

Measuring the Indicators of Happiness Index in Malang City

Ummu Sahdiah Sahlan

Urban and Regional Planning Department, Brawijaya University
MT. Haryono Street, No. 167, Malang 65145, Indonesia
Correspondence Email: ummusahdiah@gmail.com

ABSTRACT

This study was conducted to analyse the magnitude of indicators of happiness index in Malang City society. The purpose is to observe the indicators that have the lowest and the highest values. Measuring the indicators in this study is based on indicators of happiness index from *Badan Pusat Statistik* (Central Agency on Statistics) in 2017. There are 19 indicators which are divided into three dimensions, which are Life Satisfaction, Affection, and Meaning in Life Dimensions. Determination of indicator values is using Exploratory Factor Analysis (EFA) method to determine the weights of each indicator. The results showed that the highest indicator of Happiness Index is family harmony of life satisfaction dimension and the lowest indicator is feeling not worried and not depressed of affection dimension.

Keywords: Exploratory Factor Analysis, Happiness, Indicator Happiness Index

INTRODUCTION

Achieving social welfare is one of the main objectives in the administration of a country. In the context of society as a development object, it demands an indicator to measure the development of life or the level of social welfare of the community itself. There are several ways to measure the level of social welfare which is one of them is through measuring the levels of happiness.

Happiness is described as a basic goal to be reached by humans and acts as a value of pleasure which related to property, having positive feelings, having life satisfaction and a good quality of life (Diener and Oishi, 2013). Happiness is not only limited to feeling happy and positive as an emotion but also it is related to the journey and development of life. Garling, Gamble, Fors, and Hjerm (2012) proposed that emotional well-being is partially related to the balance of positive and negative affect associated with someone's everyday routines. Therefore, by looking at relationship between happiness and an individual's life as a single unit, the measurement of happiness becomes an interesting and relevant thing to study.

In this current condition, the development and implementation of government policy programs concentrate on meeting the needs and achieving the social welfare. Therefore, from the happiness of the people which becomes one important element, there is now one aspect that is used to see the extent of the process of achieving social welfare that has been carried out.

Central Agency on Statistics (*Badan Pusat Statistik*) has conducted a measurement of the happiness index. Central Agency on Statistics (*Badan Pusat Statistik*) has released the results of measurements of happiness index in Indonesia which conducted in 2014 and 2017. This measurement of happiness index measures the level of happiness of all

provinces in Indonesia. BPS conducts the measurement of happiness index in order to get point of view for another measurement to measure the progress of development, while all this time the measurement for the progress of development that commonly used only by looking at the perspective of economic indicators such as economic growth and poverty reduction (BPS, 2017).

The happiness index calculation which conducted by BPS has multi-layered determination with using socioeconomic indicators. In general, the calculation of the happiness index which conducted by BPS uses three main dimensions, namely Dimensions of Life Satisfaction, Affection Dimension and Meaning Life / Eudaimonia Dimension. These three dimensions have their own indicators, where Dimension of Life Satisfaction has 10 indicators which are divided into two sub dimensions (personal and social sub dimensions), Affection Dimension has three indicators, and the Eudaimonia Dimension has six indicators.

The indicators are arranged so that they can represent the domain of essential life in the form of measurements for factual conditions with objective measures, and then balanced with subjective measurements related to the satisfaction toward the objective conditions. Dimensions of Life Satisfaction represent the objective measurement of an individual. The measurement is objective value of level of satisfaction towards aspects of life. The Affection Dimension and the Eudaimonia Dimension then complete to obtain a subjective assessment of the individual. All of these indicators provide a direct link to the society to build community perspectives on each dimension and then get overall Happiness index value. All indicators are compiled by including all domain of the essential life of an individual. In the end, all indicators in each dimension produce values that are considered capable to representing levels of satisfaction and individual welfare is not only from objectivity but also involve feelings and meaning of life as elements of subjective judgment, so that they are able to describe achievements that felt for development of life that has been done by an individual.

One of the calculation results of Indonesian happiness index conducted by BPS shows that East Java Province in 2017 is calculated to have a happiness index value as 70.77. This value makes East Java Province in 23rd position and remains above the average value of Indonesia happiness index which is 70.69. The highest dimension value for East Java Province is the Life Satisfaction Index value as 71.68, then the Meaning in Life Index as 71.66 and the Affection Index as 68.79. These results show that the indicators in Dimension of Life Satisfaction give a higher impetus to the attainment of people's happiness in East Java, when compared to the Affection Dimension and the Dimension of Meaning in Life.

Until now, the happiness index value has not been specific on the smaller scale of the city or district. Some cities which already have Happiness Index studies are conducted by academic institutions. Malang City itself has not released the calculation of the happiness index specifically for Malang City.

Consideration of unfulfilled the description related to the Happiness Index in Malang encouraged the research to explore the happiness aspects of the society in Malang. Through a study of the indicators that build the happiness index of the society in Malang, it is hoped that it will be able to describe in more detail about the achievements of community satisfaction objectively and subjectively towards their life.

RESEARCH METHOD

Data Collection

Data collection in this study was carried out through a survey by distributing the questionnaire. Questionnaire is done by compiling questions coherently with regard to the research conducted, in order to determine the happiness index in Malang City society. The questionnaire was compiled based on 19 indicators of happiness index which were the variables in this study.

The population in this study is the head of the family who lives in Malang. Data collection was carried out by giving questionnaires to 400 respondents which spread throughout the districts and villages in Malang City.

Research Variables

The research variables are indicators from the dimension of the happiness index used by BPS in 2017. In general, the indicators of Happiness Index are divided into three dimensions. The dimension of life satisfaction is divided into two sub dimensions, personal and social. Each sub dimension has five indicators. Personal indicators are related to the personal aspects or personal achievements which are education, occupation, income, health and housing conditions. Indicators for social dimensions are more related to individual objectivity in relationship to other individuals and their surroundings which are family harmony, leisure time availability, social relations, environmental conditions and security conditions. Indicators in the affection dimensions relate to the emotional feelings of the individual towards their life, which consist of indicators for feeling happiness, feeling not worried and feeling not depressed. The Eudaimonia dimension relates to an individual's subjectivity towards himself, which consist of indicators for autonomy, environmental mastery, personal growth, positive relation with others, purpose in life and self-acceptance.

These indicators become variables in this study. The details are more described in the following table.

Table 1: Research Variables

Life Satisfaction		Affection	Eudaimonia
Personal	Social		
Education	Family Harmony	Feeling Happiness	Autonomy
Occupation	Leisure Time Availability	Feeling Not Worried	Environmental Mastery
Household Income	Social Relations	Feeling Not Depressed	Personal growth
Health	Social Environment		Positive Relation with Others
Housing Conditions and Housing Facility	Security Conditions		Purpose in life
			Self Acceptance

Method Analysis

To calculate the index value of each indicators of Happiness Index, there are several steps to take. The first step is to find the value of loading factor. Loading factor was obtained with the help of the SPSS tool. The statistical method used to determine the loading factor is factor analysis, which is Exploratory Factor Analysis (EFA). In addition, there are steps to extract the factor by using factor extraction method which is the Principan Component Analysis (PCA).

After going through these stages, the results of processing the factor analysis are used in the next stage of finding the Weighing (W). A weighing value is generated for each indicator. After obtaining the weighing value, then proceed with the third step, which is calculating the index (I).

The formula that is used to obtain the index value of each indicator is as follows.

$$I = \frac{\sum (W.i \times X.i)}{\sum W.i}$$

I is the Indicator Index

W.i is the weighing value of i-th indicator

X.i is the score of indicator

RESULTS AND DISCUSSIONS

Finding loading factor

In the process of determining the happiness index in Malang City society, the initial stage of the calculation is started from finding the loading factor value. The loading factor value is obtained by input the results of the 400 respondents into statistical tools, and then processed by factor analysis.

Based on the results of the analysis, the 19 indicators are divided into four factors. From the four factors formed, each the indicators have a loading factor value.

Step of Finding Weighing Value (w)

The next step is to find the weighing value. In the formula that is used to determine happiness index in Malang City, the weighing value (w) will be multiplied by a score (i) of 400 respondents. Here's the result of calculating the weighing value of all indicators of happiness index.

Table 2: The Results of Weighing Value of Indicators for Dimensions of Life Satisfaction (Personal Sub Dimension)

Indicators	W Value
Education	22,29
Occupation	22,38
Household Income	22,69
Health	15,69

Indicators	W Value
Housing Conditions and Housing Facility	16,96

Table 3: The Results of Weighing Value of Indicators for Dimensions of Life Satisfaction (Social Sub Dimension)

Indicators	W Value
Family Harmony	24,53
Leisure Time Availability	13,95
Social Relations	19,00
Social Environment	21,15
Security Conditions	21,36

Table 4: The Results of Weighing Value of Indicators for Affection Dimension

Indicators	W Value
Feeling Happiness	23,22
Feeling Not Worried	38,57
Feeling Not Depressed	38,21

Table 5: The Result of Weighing Value of Indicators for Eudaimonia Dimension

Indicators	W Value
Autonomy	11,96
Environmental Mastery	16,12
Personal growth	16,31
Positive Relation with Others	19,46
Purpose in life	19,89
Self Acceptance	16,26

Index Calculation (I)

Calculation of happiness index according to the formula is by multiply the weighing value with the score of the respondents that have been obtained. Based on the results of surveys and analyses, the following index results as follows.

Table 6: The Result of Index Calculation of Indicators for Dimensions of Life Satisfaction (Personal Sub Dimension)

Indicators	Index of Indicators for Happiness
Education	74,55
Occupation	76,82
Household Income	76,83
Health	78,28
Housing Conditions and Housing Facility	81,63

Table 7: The Result of Index Calculation of Indicators for Dimensions of Life Satisfaction (Social Sub Dimension)

Indicators	Index of Indicators for Happiness
Family Harmony	82,37
Leisure Time Availability	78,63
Social Relations	80,29
Social Environment	79,60
Security Conditions	79,89

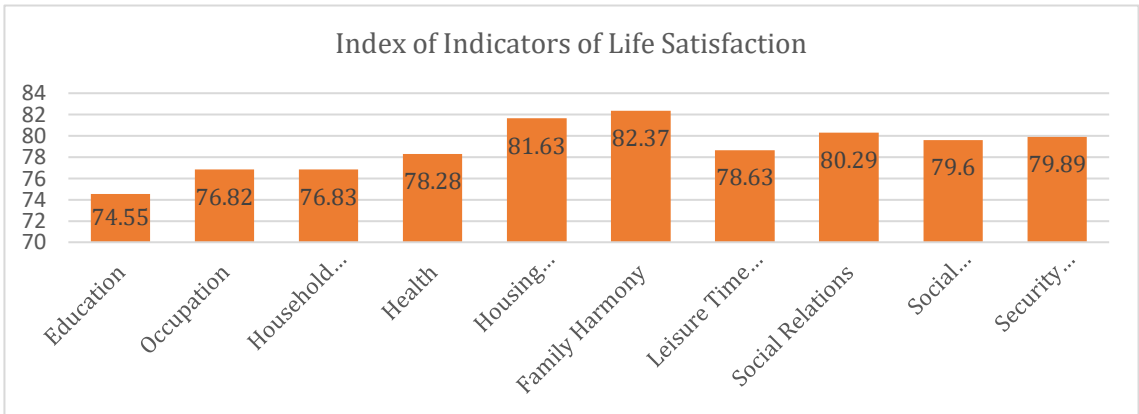
Table 8: The Result of Index Calculation of Indicators for Affection Dimension

Indicators	Index of Indicators for Happiness
Feeling Happiness	81,00
Feeling Not Worried	49,57
Feeling Not Depressed	48,62

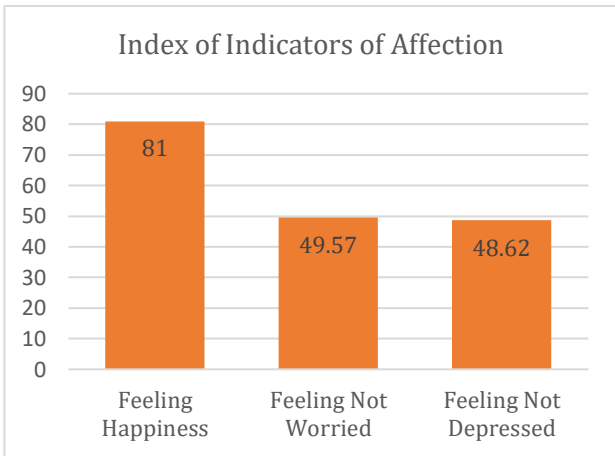
Table 9: The Result of Index Calculation of Indicators for Eudaimonia Dimension

Indicators	Index of Indicators for Happiness
Autonomy	81,07
Environmental Mastery	80,15
Personal growth	74,20
Positive Relation with Others	75,53
Purpose in life	79,55
Self Acceptance	81,05

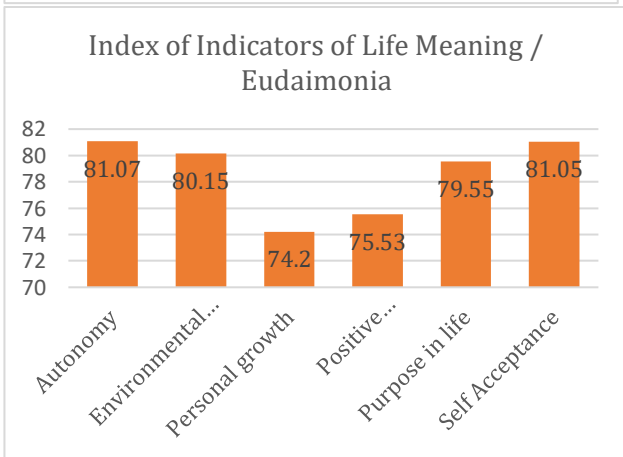
Based on the table, there are 19 indicators which have various indexes. The index with the highest number is on the Family Harmony indicator, which is 82.37. The index value with the lowest value is the Feeling Not Worried indicator with index value as 49.57, where the feeling not worried indicator and feeling not depressed indicator which are in affection dimension have negative values.



(a)



(b)



(c)

Figure 1. (a) Index of Indicators for Dimension of Life Satisfaction, (b) Index of Indicators for Affection Dimension, (c) Index of Indicators for Eudaimonia Dimension

The first picture (a) is chart that consist 10 indicators for Dimension of Life Satisfaction. Overall, the calculation results of indicators for Dimension of Life Satisfaction shows that the indicator with the highest index value is an indicator of family harmony with an index value as 82.37, as well as the indicator of housing conditions and housing facility with an index value as 81.63. Indicator of family harmony is indicator of social sub dimension, while the indicator of housing conditions and housing facility is indicator of personal sub dimension. This explains that the respondents were satisfied with the achievement of family harmony and housing condition and housing facility. The lowest value of indicators is education indicator with the index value as 74.55. This explains that the respondent was not satisfied with the achievement of their current level of education and skills.

The second figure (b) is a comparison of index of indicators for Affection Dimension. From three indicators, the highest index is the feeling happiness with the index value as 81. This value indicates that respondents tend to have happy feeling in their daily lives. In the other two indicators, it is a question with a negative score, which means that the greater value obtained, the indicator shows more negative emotions or feelings (the more worried or more depressed). So based on this results, the lowest index value is the feeling not worried indicator. The index results indicate that respondents tend to still feel worried or anxious in dealing with various things that happen in their lives.

The third figure (c) is a comparison between 6 indicators in Eudaimonia Dimension. From the existing indicators, the highest index value is the index value of autonomy indicator with the index value as 81.07. This shows that respondents feel able to make decisions for themselves. Respondents feel able to have freedom in self-determination, able to overcome with social pressures in thinking and action, able to control behaviour and be able to evaluate themselves with their standards. The indicator with the lowest index value is personal growth indicator with the index value as 74.20. This value indicates that the respondent does not have enough desire to develop their potential (knowledge, skills, relationships, etc.) from time to time.

CONCLUSIONS

This study examines the happiness index in Malang City in terms of the indicators which are forming the happiness index. So that in this study, it does not display the value of the happiness index as a whole, but the details value of the indicators of happiness index, which are composed by 19 indicators that are divided into three dimensions.

In calculating the index of existing indicators, it needs finding the weighing value which then results in an index value for each indicator. Based on the results of calculations in Dimensions of Life Satisfaction, the indicator of Family Harmony is the highest index. In the Affection Dimension, the highest indicator is the Feeling Happiness indicator. In the Eudaimonia Dimension, the highest indicator is Autonomy indicator.

As a whole, the indicator with the highest index is the indicator of family harmony. So it can be concluded that the people of Malang City have the highest satisfaction on family harmony, where respondents are satisfied with the closeness that exists between family members both living in one house or those living outside the home. The indicator with the lowest index overall is the indicator of feeling not worried. This shows that the people of Malang City tend to have a sense of worry or anxiety towards themselves in carrying out their daily lives.

This study can provide too an illustration that in terms of the calculated indicators, the people in Malang City tend to have anxiety in their activities, have a feeling of dissatisfaction with the level of education that they achieved, and the society have lack of desire to develop their potential. The results of index calculation of these indicators

can be as an input and consideration to the stakeholders in making programs and related policies, especially those that directly impact on the society.

REFERENCES

- Badan Pusat Statistik. 2017. *Indeks Kebahagiaan 2017*. Jakarta: Badan Pusat Statistik.
- Diener, E., Tay, L., Oishi, S. (2013). *Rising Income and the Subjective Well-Being of Nations*. *Journal of Personality and Social Psychology*, 104, 267–276.
- Garling, T., Gamble, A., Fors, F., & Hjerm, M. (2012). The relationships between life satisfaction, happiness, and current mood. *Journal of Happiness Studies*, 13(1), 31-45.