An Updated Assessment of the OECD′s Quality of Life Index

Zaktualizowana ocena Indeksu Jakości Życia OECD

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Abstract

Indexing for measuring the quality of life have been developed by various countries or organizations. Probably the most comprehensive among these indexes is the *Better Life Index*, which is developed by OECD. The sampling of the study consists of 34 countries that are the members of OECD, and two countries that are not members of OECD. The data are obtained from the 2017 criteria of OECD life index. In this way, the welfare levels of the countries were compared through the 11 life index criteria defined by OECD. In the study, correlation and regression analyses were performed to reveal the relationships between the OECD life criteria and to measure the degree of these relationships. Thus, it was attempted to demonstrate to what extent the index criteria, particularly the safety criterion, affect a society's quality of life. When we evaluate these analyses in general sense, it was observed that there is a significant and positive relationship between the safety criterion and other parameters. However, a negative relationship between the safety and the satisfaction criteria was found according to another result of the analyses. This is because of the fact that, after a certain threshold level, an individual won't have a positive attitude towards the interventions to the living space.

Key words: quality of life, OECD, Better Life Index, security, social welfare, sustainability, socio-cultural factors

Streszczenie

Metody indeksowania danych w celu zmierzenia poziomu jakości życia są rozwijane przez wiele krajów i organizacji. Prawdopodobnie najbardziej obszernym z tych indeksów jest *Better Life Index,* opracowany przez OECD. W przypadku tego artykułu dane odnoszą się do 36 krajów, z których 34 należy do OECD, a pochodzą one z OECD Life Index z 2017 r. Poziomy dobrostanu w poszczególnych krajach zestawiono z 11 kryteriami określonymi przez OECD. Przeprowadzono analizy korelacji i regresji, aby wykazać powiązania pomiędzy kryteriami OECD Life i aby określić ich zakres. Umożliwiło to wykazanie w jakim zakresie kryteria indeksowania, w szczególności kryterium bezpieczeństwa, wpływają na jakość życia społecznego. Z ogólnej perspektywy można dostrzec istnienie znaczącego i pozytywnego związku pomiędzy kryterium bezpieczeństwa a innymi parametrami. Jednocześnie zauważono występowanie zależności negatywnej pomiędzy bezpieczeństwem a kryterium zadowolenia. Uwarunkowane jest to istnieniem pewnego poziomu progowego, powyżej którego jednostka nie będzie miała pozytywnego nastawienia do ingerowania w przestrzeń życiową.

Słowa kluczowe: jakość życia, OECD, Indeks Lepszego Życia, bezpieczeństwo, społeczny dobrostan, zrównoważoność, czynniki społeczno-kulturowe

1. Introduction

Quality of life is a concept, which is difficult to identify and assess. It may have numerous personal and social dimensions, because the human's desire for a better life is not only related to his/her current status. As the human being is a social being due to

his/her nature, this situation prompts him/her to try to be better among the other members of the society (Headey et al., 1991). So much so that, the motivations of achieving a quality life and being in the forefront will bring about a kind of competition among the people. For this reason, in order to be able to talk about a quality life, a data variation in which all the physical, social and cultural characteristics of a person can be measured, is required (Evans et al., 1991; Forette, 2000; Greenwood, 2004).

In this sense, the basic concepts that determine the quality of life, are influenced by a number of factors, such as the threshold of the social rights, access to the information, number of days on leave, quality of the environment, working conditions, safety, justice, and the threshold of the freedoms, in addition to the economy. The quality of life, with this side, emerges as a concept based on individual, social, public and social welfare in addition to its economical side (Gregory et al., 2009; Jackson, 1996; Wish, 1986).

Within the scope of this understanding, indexes have been developed with the aim of measuring the quality of life by various countries and international organizations taking all the above-mentioned factors into account. Perhaps, the most comprehensive one among these indexes is the *Better Life Index*, which was developed by OECD. This index tries to measure the quality of life in the most accurate way by including numerous different variables in the calculation, together with the variable of national income. The index consists of 11 different criteria. Perhaps, the most important among these criteria is safety, which is essential for an individual. The safety criterion is an inalienable element in measuring the quality of life both individually and socially.

This study attempts to demonstrate to what extent the quality of life criteria, particularly the safety criterion, which were developed by OECD, affect a society's quality of life. After the literature review in the second chapter, the third chapter presents information about the method of the study. In the fourth chapter, an analysis is performed according to the OECD data. The fifth, which is the final chapter, is the conclusion part in which the findings are interpreted and discussed.

2. Literature Review: Conceptual and Theoretical Framework

Life or existence is defined as the living organisms' ability to sustain their vital forms, to physically and chemically interact with each other, to adopt to the environment by reproducing, and to be active and produce throughout their lives (Headey et al, 1991; Ryle, 1949; WHO, 1998). The term quality refers to the qualifications and the values of services, products, or *things* when compared to their similar (Hinton, 1994). The term quality of life, which is the combination of these words, is defined as physical,

mental and social well-being or not having any disease. According to other definitions, the quality of life is explained as welfare, individuals' proving themselves, low unemployment, psychological and biological well-being (Phelan, 2012), having high Gross National Product (GNP), living in a democratic environment (country), understanding the meaning of existence, having comfort (Felce and Perry, 1995), technology acquisition, increasing the productivity (Jackson, 1996) and living in good conditions (Cummins, 1997). Hence, it can be seen that it is difficult to reach to a generally acceptable definition of quality of life. However, in general, the quality of life is explained as the point or the level of an individual's satisfaction in his/her living space, during his/her life cycle (Chochinov, 2002; Gasper, 2010).

On the other hand, the role of public spending in the quality of life is an indisputable reality. It is because of the fact that, many services (health, education, safety, and etc.) related to living spaces of the people are provided by the public sector (Bealey and Johnson, 1999; Kagawa et al, 2010). For example, the government of the time in the US established *social security institutions* to support the elderly, the poor, and those in need of assistance, in order to eliminate the adverse effects of the economic crisis of 1929, within the context of the *New Deal Plan* (1930). In addition, starting from the 1960s, new regulations have been put in place to increase the quality of life in US society. For instance, transforming the markets to the from that is suitable for the use of disabled customers, providing safe products for consumers, improving working conditions, low-term housing loans, and incentive policies for specific economic areas are some of these regulations (Bishop, 2004; McConnell, et al., 2011; Stevens, 2011). Therefore, as Milton Friedman stated 45 years ago, *the rules of the game are now developed and become established with the increased economic prosperity. This situation has caused people to expect much more from the state* in today's societies. As the result, in addition to the economic (monetary) factors, the social, environmental and political activities also play important role in determining the quality of life (Leisinger, 2009; OECD, 2017).

Campbell and Shin and Johnson, who are known for their studies in this field, examined the well-being elements that determine the quality of life under the topics of: family life, friendship, work, neighborhood relations, housing, living in a city or town, health, personality, education and national concerns (Campbell, 1981; Shin and Johnson, 1978). Lehman added the elements such as mental health, safety, religious concerns, living conditions, leisure activities, and the concerns regarding business and finance to these concepts. Additionally, Keith listed the seven impact factors in the current literature as material well-being, emotional well-being, productivity, inti-
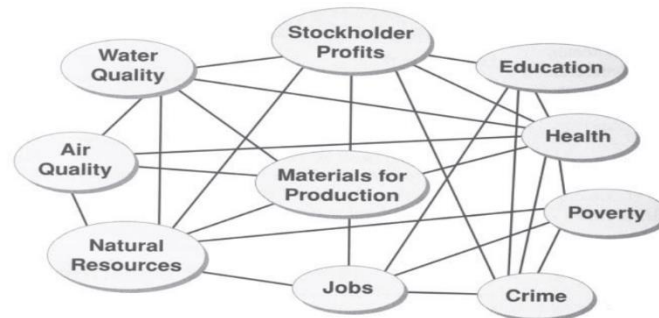
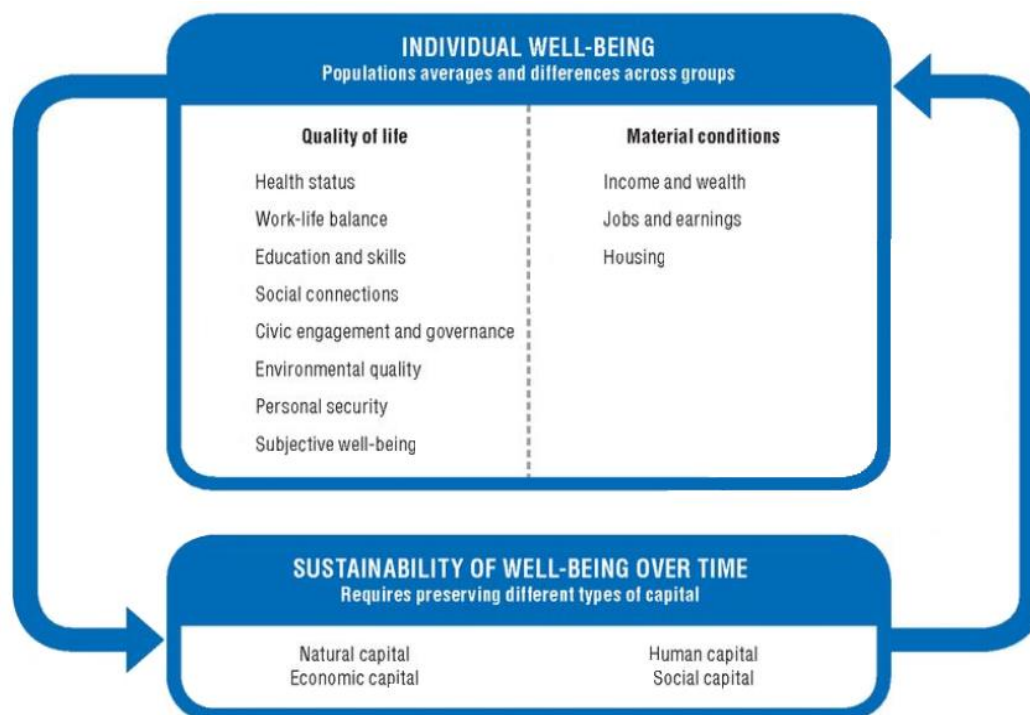Figure 1. Community as a web of relations among spheres (Hart, 1999)

Figure 2. The OECD well-being conceptual framework (OECD, 2013)

macy, safety, community and health (Keith, 1990; Lehman, 1988; Strada, 2011).

Hart examined the main factors that create well-being under three topics as economic, social and environmental factors (Fig.1) (Hart, 1999). The *environmental factors* that create well-being in the traditional presentation of Hart consists of natural resource management, and the quality of air and water. The *economic factors* represents the production and national wealth; additionally, it explains the quality of life by the level of the income per capita. Whereas the *social elements* are discussed under the topics of education, health, poverty and crime rates. Today, factors such as pollution, use of toxic materials, percentage of recycled products, ratio of renewable to nonrenewable energy are added to the *environmental structures*; factors such as growth in employment areas, working conditions, effective use of renewable resources are added to the *economic structures*; and factors such as cultural level, percentage of registered voters, infant mortality rate, percentage of in-

surance coverage, human rights are added to the *social structures*, in this classification (EC, 2014; Keith, 1990; NRC, 2002; Rapley, 2003).

Yet, the economists and social scientists has long been using the GNP *(Gross National Product)* method, which is one of the traditional approaches in measuring the prosperity level (Sen, 1993; United Nations, 1995), because it is simpler to measure the changes in wealth and well-being using the GNP data. In contrast, some researchers pointed out that it was wrong to use money and well-being as if they are the same. The researchers found that the GNP method have made the calculations easier; however, they criticized the method for being insufficient and being a roughly measuring style (Bishop, 2004; Soubbotina, 2004). Therefore, problems arising from the existence of methods such as GNP that measure well-being on monetary indicators still remain as a matter of criticism. In the recent years, this has led to the emergence of new definitions of the well-being concept. The well-being concept was ex-

panded to include concepts of happiness and satisfaction. Thus, the benefits provided through various elements, including the contributions of the forms of sacrificing such as family, religion, human capital, donations, were added to the *benefit* function. In this way, it was possible to determine the well-being and the quality of life more accurately (Graham, 2008; Hagerty, 1999; NRC, 2002; Rapley, 2003).

Similarly, it has been observed that, various index types such as the *United Nations' Human Development Index* and the *Estes's Index of Social Progress* used in the United States of America are included in this context in addition to GNP. The existing methods have been measuring and describing the quality of life through economic growth, in other words, through the increase in the national income (GNP). According to this, while the increase in the national income accelerates the quality of life, the decrease in the national income causes an opposite effect. The existence of these kind of problems made it essential to develop new and rational measurement techniques that are in accordance with the conditions of the day and that involve economic, social and environmental factors. In the direction of this necessity, a new method of measuring the status of well-being under the name of *Better Life Index* was developed by the OECD (Andrews and Withey, 1976; Gregory et al., 2009; Kagawa et al., 2010; Rabkin et al., 2000).

With this measurement method, the OECD suggests that development-based definitions of quality of life are required rather than the growth-oriented definitions. Because, while, the economic growth includes measurable quantities in the form of the increase in national income, the economic development takes socio-cultural factors into account as well as the increase in the national income (Gregory et al., 2009; Jacobs, 1991). In other words, while the **economic factors** of development are focused on industry, technology, capital accumulation and employment linkage, **socio-cultural factors** include other aspects of human well-being such as education, health, culture, environment and civic engagement. In this way, in order to reach a broad-based quality of life concept, the attention was drawn to the necessity of social sustainability definitions in addition to the financial elements (Kagawa et.al, 2010; OECD, 2013; Wood-Dauphinee, 1999).

The report of The Commission on the Measurement of Economic Performance and Social Progress, which is also known as the Stiglitz-Sen-Fitoussi Commission, has great importance in establishing the Index. The Commission, under the leadership of Joseph Stiglitz, Amartya Sen and Jean-Paul, listed the criteria that have effects on well-being under eight topics according to different types of needs. These include: Material living standards (income, consumption and wealth) (ii) Health (iii) Education (iv) Personal activities including work (v) Political voice and governance (vi) Social connections and relationships (vii) Environment (present and future

conditions) (viii) Insecurity, of an economic as well as a physical nature (Anderson, 2015; Stiglitz et al., 2009).

The welfare levels of 34 OECD countries and the changes occurring in these levels are measured and assessed in terms of *index score* by the abovementioned method of OECD for measuring the well-being. The index consists of 11 basic criteria. These are: income and wealth, proper business, housing, health, education, work life balance, civic engagement and good governance, social connections, environment, safety, subjective well-being (OECD, 2013; OECD, 2017). Thus, the inclusion of elements such as education, environment, health, housing, working hours into the calculation of well-being (Anderson, 2015) makes it possible to evaluate the quality of life more thoroughly. Also Russia and Brazil which are not OECD member countries, was included in the table in order to do comparison, within the scope of the index (OECD, 2017; WHO, 1997).

In this context, current and future welfare are separated from each other (Figure 2). Current welfare consists of (i) material living conditions and (ii) quality of life. Future well-being consists of natural capital, economic capital, human capital and social capital, as can be seen at the bottom of the figure. The sustainability of quality of life varies depending on the continuity of the capital accumulation. Income, jobs and housing are on the right side of the column within the context of the material conditions. **Income**, which is one of the most basic indicators, is overall of the economic assets that help to finance the needs and demands of the individuals. Because income and wealth are the most basic means for counteraction against the risks that individuals may face in life. Having good **jobs and earnings** increase the well-being levels of individuals. Having a **housing** in healthy conditions does not only make it possible for a person to have a good life, but also helps him/her to feel better (OECD, 2008a, 2017).

In the quality of life part, which is on the left side of the column, the **health factor** emerges as one of the most basic conditions determining the quality of life. The level of health generally explains the individual's being physically, mentally and socially well (Bowling, 2004; Welford, 1983). **Work-life balance,** refers to the ability to establish a balance between work life and private life as well as being able to have an income-generating occupation (Walsh, 2013). **Education and skills** explain they are the basic opportunities and needs for all individuals and this situation has an impact on the quality of life (Edgerton et al, 2012). The impact of the communication of the members of a society among each other on the well-being is explored through **social connections** (Kahneman et al, 1999). **Civic engagement** means people's having a say in political decisions, which shape the well-being status of the community **and governance** examines the effects of implement-

ing the practices aiming to serve the citizens on the quality of life (Boarini, 2015). *Environmental quality,* is extremely important in terms of the continuity of a range of activities, such as human health in particular, raising children and social life (Burger, 2003). *Personal security,* expresses that living in a safe environment is regarded as the guarantee of the existence of the people, together with a higher quality of life level. The crime rate in the areas, where the people live, has a determining effect on the quality of life. Finally, regarding the terms of *subjective well-being or life satisfaction;* besides objective aspects of living conditions and quality of life, it is crucial to consider how people feel about their life and experience. In other words, it is about to what extent the individuals enjoy from their lives (Lucas, 2008; OECD, 2013).

All of the 11 criteria by OECD, which are described above, are composed of the titles that can universally be accepted by all societies. However, there are critics regarding the fact that there are significant differences in terms of earnings and wealth between rich and poor countries. Moreover, there are also numerous differences due to the conditions and institutional characteristics of the countries. For example, concepts such as health, education, transportation facilities, welfare state implementations, and also governance may considerably vary from country to country (Graham, 2008). OECD officials, who respond to these criticisms, admit that there are relative differences among countries, while claiming that the index is composed of 11 very comprehensive criteria. Thus, societies can see their deficiencies or low-order areas more clearly, and can increase their quality of life by investing more in these low-order areas (OECD, 2011; OECD, 2013).

3. Material and Method

The sample of the study consists of 34 countries that are the members of OECD and two countries that are not members of OECD. The data are taken from the OECD's 2017 life index criteria (Table 1). Each one of the countries to be evaluated with the 11 criteria are scored out of 10. In this way, well-being comparisons between the countries were made on 11 life index criteria defined by OECD. Additionally, the countries with a higher quality of life level are determined based on the criteria of OECD. In particular, the relationship between the safety criterion and other variables was investigated, due to the fact that safety is the basic element that shows individual's quality of life (UN, 2013). SPSS 2.0 (Statistical Package for Social Sciences) software package was used for data analysis. In the study, correlation and regression analysis were applied to reveal the relationships of the OECD criteria between each other and measure the degree of these relationships. Thus, it was tried to put forward to what extent the index

criteria, especially the safety criterion, affect a society's quality of life.

4. Findings

Accordingly, the highest coefficient in the housing criterion belongs to the USA and Canada. While, the country with the highest score is the USA in income ranking according to the OECD data, whereas the countries with the lowest index scores are Turkey and Mexico. While, Iceland, Switzerland and Norway have the highest index scores in terms of jobs, Greece and Spain are the countries with the lowest index scores. Ireland is in the first place in terms of social and personal relationships or the perceptions of communication. In education, the country with the highest score is Finland, and the country with the lowest score is Mexico. Sweden is the most sensitive country to the environment. On the contrary, Mexico and Turkey are the last countries in terms of environmental sensitivity. While civic engagement is extremely important in Australia, inadequate civic engagement remains as a problem for the societies in Chile, Estonia and Israel (Diener, 1984). It is very important for a person to get a quality health care service physically, psychologically and socially, in order to be able to continue a good life (Nar, 2014). While the countries with the highest health scores are Canada and New Zealand, the countries with the lowest health scores are Hungary and Estonia. Countries with the highest scores for life satisfaction are Denmark, Iceland, Switzerland and Norway. This development in Scandinavian countries can be explained by (a) high level of equity, (b) low patronage and corruption levels, and (c) providing country resources to each individual without any discrimination, within the context of well-being programs. On the contrary, life satisfaction level is extremely low in countries such as Greece, Hungary and Portugal. While Japan is the safest OECD country, Mexico is OECD country which has the lowest safety level (OECD, 2017).

Brazil, which is not an OECD member, has the lowest safety level and is a very risky country in terms of being available for traveling (Romer, 2011). Work-Life Balance is measured by comparing one's working life (working hours, working conditions) and the free time that he/she reserve for his/her wife/husband and children (Adams et al., 1996). It is aimed to establish a healthy and consistent balance of work and life with this method. While the countries with the highest work-life balance are Denmark and Spain, the countries with the lowest scores are Turkey and Mexico, respectively. Therefore, the *Better Life Index*, in which many index parameters from education to environment, from communication to civic engagement are evaluated together, has a significant advantage in welfare measurement methods with this aspect. Thus, at this type of index,

Table 1. Better Life Index Criteria of OECD According to the Countries (OECD, 2017)

COUNTRIES	Housing	Income	Jobs	Community	Education	Environment	Civic Engagement	Health	Life Satisfaction	Safety	Work Life Balance
Australia	7.6	4.9	8.3	8.2	8.1	8.6	9.5	9.2	9.2	9.6	5.2
Austria	5.8	5.0	8.2	7.1	6.7	7.2	5.6	7.4	8.0	9.1	6.0
Belgium	7.3	5.9	7.0	9.2	7.4	7.1	5.9	7.7	7.6	7.5	8.8
Canada	7.8	5.7	7.9	8.0	7.7	8.5	5.8	9.3	9.3	9.8	6.1
Chile	3.7	1.2	5.8	5.6	3.4	2.0	0.0	5.8	7.2	6.8	5.0
Czech Republic	4.6	1.8	6.0	5.1	7.8	7.6	3.7	5.6	6.3	9.2	7.1
Denmark	6.2	4.0	8.0	9.5	7.8	8.8	7.0	7.3	10	8.9	9.8
Estonia	4.4	0.9	5.7	7.1	7.9	7.8	2.3	4.4	2.9	7.3	7.4
Finland	6.3	3.5	7.0	9.4	9.1	8.8	5.9	6.9	9.6	9.3	7.4
France	6.4	5.0	6.4	6.2	5.7	7.8	4.3	7.7	6.2	8.4	7.6
Germany	6.3	5.3	8.1	8.9	7.9	8.8	3.9	7.1	8.1	9.0	8.0
Greece	3.8	1.9	1.5	4.5	6.0	4.2	4.0	7.7	0.0	8.7	7.1
Hungary	3.8	1.3	4.8	6.2	6.6	6.7	4.5	4.2	0.6	8.8	7.7
Iceland	5.9	3.6	9.5	9.8	7.3	8.9	5.3	8.8	10	9.4	5.8
Ireland	7.3	3.3	6.2	10.0	6.9	7.4	6.1	8.5	8.2	9.3	7.9
Israel	4.2	3.8	6.6	6.1	5.4	4.9	2.4	8.7	9.6	7.4	5.1
Italy	5.1	4.4	5.2	7.2	4.9	5.2	4.5	7.7	4.6	8.4	7.5
Japan	4.9	5.6	7.7	6.8	7.7	6.5	3.2	5.0	4.2	10	5.1
Korea	5.9	2.3	7.3	0.0	7.9	4.8	7.4	4.7	3.8	9.5	5.0
Luxembourg	6.2	6.5	8.2	6.3	5.0	8.2	6.9	7.9	7.8	8.7	7.8
Mexico	3.7	0.4	5.5	1.8	0.5	3.5	5.3	4.7	7.0	0.4	2.4
Netherlands	6.9	5.3	8.2	7.6	7.6	6.5	5.1	8.0	9.3	8.3	8.8
New Zealand	6.6	2.1	7.5	9.1	7.0	8.8	7.5	9.3	9.3	9.4	6.1
Norway	7.7	4.0	9.0	8.9	7.1	8.7	6.5	8.2	9.8	9.1	8.7
Poland	3.5	1.3	4.9	7.9	8.3	4.5	5.3	5.0	3.6	9.8	5.6
Portugal	6.6	2.5	4.1	5.6	4.3	7.5	3.4	5.3	1.3	7.9	6.7
Slovak Republic	4.1	1.5	4.3	7.5	6.1	7.6	3.6	5.3	5.0	9.1	7.1
Slovenia	5.8	2.2	5.9	7.2	7.6	6.7	4.6	6.8	3.4	8.8	6.6
Spain	6.8	2.9	2.4	9.3	5.2	4.9	5.0	8.2	6.2	8.7	9.3
Sweden	6.3	5.0	7.6	8.3	7.9	9.6	8.8	8.7	9.0	8.3	8.1
Switzerland	6.3	7.3	9.4	9.8	7.5	8.4	3.4	9.1	9.9	8.7	7.2
Turkey	2.2	0.6	3.8	5.7	2.7	2.2	6.2	4.9	3.0	8.2	0.0
United Kingdom	6.0	4.9	7.4	7.8	6.0	8.4	6.9	7.8	7.3	9.7	6.1
United States	7.8	10.0	8.1	7.4	7.0	7.3	5.4	8.1	8.7	8.9	5.3
NON-OECD COUNTRIES											
Brazil	4.2	0.1	5.8	7.2	1.8	5.8	4.4	4.6	8.1	2.2	6.7
Russian Federation	3.3	1.2	6.3	7.4	6.2	4.3	2.1	0.6	4.7	6.5	7.9

where the quality of life is exhibited with all directions, it is also possible to make the current analyzes in a more clear and correct way (Barcaccia et al., 2013; Fine, 2010; Herzberg et al, 1993; OECD, 2017).

For example, in Mexico, *income* and *safety* scores are extremely low and it has 0.4 points out of 10 when the data are analyzed. Visiting the streets of Mexico is a problem when the data about the safety of this country is taken into consideration. However, this country has a very high level of life satisfaction score such as 7 out of 10. This indicates that Mexico has adopted a lifestyle with low opportunities and violence. In countries where civic engagement is sufficiently achieved, the problem of regime crisis based on political instability, vicious cycles and cri-

ses can be prevented. Moreover, the political authority's deviation from the public interest becomes harder and the welfare increases while the corruption decreases. Thus, it becomes possible to regulate the basic macroeconomic priorities such as efficient use of resources, allocating the investments to the productive areas, and growth in a way that provide economic development (Toboso, 2011; Soubbotina, 2004).

On the other hand, the ability of lifelong learning became an important necessity in today's business market (Hodgson, 2000). The development of the information economy is an important factor in the elimination of inadequacies in education and in increasing the quality of life. Especially the modernization and sustainability of a country is possible by improving

the human capital. This is also important in terms of achieving economic growth and high living standards. Education is also a need for a healthy, safe and financially satisfying life (Fallowfield, 1990; Soubbotina, 2004). For this reason, literacy data is regarded as one of the most important indicators of the quality of life in a country. The health indicators of a country, such as the length of the individual's life span and the mortality rate below 5 years of age are also determinants for the life quality of the country (Achat et al., 1998; OECD, 2008b). In this context, public health comes to the forefront. Improving the public health has a positive impact on the quality of life. Similarly, worries stemming from safety policies, income, nutrition, access to safe water resources appear to be the main indicators of quality of life (Ekblom, 2000; WHO, 2001).

4.1. The Effects of Safety Policies on the Quality of Life

It is extremely important to establish safety policies in terms of the continuing the human existence, because it is impossible to talk about other elements about the quality of life for an area, where there is no safety. Yet, according to certain philosophers, the emergence of states is a consequence of safety concerns of societies. Aristotle who had dealt with the question of where the states originated from, explained the state as a necessity of human nature. Rousseau, Hobbes and Locke indicated that it is formed by means of social contracts. According to another theory, the principalities' coming together in order to construct large-scale irrigation systems constituted the states. The most important theory is that the enlargement and increasing in the volume of the populations led to the formation of the states. The political anthropologist Diamond explains the fundamental element that formed state with the need for a centralized organization in order to ensure internal and external safety. Similarly, according to Elias, the need for safety, aimed at resolving internal and external disputes by collecting the power in one place, is the main reason for the emergence of the states (Carment et al., 2011; Diamond, 1999; Lutz and Lux, 1988; Nar, 2013).

As a matter of fact, safety worries are the most fundamental reasons for paving the way for the formation of the states. Besides protecting their citizens' rights of living, safety is also very important in terms of the execution of economic policies such as securing the property rights, and the regulation of power and wealth relations. Therefore, safety, which is one of the main determinants of quality of life, is always on the forefront among the central goals of the states (Ekblom, 2000; Toboso, 2011). In this sense, this situation becomes more apparent when the data of the OECD countries are analyzed.

4.2. Research Findings

Table 2 shows data on the variables of safety, accommodation, income, employment, community, education, environment, engagement, health, satisfaction, and quality of life, belonging to OECD member countries. The scores of each variable of each criterion were graded from 1 to 10 using a Likert scale. The number of samples evaluated is 36. In the sample group, while the criterion with the lowest mean score is income (Mean = 3.53), the criterion with the highest mean score is safety (Mean = 8.3). Besides, mean score for housing is 5.59, for jobs 6.54, for community 7.21, for education 6.38, for engagement 5.04, for health 6.83, for satisfaction 6.63 and for quality of life 6.66. It can be seen that all mean scores of 11 variables included in the survey exceeded the score of 5 except for one of the variables (income).

4.3. Correlation Analysis

Table 3 shows the matrix of the correlation among the variables of safety, housing, income, jobs, community, education, environment, engagement, health, satisfaction, and quality of life belonging to OECD member countries. According to the results on the correlation matrix, there is no significant relationship between the safety variable and the variables of jobs, engagement, satisfaction and quality of life. On the other hand, there appears to be a statistically significant, moderate and positive relationship between the safety variable and the housing variable ($r=.393$; $p <0.05$). In other words, safety scores increase as the housing scores of the countries increase. Similarly, there is a significant, moderate and positive relationship between the income variable and the safety variable ($r=.418$; $p<0.05$). This status reveals the result that the income scores belonging to the OECD countries increase together with the increase in their safety scores.

Again, there appears to be a moderate and positive relationship between countries' *safety* and *community* scores ($r =.365$; $p<0.05$). This result shows that the safety scores increase in OECD countries as the *community*-related scores increase. The results of the analysis show that the meaningful relationships of the other variables with the safety variable are generally moderate. The only exception to this is the strong relationship between safety and education variables. Correlation matrix data revealed that there was a meaningful, positive and strong relationship between the safety and the education variable ($r=.763$; $p<0.01$). This result implies that as education scores of OECD countries increase, safety scores also increase, and there is a very strong relationship between these two variables.

Correlation matrix results also revealed a significant relationship between safety and the environment ($r=.431$; $p<0.01$). The analysis shows that the relationship between these two variables is moderate and positive. This result shows that the safety scores of

Table 2. Descriptive Data belonging to OECD Countries

variable	min	max	std	mean	median	Mode
safety	0.4	10	1.92	8.3	8.8	8.7
housing	2.2	7.8	1.48	5.59	5.95	6.3
income	0.1	10	2.21	3.53	3.55	5
jobs	1.5	9.5	1.85	6.54	6.8	8.2
community	0	10	2.12	7.21	7.4	7.2
education	0.5	9.1	1.91	6.38	7	7.9
environment	2	9.6	1.98	6.79	7.35	8.8
civic engagegent	0	9.5	1.91	5.04	5.2	5.3
health	0.6	9.3	1.94	6.83	7.55	7.7
life satisfaction	0	10	2.88	6.63	7.45	9.3
wlbx9	0	9.8	1.87	6.66	7.1	6.1

Table 3. Correlation matrix (N = 36)

Correlations			1	2	3	4	5	6	7	8	9	10	11
1	Safety	Pearson r	1										
2	Housing	Pearson r	.393*	1									
3	Income	Pearson r	.418*	.709***	1								
4	Jobs	Pearson r	.216	.552**	.622**	1							
5	Community	Pearson r	.365*	.456**	.367*	.340*	1						
6	Education	Pearson r	.763**	.468**	.408*	.437**	.430**	1					
7	Environment	Pearson r	.431**	.696**	.515**	.608**	.567**	.607**	1				
8	Civic Engagement	Pearson r	.256	.504**	.275	.328	.153	.258	.441**	1			
9	Health	Pearson r	.396*	.704**	.625**	.395*	.467**	.287	.508**	.456**	1		
10	Life Satisfaction	Pearson r	.007	.562**	.504**	.750**	.511**	.184	.481**	.340*	.610**	1	
11	WLB	Pearson r	.240	.460**	.249	.123	.505**	.453**	.512**	.007	.209	.180	1

*. Correlation is significant at the 0.05 level (2-tailed); **. Correlation is significant at the 0.01 level (2-tailed).

OECD countries increase as the environmental variable scores increase. The analysis also indicates that there is a significant relationship between the health status of the OECD countries and the safety status. According to the data, it was determined that there is a positive and moderate relationship between the health and the safety variables. Therefore, the increase in health scores leads to an increase in safety scores.

4.4. OLS Regression Analysis

The relationship between each variable was analyzed by the correlation analysis described above. There are six variables that are significantly related to the independent variable of safety as a result of the correlation analysis. At this stage of the research, a multivariate (OLS regression) analysis was conducted by creating a model from all variables in order to determine their effects on the safety scores of the countries. The analysis results are given in Table 4.

According to the analysis results, there were three variables that have statistically significant relationship with the safety scores of the countries. These are the variables of *education*, *health* and *satisfaction*. According to the regression analysis results, the rate of these nine variables' giving the variance of the safety variable is 74.9% (Model R² =.749).

Table 4. OLS Regression Analysis of the SAFETY of the OECD countries (N=36)

	Model	
	B^a (SE)	β^b
Independent Variables		
Housing	-.031	-.024
Income	.112	.128
Jobs	.040	.039
Community	.183	.202
Education	.717	.713***
Environment	-.078	-.080
Civic Engagement	.036	.036
Health	.363	.367*
Life Satisfaction	-.318	-.477**
WLB	-.165	-.161
Model F	7.453 ***	
Model R²	.749	
Model R²$_{ADJ}$	.648	

* p<0.10, ** p<0.05, *** p<0.01 (One tailed test),
a Unstandardized regression coefficient
b Standardized regression

There is a statistically significant, strong and positive relationship between education and safety variables (β =.713; p <0.01) when all other variables are kept constant. In the case that other variables are kept constant, when the education level of the countries increases, the safety variable also shows a positive increase. From that, the result that the countries with high education level has a high safety level as well. In other words, it can be suggested that countries with high safety levels also have higher levels of education. Since causality cannot be determined in this analysis, both of the inferences are true according to the reality. It can be said that, when education increases, safety also increases, and as safety increases, people are more focused on education.

Furthermore, regression analysis reveals that there is a statistically significant and positive relationship between the health and the safety variables when all other variables are kept constant (β =.367; p <0.10). Hence, when other variables are kept constant, every one unit increase in the health scores leads to a positive increase of 0.367 units in the safety variable. This indicates that the development of health criteria in the OECD countries will provide a certain amount of increase in the safety criteria.

OSL analysis results show that there is a statistically significant relationship in the negative direction between the satisfaction and safety variables for the OECD countries (β = -.477; p <0.05). In the case that other variables are kept constant, when the satisfaction scores of the countries increase, the safety score decreases at the rate of 0.477. This result shows that there is an inversely proportional relationship between safety and satisfaction statuses of the OECD countries. In other words, an increase in the safety status of the country leads to a decrease in the satis-

faction statuses of the citizens at a certain rate. In other words, if the safety policies that are applied have the characteristics of restricting the freedoms of the citizens, this may reduce the degree of satisfaction.

5. Conclusion

While quality of life is a concept initially used in specific fields such as medicine, today it is defined as a broad concept that encompasses many areas such as economics (GNP) in particular, psychology, regulations, working life, culture. This situation caused the variation of the measurement criteria that are used in calculating the quality of life. Additionally, many problems and different parameters originated from individual values and research methods (theoretical structure) make it difficult to measure the quality of life. In particular, although measuring the concepts such as quality of life or well-being is something desired, it requires extensive calculations and how to do it is still a matter of discussion. In addition, how healthy or reliable the indicators or data used in measuring the quality of life is also another point of discussion (Mottner and Ford, 2008). In this regard, Susan Holmes (2005) pointed out the difficulty of making assessment in the field with her statement mentioning that *Are we really trying to measure the things which cannot be measured?*

In this sense, it is clear that quality calculations made on one or two variables will not yield healthy results. Therefore, in order to be able to calculate the quality of life and to understand how an individual continues his/her life, we need to evaluate the environment, which is perceived by the individual, as a whole. In this sense, in order to accurately calculate the quality of life, it is necessary to consider many criteria such as safety, health and culture that affect the human nature. Otherwise, our analysis will not be able to go beyond a limited calculation. For example, in primitive and traditional societies, in which the use of money is extremely limited, and there is a subsistence economy largely depending on commodity exchange, it will be extremely meaningless to try to calculate the quality of life through the GNP criterion alone. Likewise, the fact that a community has a higher GNP than other communities does not mean that the life quality of that community is high. Or, as in evaluation of a modern community, assessing the life quality of people living in a society where there is a lot of safety problems, or where the social statute is acquired only on the basis of the number of animals possessed, may be misleading.

Hence, there is a need for a concept of quality of life and measurement index that is widely accepted. The quality of life measurement index, which was developed by OECD in 2011 as a result of these searches, has the characteristic of responding to these searches in a way. In this sense, the index criteria developed by the OECD include numerous different variables.

With this index, more realistic results can be achieved in comparison with other measurement tools. However, there is no universal criterion that may apply to all of the societies. For example, since literacy rates in developed countries are already high, the determination of life quality through this criterion may be insufficient in international comparisons. Therefore, the stretched calculations to be carried out over the educational criteria in the developed countries will give more accurate results. Again, within the context of the life index, countries with low criterion scores will also be able to increase their quality of life by investing more in these areas. Finally, for the index scores to produce more consistent results, the main criterion should be evaluated in sub-topics at the same time, thus, safer results will be achieved. For example, examining the health criteria under the sub-topics of nutritional health and hygiene standard.

On the other hand, a good or quality life necessitates living in a safe environment. Because; only individuals living in a safe environment will be able to meet other needs, especially the biological and psychological needs. When we evaluate the analysis in general, it is seen that there is a meaningful and positive relation between the safety criterion and other parameters. However, according to another result of the analysis, we can mention a negative relationship between safety and satisfaction criterion, because, after a certain threshold level, the individual does not regard the interventions to his/her life with safety reasons in a positive way. This was confronted in our study in a striking way. Indeed, such a result shows the individual's reaction within the context of the protection of private life. The most striking example of this can be seen in the US government's desire to increase the CIA and NSA budgets on the grounds of terrorism in recent years. This was perceived by US public as a threat to their freedom and private life, and they reacted against those regulations. Therefore, in the safety-freedom balance, it is observed that even though the income levels in the societies increase, freedom is preferred at a certain threshold. Another striking consequence of the analysis is that, even though the crime rates are high in countries such as Mexico, there is no decline in people's satisfaction levels. We can explain this situation in a way that the crime is accepted as a normal mode of behavior in the community (in the form of stereotyped behavior). Moreover, we can say that a criminal culture has been formed in these societies.

As the result, a quality or a good life is desired by all societies. For this purpose, a number of criteria have been developed for measuring the level of the quality of life. However, it is clear that the criteria that has been developed are insufficient. In our era; it is extremely difficult to come to the conclusion that the quality of life of the societies is low or high through an assessment only based on the universal criteria.

Of course all the developed criteria and the calculations may give us, the researchers, general information about a community's level of quality of life. However, how much can this information satisfy us? In addition to universal criteria, societies can have different perspectives and cultural values that are originated from cultural diversities. Therefore, we can achieve healthier results when we evaluate the quality of life of societies with an approach that is far from biased and ethnocentric viewpoints.

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