furthermore, the surroundings of many small towns and metropolises and in some cases rural areas have become increasingly uninhabitable and unattractive for the current and future residents [3] which has led to deterioration in the quality

of the residential environment. Thus, the simultaneous improvement of the environmental quality and its indices is a purposeful activity [4]. Many behavioral abnormalities in the society such as violence, aggression, violating others' rights, and breaking the rules are rooted in the residential environment quality other than historical, cultural and economic contexts. Therefore, being worried about the modern life quality is among the characteristics of the contemporary society [5, 6], which can be influenced by the life quality. Deterioration in life quality can be the result of some economic activities, as well. When the population increases, an increase in the activities becomes uncontrollable [7]. Nowadays, many countries are concerned with the issue of development. To put it in other words, development is not anything other than making life more delighting [8, 9]. Since no one would be satisfied with his life without health, providing people with health care has to be among the fundamental principles of development [10]. On the other hand, as human beings are constantly changing, identifying the factors influencing mental health seems to be never-ending. Mental health has to be given critical importance since it influences the physical performance of individuals and subsequently the urban development [11].

II. METHODS AND MATERIAL

2. Theoretical Foundations

2.1 Life Quality History

Aristotle in *Nicomachean Ethics* talks about the human well-being and what well-being is, what it consists of and how one can become prosperous. For him a good life is that full of happiness. The academic view toward the life in 1920, when Pigou in his book "The Economics of Welfare" discussed this issue, started to move in a new direction. Since 1930, researchers have been evaluating life quality all over the world and because of its broadness, life quality as an interdisciplinary subject, received attention in others fields too among which one can name Architecture, psychology, politics, sociology and medicine [12].

In the late 1960s, social indicators movements came to existence officially. Until 1970s, the life quality was regarded to be related to materialistic values and the outcomes of economic growth. After the emergence of negative effects of economic growth and the emergence

of sustainable development theory, life quality was considered to be more social and found a position among the issues of planning as the major objectives of the development. The 1990s experienced a debate over the life quality with considerable emphasis on social structures such as social capital, social equity, and social exclusion. In the early 1990s, the United Nations released a report on the development with an approach toward humanistic development which led to some major changes in the objectives of the development in the mid-1990s making the social well-being and life quality become the top priorities [13]. Paying attention to social, political, and cultural dimensions of the development simultaneously was also emphasized. In other words, in this period, the approach to life quality shifted from a process-oriented approach to a product-oriented one. The product-oriented approach focuses on the question whether or not the policies and programs influence life quality. In process-oriented approach the major issue is how programs can be put into practice (ibid).

2.2 Definition of Life Quality

The word "quality" in Latin (*Qual*) means "something" or "the way something is done" and it lexically means the quality of living and comprises the differences unique to each person which are different for others [14]. The Oxford dictionary provides us with four meanings for the word "quality":

1. The standard of something as measured against other things
2. General excellence of standard or level
3. High social standing
4. A distinctive attribute or characteristic possessed by someone or something [11].

Some researchers regard the life satisfaction as the major parameter in life quality and identify four types:- of life satisfaction [13]:

1. Satisfaction taken from "having" which is influenced by people's access to facilities
2. Satisfaction taken from "relationships" with regard to social relationships
3. Satisfaction taken from "being" in terms of individual's perception of "himself" implying the

meaningfulness of life and the individual's control over it which is in contrast to alienation.

4. Satisfaction taken from "action" in terms of how one spends time in his spare time.

Therefore, since then, there have been many attempts to define "life quality", identify its components and present methods for measuring it. Different individuals and groups have interpreted the term "life quality" in different ways. Some believe it to be the habitability of the environment, some think it to be the level of attraction and others consider it as the public welfare, social well-being, happiness, satisfaction and other similar notions [15]. Mallman, believes that life quality is a notion that observes human beings and like their expectations is determined through a dynamic interaction between the individuals, the society and his place of residence. Diwan is of the opinion that life quality is a situation within which the individual feels comfortable about himself, the nature and the society he lives in [16]. Liu presents three approaches in investigating the notion of life quality including (1) defining life quality according to its components such as happiness, satisfaction, wealth, life style and so forth. (2) defining life quality through the application of objective and mental indices such as gross domestic product (GDP), health, welfare, and education, and (3) defining life quality based on specifying the variables or factors influencing life quality considering the background and the condition of the place whose life quality is measured [12].

Philips also investigates life quality at individual and group level considering objective and mental parameters at individual level. The provision of the basic needs and having access to financial sources to meet the social needs of citizens are necessary for life quality. Life quality is mentally related to the following [17]:

1. Increasing mental welfare including taking pleasure, satisfaction, being purposeful in life and individual growth.
2. Growth and self-actualization in the path of prosperity and altruism.
3. Participation in many social activities.

Life quality is a multi-dimensional and relative notion which is dependent on time and place and personal and social values. It has objective and external and mental

and internal dimensions from which different meanings have derived for different individuals and groups. Some have interpreted it to be the habitability of an area, some the attracting level of an area and some the public welfare, social well-being, happiness, satisfaction and other similar notions [18].

2.3 Life Quality in Geographical Investigations

In the late 1960s, the notion of life quality entered the literature of geographical science under headings such as social equity, social welfare, public life, the quality of places of residence and so forth. Radical and liberal geographers were influenced more than others. Issues such as social welfare, extreme inequalities, poverty, out-break of diseases, racism, ethnocentrism, crime, life expectancy, and shantytowns soon attracted the attention of geographers and for the first time geographers started to hear the voice of those who were worried about the human societies [19]. David Harvey, was the first geographer who published a book on life quality and social equity with regard to the common good, the distribution of income, providing for the basic needs and fair allocation of resources. Addressing the issue of marginalization of some groups in the society, David Smith in 1977 investigated the social welfare indices (ibid). Actually, these two scholars, with opening a new horizon in geographical research, emphasized on providing favorable life quality in all habitable environments. Geography adopts a spatial approach in life quality research, that is, the level of having access to facilities or lack of having such access and the threatening factors of places and human life are studied. Wilson in 1972, conducted a valuable study on social deprivation and analyzed the intra-state variables with regard to life quality [20].

Although the emphasis of geography on life quality and the related notions dates back to 1970s, it does not mean that human geography did not pay attention to life quality at all before then. In other words, geography was mostly concerned with notions such as natural resources, production and demographic characteristics and in the broad sense of the term "everything related to consumption". Central to the geographers' point of view was the fact that different 'ways of life' existed in different places, however, explicit qualitative comparisons were avoided. What was new about radical geography shaped in the latter part of the 1960s was the consideration of topics such as poverty, health, hunger,

crime and environmental pollution and the contribution each had in improving peoples' quality of life as a spatially variable condition which were neglected up to that time (Smith, 1973). Essential to the process of forming the notion of "life quality" is the principle that all human beings should enjoy their life. When we are trying to adopt an approach to "life quality", this principle helps us focus on methods based on which people can enjoy their lives most [4].

2.4 Indices of Life Quality Measurement

Most scholars believe that the concept of "life quality" consists of the following dimensions [21]:

1. Physical dimension: concepts such as power, energy, the ability to do one's daily activities and taking care of oneself are related to this dimension.
2. Psychological dimension: which includes concepts such as anxiety, depression, and fear?
3. Social dimension: this dimension is related to the relationship of the individual with family, friends, colleagues and society.
4. Spiritual dimension: it is related to the individual's perception of the life, the meaning and purpose of life. This dimension, as an important and independent domain, has been proved not to be a subsection of "psychological dimension".
5. Symptoms of diseases and treatment-related changes: this dimension exemplified by pain, nausea, and vomiting is mostly considered in personal contexts.

What is more, one of the main characteristics of life quality is its multi-dimensionality about which a broad consensus has been reached despite some difference of opinion in the field [14]. However, most researchers and experts in this area believe that life quality consists of physical, social, psychological, environmental and economic dimensions illustrated in the Figure 1.

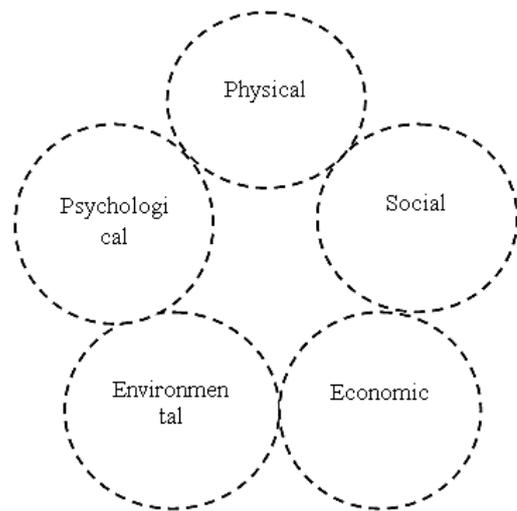


Figure 1 : The dimensions of life quality [22].

In physical dimension, questions about physical dimension of human being including power, energy, his ability to do his daily activities, self-care, and the symptoms of diseases are analyzed. In social dimension, the feeling of being better than others, the quality of individuals' relationship with family, friends, colleagues and the society are considered. In psychological dimension, the conditions such as anxiety, depression, fear and the relative degree of deprivation are measured. In environmental dimension, the quality of the surrounding environment is explored for inhabitancy and in economic dimension parameters such as income, the type of occupation or job satisfaction are emphasized [22].

2.5 Different Approaches to the Quality of Life

There are, by large, two distinct approaches in the literature to life quality:

1. Scandinavian approach to quality of life: this approach, developed by John Drabinski and Richard Titmuss, is mostly popular in Scandinavian countries. In this approach, where the life quality of people is met through providing for their basic needs, the focus is on the objective condition of the life and the related parameters.
2. The American approach to life quality: in most studies conducted in the United States about life quality, the mental experiences and references of people were of central importance. Among the scholars who have highly influenced this approach one can name the social psychologist

Thomas. In this approach, satisfaction and felicity are the main indicators of life quality.

Other than these two approaches, there are some other approaches which consider both the objective and mental dimensions of life quality among which one can name the economic and social approaches (Ghiasvand, 2009) [23]. Based on these two approaches, the position of life quality can be divided into four conditions:

Table 1 different conditions of life quality combining the objective and mental dimensions [17].

The objective condition of life	Mental evaluation of life	
	Good	Bad
Good	Well-being (wealthy and happy)	Incongruity (wealthy but not happy)
Bad	Congruity (poor but happy)	Deprivation (poor and unhappy)

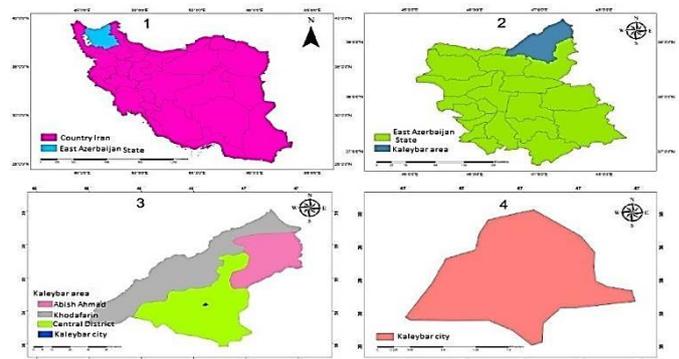
The indices of the objective approach are those trying to describe physical and social environments in which people live or work such as the provision of health and educational services, unemployment rate, and leisure activities or housing [1]. Such indices are measured based on the frequency or physical quantity [24, 25]. In these indices, the living place and workplace of individuals and groups such as health facilities, leisure facilities, and housing are described. Providing for the basic needs and having access to financial resources for meeting the social needs of citizens are essential for the quality of life in the objective dimension [13]. The indices of the mental approach are designed to describe how people perceive and evaluate everyday concepts such as job satisfaction [1]. These indices are measured based on psychological reactions such as job satisfaction [25]. Life quality in mental dimension is related to being autonomous in increasing mental well-being including pleasure-seeking, satisfaction, being purposeful in life, personal growth, self-actualization, altruism, and participation in social activities [13]. The mental dimension includes individuals' perception and evaluation of their life condition [24].

3. Methodology

The method of this study is a descriptive-analytical one. The theoretical framework adopted for this study was a life quality perspective and behavioral geography. WHOQOL-BREF questionnaire was used to gather information about the indices of life quality. The indices of life quality used to predict the mental health were those mental. The data about mental health of individuals were collected through GHQ-28 (General Health Questionnaire). The sample size (N=420) was calculated using Cochran formula. The participants were selected randomly. To complement the data some interviews were conducted. The data were analyzed using IBM SPSS Statistics 22. A multiple regression analysis was performed to predict the amount of variation in mental health with variation in life quality indices.

4. Location Case Study

Kaleybar is a city in and the capital of Kaleybar County, East Azerbaijan Province, Iran. Kaleybar city the capital of Kaleybar County with an area of 3702 Square kilometers and has an average altitude of 1180 m Sea level, in the northeastern province Located's East Azerbaijan. Its distance from the South to the cities of Ahar and Varzaqan, from the West Julfa, from the East to the plain Moghan and the Northward to the occupied Qarabagh Republic Northward to the occupied Nagorno-Karabakh Republic Azerbaijan has ended. According to the 2011 census, Kaleybar, with a population of 12205. City Kaleybar between Circuits 38 degrees 27 minutes north and longitude Geographical between the meridians 49 ° and 23 minutes east is Located.



Map 1. Geographical location of Kaleybar

Source: The authors draw, 2016

III. RESULTS AND DISCUSSION

Among the 420 participants of the study, with an average age of 34.4, 76% were male and 24% female. The participants ranged from 20-65. A range of 45 shows the age heterogeneity of the sample which is an indicator of the variability of views among different generations. 36 % of participants ranged from 20 to 29, 36% from 30 to 39, 19% from 40 to 49 and 9 % from 50 to 65. Educational status is one of the indices of the level of development in each city. Therefore, one of the personal characteristics investigated in this study was the educational status of the participants which is represented in Table 2. In this questionnaire, the closer the scores to 5, the better will be the life quality except the first two questions of the physical dimension and the

last question of the psychological dimension in which the closer the scores to 1, the better the status of participants. In investigating the physical dimension after reversing the scores on the two first questions (Question1: 3.03 - Question2: 3.47) which were negatively worded, we found out that the need for medical treatment to be able to do one's daily activities was low and this index was ranked first. Satisfaction with sleep was ranked second and the questions 6, 7, 4, 3, and 1 were ranked next respectively. In the psychological dimension, after reversing the scores on the last question (Question6: 2.13), the results showed that satisfaction with capability and ability was ranked first, meaningfulness of life second, satisfaction with physical appearance third, satisfaction with concentration ability fourth, enjoying the life fifth and the level of being despair and anxious sixth.

Table 2 Education Status

Education	Illiterate	Primary school	High school	Diploma	Associate degree	BA/BSc	MA/MS
Percent	.18	.03	.14	.37	.03	.23	.02

The analysis of the results of WHOQOL-BREF questionnaire filled in by Kaleybar citizens

Table 3 Life Quality Scores

Domains	Questions	Maximum	Minimum	Mean
Physical Health	1. To what extent do you feel that physical pain prevents you from doing what you need to do?	5.00	1.00	1.65
	2. How much do you need any medical treatment to function in your daily life?	4.00	1.00	1.44
	3. Do you have enough energy for everyday life?	5.00	2.00	3.05
	4. How well are you able to get around?	5.00	2.00	3.17
	5. How satisfied are you with your sleep?	5.00	2.00	3.36
	6. How satisfied are you with your ability to perform your daily living activities?	5.00	2.00	3.23
	7. How satisfied are you with your capacity for work?	5.00	1.00	3.20
Psychological	1. How much do you enjoy life?	4.00	1.00	2.90
	2. To what extent do you feel your life to be meaningful?	5.00	1.00	3.19
	3. How well are you able to concentrate?	4.00	1.00	2.94
	4. Are you able to accept your bodily appearance?	4.00	1.00	3.01
	5. How satisfied are you with yourself?	5.00	1.00	3.30
	6. How often do you have negative feelings such as blue mood despair, anxiety, depression?	5.00	1.00	2.34
Social relationships	1. How satisfied are you with your personal relationships?	4.00	1.00	3.15
	2. How satisfied are you with your sex life?	5.00	1.00	3.12
	3. How satisfied are with the support you get from your friends?	5.00	1.00	3.02

Environment	1. How safe do you feel in your daily life?	5.00	2.00	3.35
	2. How healthy is your physical environment?	5.00	2.00	3.53
	3. Have you enough money to meet your needs?	5.00	1.00	2.74
	4. How available to you is the information that you need in your daily-to-day life?	4.00	2.00	3.04
	5. To what extent do you have the opportunity for leisure activities?	4.00	1.00	2.83
	6. How satisfied are you with the condition of your living place?	4.00	2.00	3.14
	7. How satisfied are you with your access to health services?	4.00	2.00	2.97
	8. How satisfied are you with your transport?	4.00	2.00	3.25

Table 4 the final results of the indices of life quality

Domain	N	Mean	Std. Deviation	Minimum	Maximum
Physical Health	420	3.5588	.34599	2.43	4.29
Social relationships	420	3.0976	.55006	2.00	4.33
Psychological	420	3.3183	.43456	2.17	4.33
Environment	420	3.1054	.27862	2.38	4.00

Analyzing the social dimension showed that satisfaction with social relationships, satisfaction with sexual relationship, and satisfaction with friends and relatives support were ranked high. Analyzing the questions of the environmental dimension showed that the health of the environment was ranked first, the comfort and safety of the environment second, satisfaction with the transportation third, satisfaction with the facilities and the condition of the environment fourth, accessibility of the daily news and information fifth, having access to health care services sixth, having enough time for leisure activities seventh, and having enough money to meet the needs eighth. Analyzing the results of the life quality indices represented in table 2, it was found out that the physical health index with an average of 3.55 was the index the participants were highly satisfied with. Psychological index with an average of 3.31, the environment index with 3.10 and the social relationships with 3.09 were placed next respectively. The results are represented in figure 2.

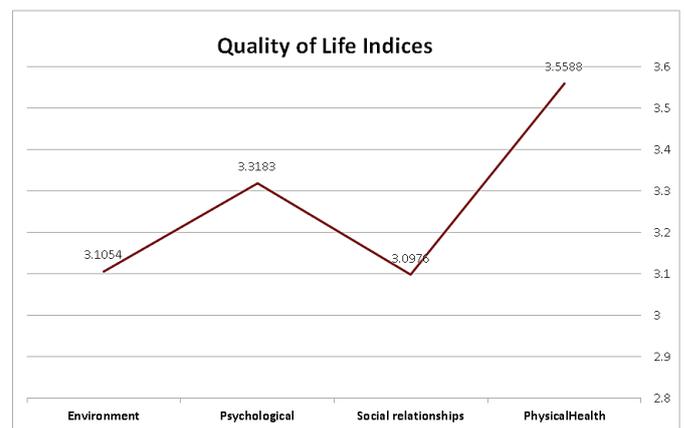


Figure 2 : Quality of Life Indices

The analysis of the GHQ-28 (General Health Questionnaire) filled in by Kaleibar citizens

The GHQ-28 was used to collect data about the mental health of the participants. This questionnaire consists of four subparts: Somatic symptoms: which includes cases such as the feeling of individuals about their health, fatigue and its physical symptom measured by questions 1 to 7. Anxiety and insomnia symptoms: which include cases related to insomnia or anxiety measured in questions 8 to 14. Social dysfunction: this subpart measures the ability of people to deal with career demands and daily activities. Revealing the feelings of individuals while dealing with different situations of life takes place through questions 22 to 28. Depression: includes severe depression and desire to suicide

investigated in questions 22 to 28. To gather information about the mental health of the areas surveyed the two questionnaires were distributed among people and collected after they were filled in. The average of their scores on each subpart is represented in the table below. In the GHQ-28 questionnaire, the closer the scores to 21 on each subpart, the better is their mental health condition and the closer the overall score to 84, the better is their mental health. The mental health scores of Kaleibar citizens on each subpart and the sum of their scores on the GHQ-28 are represented in Table 5. The Analysis of the Effect of Life Quality Indices on the Mental Health of the Citizens of Kaleibar. To predict the mental health of the citizens of Kaleibar with regard to the life quality indices (physical-health, social relationships, psychological, and environmental), Multiple Regression Analysis was carried out which revealed that the relationship between the explanatory variables (the life quality indices) and the criterion (mental health) is moderately strong ($R=0.60$). The life quality indices accounted for 33% of the variation in mental health ($F(4, 95) = 13.35$ $p<0.05$). Other than the

environmental index, the other explanatory variables had a significant relationship with the criterion. Results are represented in Model Summary and ANOVA tables. For every unit increase in the physical health, the mental health increased by 0.15 units. The confidence limit is narrow, showing that we are 95% confident that the population slope is between -1.91 and 2.21 ($p>0.05$). For every unit increase in the psychological index, the mental health increased by 3.88 units. The confidence limit is narrow, showing that we are 95% confident that the population slope is between 1.97 and 5.79 ($p<0.001$). For every unit increase in the social relationships, the mental health increased by 1.62 units. The confidence limit is narrow, showing that we are 95% confident that the population slope is between 1.97 and 5.79 ($p<0.05$). For every unit increase in the environment index, the mental health increased by 1.2 units. The confidence limit is narrow, showing that we are 95 % confident that the population slope is between -3.5 and 1.1 ($p>0.05$).

Table 5 The mental health scores of Kaleibar citizens on GHQ-28

The subparts	Average score
Somatic symptoms	16
Anxiety and insomnia symptoms	9
Social dysfunction	14
Depression	12
Sum	51

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.600 ^a	.360	.333	3.12633

a. Predictors: (Constant), environment, physical Health, social relationships, psychological

ANOVA a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	522.066	4	130.516	13.354	.000 ^b
	Residual	928.524	95	9.774		
	Total	1450.590	99			

a. Dependent Variable: Mental Health

b. Predictors: (Constant), environment, physical Health, social relationships, psychological

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	36.556	4.618		7.917	.000	27.389	45.723
Physical Health	.152	1.042	.014	.146	.884	-1.916	2.219
Psychological	3.881	.963	.445	4.032	.000	1.970	5.793
Social relationships	1.621	.713	.235	2.272	.025	.205	3.037
Environment	-1.216	1.183	-.089	-1.028	.307	-3.565	1.133

a. Dependent Variable: Mental Health

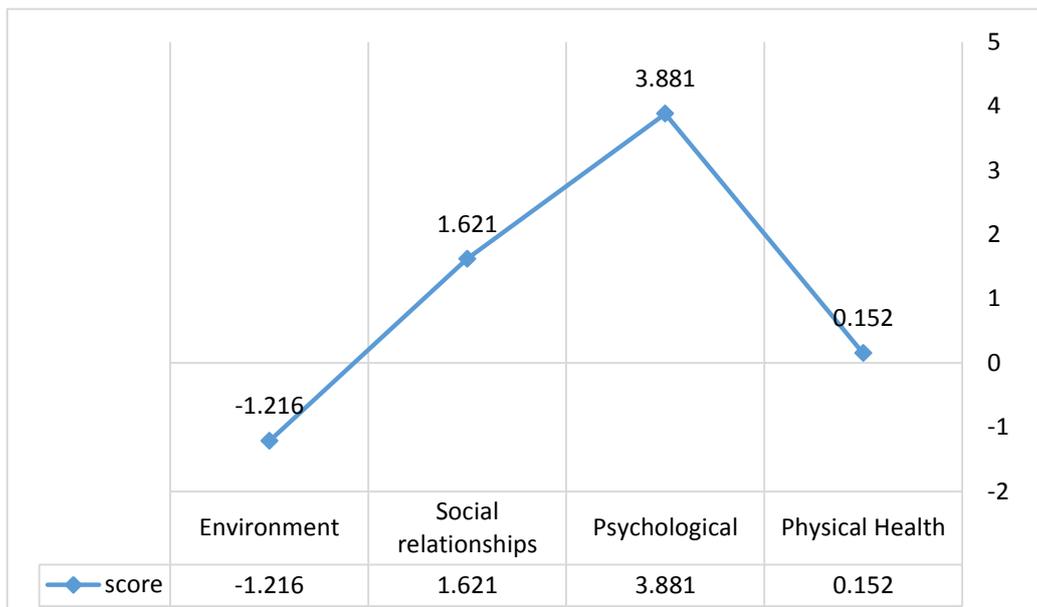


Figure 3 : The effect of quality of life on the mental health of citizens

IV. CONCLUSION

Mental health is one of the main goals and the most important outcome of the sustainable urban development. The health of a city depends upon having a healthy environment with suitable social, economic, cultural, and environmental infrastructures. The major capital of a city is its citizens. Considering the importance of the mental health and its effect on people's daily activities, we argue that it is of crucial importance to pay some attention to this issue and analyze the effect of different

life indices on the mental health of the citizens to help improve their mental health and have more insightful plans for the development of the city. Investigating the life quality indices adopting a mental approach to describe the way people perceive and evaluate their surrounding in order to improve their mental health and their performance. The effect of the indices is represented in figure 3.

Therefore, the planning should be based on the degree of the influence of each index on the mental health. Hence,

the psychological index has to be paid attention first because for every unit increase in the psychological index, the mental health increased by 3.88 units. The social relationships index has to be placed in the second position since for every unit increase in the social relationships, the mental health increased by 1.62 units. Physical health has the least influence on the mental health since for every unit increase in the physical health, the mental health increased by 0.15 units. The last index which had a negative effect on the mental health is the environment index. For every unit increase in the environmental index, the mental health decreased by 1.2 units.

Among the major actions of urban planning for improving mental health one can mention the following :

- In new urbanism, one of the main principles is that the urban attractions should be increased and the city should help the human welfare and comforts thrive.
- Involving people and institutions and the private section in improving the lives of people in the city and its different areas.
- Reducing stress and mental pressure as far as it is related to the urban management for which measures such as providing good public services, reducing traffic, and decreasing pollution are taken.
- Encouraging the citizens to participate and collaborate in health and environment care
- Adjusting the behavior of the citizens to a healthier life.

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