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Exploring the Pattern of Happiness in Indonesia Based on Public Green Spaces

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ABSTRACT

Happiness may be one of the most important pillars of life for people. The recent Indonesia's happiness index has been measured by The Indonesia's National Statistics Bureau (BPS) in 2021. The happiness index is composed by 19 indicators, which grouped into 3 dimensions, namely the dimensions of life satisfaction, feelings, and meaning of life. However, the presence of green spaces is not related to one of them. Meanwhile, there are three broad areas of research on happy cities: social determinants of well-being, economic determinants of well-being, and environmental determinants of well-being. One of the environmental determinants of well-being is the presence of green spaces. Many studies have shown that people who live in areas with more green spaces have less stress and emotional pressure, as well as a greater sense of happiness and satisfaction. This study aims to examine the relationship between the happiness index and the amount of public green spaces in Indonesia even though the happiness index measurement does not involve green spaces indicators. This study contributes by integrating spatial analysis with subjective well-being metrics in Indonesia's urban policy context. The method used is simple linear regression analysis to determine the direction of influence and its magnitude. Data and information were collected from secondary sources. The results show that the area of public green spaces has positive effect to the happiness index even in Indonesia. It is suggest the need for integrating green infrastructure in happiness indicators and spatial planning programs.
Keywords: Happy City, Urban Happiness, Green Spaces, Happiness Index, Indonesia

ABSTRAK

Kebahagiaan mungkin merupakan salah satu pilar terpenting dalam hidup manusia. Indeks kebahagiaan Indonesia yang terbaru diukur oleh Badan Pusat Statistik (BPS) pada tahun 2021. Indeks kebahagiaan disusun berdasarkan 19 indikator yang dikelompokkan ke dalam 3 dimensi, yaitu dimensi kepuasan hidup, perasaan, dan makna hidup. Namun, keberadaan ruang terbuka hijau tidak terkait dengan salah satunya. Sementara itu, ada tiga area besar penelitian tentang kota bahagia: determinan sosial dari kesejahteraan, determinan ekonomi dari kesejahteraan, dan determinan lingkungan dari kesejahteraan. Salah satu faktor lingkungan yang memengaruhi kesejahteraan adalah keberadaan ruang hijau. Banyak penelitian telah menunjukkan bahwa orang yang tinggal di daerah dengan lebih banyak ruang hijau memiliki lebih sedikit stres dan tekanan emosional, serta rasa bahagia dan kepuasan yang lebih besar. Penelitian ini bertujuan untuk mengetahui apakah hasil indeks kebahagiaan yang diukur oleh BPS Indonesia berhubungan dengan keberadaan RTH meskipun pengukuran indeks kebahagiaan tidak melibatkan indikator RTH. Studi ini memberikan kontribusi dengan mengintegrasikan analisis spasial dengan indikator kebahagiaan yang subjektif dalam konteks kebijakan perkotaan di Indonesia. Metode yang digunakan adalah analisis regresi linier sederhana untuk mengetahui arah pengaruh dan besarannya. Data dan informasi dikumpulkan dari sumber sekunder. Hasil penelitian menunjukkan bahwa memang benar luas RTH publik berpengaruh terhadap indeks kebahagiaan bahkan di Indonesia dan berpengaruh positif. Oalh karena itu, disarankan untuk mengintegrasikan infrastruktur hijau ke dalam indikator pengukuran kebahagiaan dan program perencanaan ruang.
Kata kunci: Kota Bahagia, Ruang Terbuka Hijau, Indeks Kebahagiaan, Indonesia

1. INTRODUCTION

Happiness is a fundamental positive emotion that plays a crucial role in ensuring the health of individuals and society. In the absence of happiness, organizations will create cold and closed spaces that do not provide the minimum emotional energy needed for innovation and progress (Wiking, 2018 in Bakhtiari, 2023). Urban planners and designers should focus on creating spaces that align with today's needs and increase happiness (Montgomery, 2013). Emphasizing positive feelings, liveliness, and more presence in cities leads to joy and happiness. The physical environment of cities is of great importance, as it is the basis for happiness and joy (Eisazadeh and Vahdani, 2018). Physical stimuli in the built environment play a key role in promoting the sense of happiness among citizens and creating a vibrant environment.

The environment also plays an important and significant role in the review of happiness literature. Brereton et al. (2008) argue that although personal variables are important in happiness, paying attention to the passion of the place, such as good weather, a healthy environment, and proper physical conditions, has an irrefutable role. White et al. (2013) points out that living alongside urban green spaces such as parks, reduces the stress and pressure of urban living. While various socioeconomic factors are related to happiness (Rugel et al, 2019), the facilitation of social interaction has been confirmed with strong evidence. Open green spaces promote social cohesion by providing places for social contact, enhancing community engagement and enabling social mixing between communities (Jennings, et al 2019). This finding suggests that urban green space is a key factor in understanding happiness beyond economic success. Green spaces, including parks, gardens, street trees, riversides, and private backyards, provide opportunities for physical activity, social interaction, mental relaxation, and stress and heat relief. These activities have direct and indirect benefits for mental and physical health and well-being (Dadvand et al, 2016). Unlike prior studies that emphasizing the need of green spaces for environmental purposes, this study aims to link green spaces with the pursuit of happiness.

According to the World Health Organization (WHO), urban residents should have access to at least 0.5 to 1 hectare of public green space within 300 meters (0.3 kilometers) of their homes (WHO, 2017). Indonesia's spatial planning policy, UU no 26 year 2007 and UU No. 6 year 2023, mandates to urban areas only to have a minimum of 30% green space, composed of 20% public and 10% private. Regulation of the Minister of Agrarian Affairs and Spatial Planning/Head of the National Land Agency No. 14 year 2022 further clarifies this by regulating the provision of green open spaces based on service radius. Additionally, Regulation of the Minister of Public Works No. 5 year 2008 regulates the provision of green open spaces

based on population size. These types of RTH include RT parks, RW parks, village parks, sub-district parks, cemeteries, city parks, urban forests, and RTH for specific functions. However, according to data from the Ministry of Environment and Forestry in 2021, the average area of green open space per province in Indonesia is only 3% of the total area.

United Nations produced World Happiness Report that measures how the happiness of citizens has evolved in those countries. However, in developing countries like Indonesia, happiness is declining. Based on World Happiness Report, Indonesia was ranked 76th in year 2013 among 156 countries worldwide, which has declined in 2024 to become ranked 80th (countryeconomy.com). This highlights the need to pay attention to the challenges of joy and happiness in urban life in Indonesia. The expansion of urbanization, the rapid growth of cities, and changes in human patterns towards modernity have created problems for cities, causing them to lose their liveliness and happiness (Veenhoven, 2017). Contemporary cities, especially those within metropolitan areas, face many environmental, social and aesthetical issues, which lead to a decline in the quality of urban life and happiness for individuals. Accordingly, one of the main challenges facing sustainable urban areas is to provide suitable living conditions in cities. If we do not pay attention to these challenges, it can worsen the situation and lead to social insecurity and psychological pressures. The absence of happiness undermines the quality of environmental perception-based attributes and has an undesirable effect on qualities such as safety, efficiency, sociability, and defensibility.

The happiness index measurement in Indonesia conducted by the Central Bureau of Statistics in 2021 with a result of 71.49 on a scale of 0-100. The happiness index is measured based on 19 supporting indicators grouped into 3 dimensions, namely the dimension of life satisfaction (social and personal life satisfaction), the dimension of feelings, and the dimension of the meaning of life. The Central Bureau of Statistics uses this measurement to identify the level of happiness as a subjective measure of the objective conditions of various domains of human life. Thus, in each essential life domain, the factual conditions will be measured objectively and then followed by subjective measure in the form of an assessment of the level of satisfaction related to the objective conditions in that aspect of life (BPS, 2021). This framework built by including the socio-economic conditions of Indonesian society as a determinant that also affects the happiness of the population. The happiness index by province produces a different index between provinces, where North Maluku Province has the highest happiness index with 76.34 while Banten Province has the lowest happiness index of 68.08 among 34 provinces in Indonesia.

Among the 19 happiness index measurement indicators used by the PBS, the presence of public green spaces is not one of them. This is despite the fact that many studies have linked the happiness of residents to the presence of green spaces. Unlike previous study that measured happiness index without green spaces indicator, this study aims to prove the relationship between the happiness index and the amount of public green spaces. Does the extent of public green space significantly influence happiness levels across Indonesian provinces? The method used is simple linear regression analysis to determine the direction of influence and its magnitude. This is to determine whether the results of the happiness index measured by BPS Indonesia are relate to the presence of public green spaces in the province even though the happiness index measurement does not involve green spaces indicators.

2. METODOLOGI

This study takes Indonesia as case study because happiness index in Indonesia is declining based on World Happiness Report by United Nations. This highlights the need to pay attention to the challenges of joy and happiness in urban life in Indonesia. This research used spatial analysis of the public green space area per province to measure the happiness. This study want to prove the correlation between the happiness index and the amount of public green spaces.

Data

This study uses secondary data in the form of data on Indonesian happiness index per province in 2021, assessed by the Central Bureau of Statistics in 2021 and data on Indonesian public green space area per province in 2021 from the Ministry of Environment and Forestry.

Table 1. Matrix of Data

No	Variable	Data	Source
1	Happines Index	Happines Index Per Province	Central Bureau of Statistics in 2021
2	Public Green Space Per Province	Urban parks area	Ministry of Environment and Forestry's publication in 2021
		Urban forest area	
		Green lanes area	
		River borders area	
		Beach borders area	
		Public cemeteries area	
		Railway borders area	
		Green lanes of high-voltage power lines	
		Safety of raw water sources / springs	
		Nurseries	
		Others	

Methods

This research uses a statistical analysis method, namely Classical Linear Regression Model (CLRM) to determine the relationship between the happiness index (dependent variable) and the area of public green spaces (independent variable) in Indonesia, even though the happiness index measurement does not involve green space indicators. This study using this method because the CLRM can determine the direction and value of the relationship between those variables. It can answer the research hypothesis, is it green public space area affect to happiness index in Indonesia?

Meanwhile, there is different scale data between both of them. The data scale of the area of public green space is ratio data (quantitative data), which is gotten from total area of green public space in Km^2, is calculated in percentage by provinces area. Whereas, the data scale of happiness index is ordinal data (qualitative data). Due to differences in data scales, the researcher normalized the data using Classical Linear Regression Model (CLRM) in SPSS. CLRM can use to the data that have 'No Perfect Multicollinearity', it means independent variables are not perfectly correlated with each other. There are some key metrics to examine by researcher, such as (Alita, Putra, & Darwis, 2021):

1. Normality assumption-testing

   The objective is to examine whether the residual data (the difference between observed values and model-predicted values) are normally distributed. Commonly used tests include the Kolmogorov-Smirnov test and the Shapiro-Wilk test.
2. Homoscedasticity assumption-testing

   This analysis aims to detect heteroscedasticity by assessing whether the variance of residuals varies with the levels of the independent variables, using the Breusch-Pagan or White test.
3. Linearity assumption-testing

   This analysis aims to detect multicollinearity by assessing the strength of linear relationships among independent variables using the Variance Inflation Factor (VIF).
4. Autocorrelation assumption-testing

   This analysis aims to detect autocorrelation by assessing whether residuals from one observation are correlated with those from another, using the Durbin-Watson test.

3. RESULT AND DISCUSSIONS

Indonesia's Central Bureau of Statistics (BPS) stated that it has followed the development of international discourse related to the measurement of subjective well-being by carrying out a series of research activities and developing instruments for measuring happiness levels since 2012. Subjective well-being in general covers a broader concept, which defined as a good mental condition, including positive and negative evaluations taken during life and affect reactions to these experiences. Furthermore, BPS (2021) conducted the preparation of welfare indicators to fulfil 3 objectives, namely: (1) to cover weaknesses in macroeconomic indicators; (2) to complement the use of macroeconomic performance indicators; and (3) to make welfare indicators as indicators that measure the level of development and success of national development. Happiness covers a complex life phenomenon and its various determinants are correlated so that according to BPS (2021), assessing the level of happiness requires a framework that includes 19 indicators, which covered by 3 dimensions of life, namely (1) Life Satisfaction Dimension, (2) Affect Dimension, and (3) Life Meaning Dimension (Eudaimonia). The dimension of life satisfaction divided into sub-dimensions of personal life satisfaction and social life satisfaction.

BPS (2021) stated that this measurement identifies the level of happiness as a subjective measure of the objective conditions of various domains of human life. Thus, in each essential life domain, the factual conditions will be measured objectively and then followed by a subjective measure in the form of an assessment of the level of satisfaction related to the objective conditions in that aspect of life. Furthermore, the dimensions of feelings (affect) and the meaning of life (eudaimonia) obtained based on subjective measures. Therefore, the level of happiness is a general description of the population's level of satisfaction with all domains of human life that considered essential by also taking into account aspects of a person's feelings and meaning of life. This framework built by including the socio-economic conditions of Indonesian society as a determinant that also affects the happiness of the population.

The level of happiness of the Indonesian population in 2021 was based on data from Happiness Level Measurement Survey 2021. This survey carried out simultaneously in all districts / cities in 34 provinces in Indonesia. The survey conducted between 1 July and 27 August 2021. The unit of analysis is a randomly selected household. The sampling method applied the two stage one phase sampling. The total sample of households required for estimating the level of happiness to the provincial level in Indonesia is 75,000 households spread across 34 provinces. In each sample household, the head of household or the spouse of the head of the household selected as a respondent to represent the household.

Each of the constituent dimensions of the Happiness Index has a different amount of contribution in compiling the Happiness Index. The dimension that contributes the most to the compilation of the Happiness Index is the Life Satisfaction Dimension, which is 34.80 per cent. The contribution of the Life Meaning Dimension is 34.02 per cent in the preparation of the Happiness Index. Meanwhile, the Feeling Dimension contributes 31.18 per cent.

Table 2. Happiness Index Indicators and Its Magnitude Contribution

Dimension	Subdimension	Indicator	Weight
Life satisfaction (34,80)	Personal life satisfaction (50,00)	Education and skills	18,34
		Occupation/business/main activity	21,67
		Household income	22,81
		Health	17,04
		House condition and housing facilities	20,14
	Social life satisfaction (50,00)	Family harmony	19,41
		Availability of leisure time	18,93
		Social relationship	22,13
		Neighbourhood conditions	20,64
		Security conditions	18,89
Feelings (31,18)		Feeling happy	25,86
		Feeling not worried	36,80
		Feeling not depressed	37,34
The meaning of life (34,02)		Independence	16,56
		Mastery of the environment	18,44
		Self-development	15,27
		Positive relationships with others	15,48
		Purpose in life	17,48
		Self-acceptance	16,78

Source: BPS Indonesia 2021

Each indicator has a contribution to the happiness index of varying magnitude. This variation in value occurs because residents give varying degrees of judgement to each indicator in the context of measuring their Happiness Index. The magnitude of an indicator's contribution reflects its importance to the population's Happiness Index. The greater the contribution of an indicator, the more important it is to the happiness of the population. In the Personal Life Satisfaction Index, the largest contribution is the indicator of satisfaction with household income, followed by the indicator of satisfaction with work / business / main activity. Meanwhile, in Social Life Satisfaction, the largest contribution is the indicator of satisfaction with social relations. Furthermore, as a whole in the Life Satisfaction Index, the largest contribution is the indicator of satisfaction with household income. This fact shows that the level of life satisfaction of the Indonesian population tends to still influenced by the level of satisfaction of the population with their material living conditions. The following table and figure shows the Indonesian happiness index per province in 2021, which will be use as one of the variables in this study.

Table 3. Indonesia of Happiness Index and Public Green Space in 2021

No	Province	Happiness Index*	Total Area (km^2)*	Area of Public Green Spaces (km^2)**	Percentage of Public Green Space to the Total Area (%)
1	Nanggroe Aceh Darussalam	71,24	57956	785,27126	1,354943854
2	Sumatera Utara	70,57	72981,23	3754,44032	5,144391674
3	Sumatera Selatan	72,37	91592,43	7246,83781	7,912048856
4	Sumatera Barat	71,34	42012,89	797,92508	1,899238734
5	Bengkulu	69,74	19919,33	1218,90595	6,11921159
6	Riau	71,8	87023,66	9,03038	0,010376925
7	Kepulauan Riau	74,78	8201,72	33,24754	0,405372775
8	Jambi	75,17	50058,16	1582,57719	3,16147695
9	Lampung	71,64	34623,8	405,6206	1,171508038
10	Kepulauan Bangka Belitung	73,25	16424,06	828,49312	5,044386832
11	Kalimantan Barat	72,49	147307	47,27094	0,032090084
12	Kalimantan Timur	73,49	129066,64	711,29402	0,551106018
13	Kalimantan Selatan	73,48	38744,23	621,89303	1,605124247
14	Kalimantan Tengah	73,13	153564,5	529,44781	0,344772268
15	Kalimantan Utara	76,33	75467,7	3304,12735	4,378200674
16	Banten	68,08	9662,92	5,83661	0,060402135
17	DKI Jakarta	70,68	664,01	7,10498	1,070010994
18	Jawa Barat	70,23	35377,76	391,68748	1,107157378
19	Jawa Tengah	71,73	32800,69	1956,69665	5,965413075
20	Daerah Istimewa Yogyakarta	71,7	3133,15	36,27442	1,157761997
21	Jawa Timur	72,08	47803,49	6678,83499	13,97143805
22	Bali	71,44	5780,06	115,96611	2,006313256
23	Nusa Tenggara Timur	70,31	48718,1	0,42028	0,000862677
24	Nusa Tenggara Barat	69,98	18572,32	0,68356	0,003680531
25	Gorontalo	74,77	11257,07	2,6019	0,023113474
26	Sulawesi Barat	73,46	16787,18	33,55761	0,199900221
27	Sulawesi Tengah	74,46	61841,29	1,80884	0,002924971
28	Sulawesi Utara	74,96	13892,47	129,56648	0,932638185
29	Sulawesi Tenggara	73,98	38067,7	3170,86986	8,329554609
30	Sulawesi Selatan	73,07	46717,48	1602,48633	3,43016432
31	Maluku Utara	76,34	31982,5	15,43616	0,048264395
32	Maluku	76,28	46914,03	2,78673	0,005940078
33	Papua Barat	74,52	102955,15	77,6379	0,075409438
34	Papua	69,87	319036,05	681,4725	0,213603604

Sources: *BPS Indonesia 2021
**Ministry of Environment and Forestry in Indonesia 2021

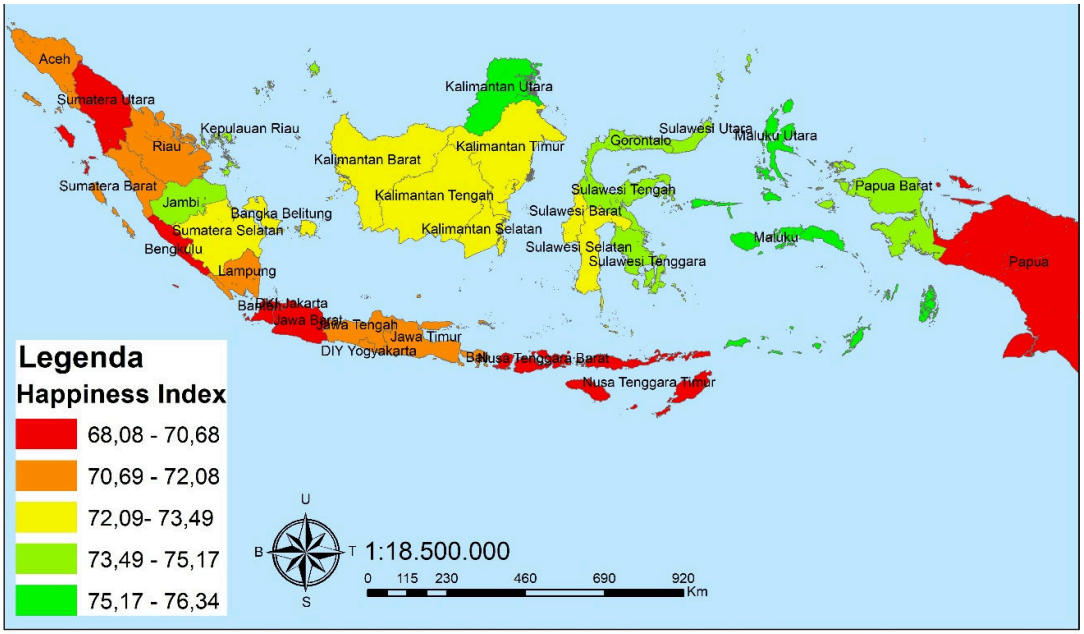

Figure 1. Map of Indonesia Happiness Index Per Province in 2021
Source: BPS Indonesia 2021

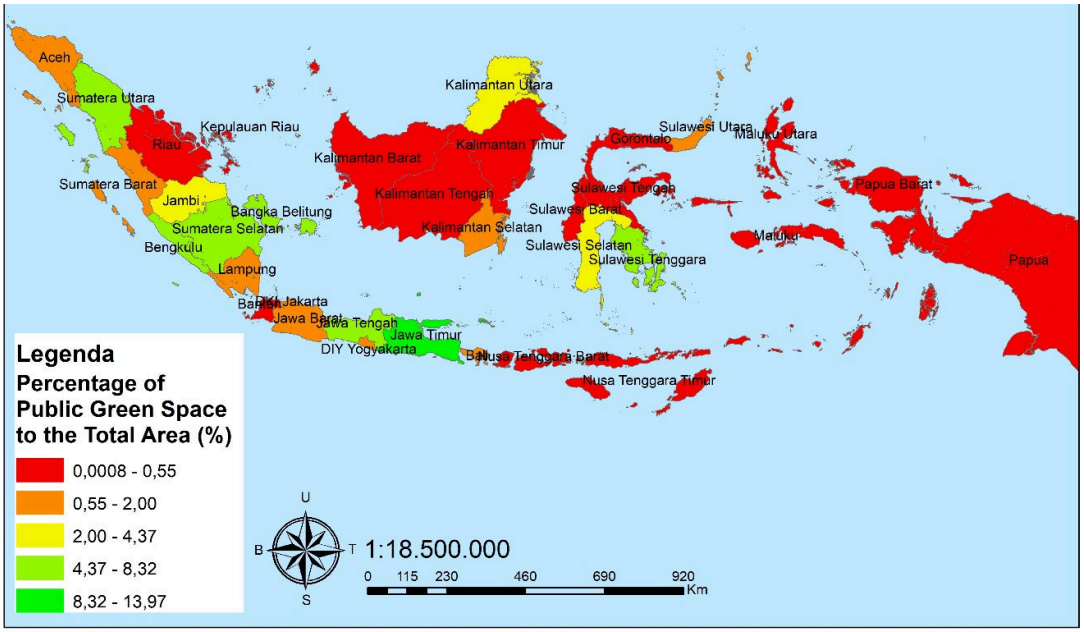

Figure 2. Map of Percentage of Public Green Space to the Total Area Per Province in 2021
Source: Ministry of Environment and Forestry in Indonesia 2021

Based on BPS (2021) explanation of the happiness measurement indicators, there are no green space indicators among the 19 indicators were used to measure happiness. Meanwhile, many studies that discuss happiness in terms of spatial or living environment stated that the existence of green spaces affects the happiness of residents. One of the studies is "Evaluation the Influential Factors in Creating a Happy City (Case Study: Rudehen city)" which conclude that citizens can feel joy and happiness by encountering well-designed public and communal

spaces, leading to psychological and mental satisfaction. Therefore, one of suggestions to promote happiness is increasing the per capita level of green space, cultural and sports space (Bactiari et al., 2023). Another study "Evaluation of Happy City Indicators in Affordable Housing Projects, Case Study: Mehr Housing Projects, Aftab Town, The City of Parand, Tehran, Iran" stated the most important indicator on the level of happiness of inhabitants is related to physical and spatial indicators (Abdollahpour, et al, 2020). One of the most important solutions for increasing the level of joy and happiness of Mehr Housing project might be improving access to green and open spaces. Study "The Effect of Physical Stimuli on Citizen's Happiness in Urban Environments: The Case of the Pedestrian Area of the Historical Part of Tehran" stated the most important physical stimuli that contribute to promotion of happiness is pedestrian-orientedness, environmental elements (such as appropriate vegetation and green spaces), and spatial cohesion (Samavati and Ranjba, 2017).

This research aims to examine the relationship between the happiness index that has been measured by BPS Indonesia and the existence of public green spaces. Based on this research, it will know whether the public green space variable will correlate with the happiness index variable even though the happiness index measurement does not take into account the indicator of the presence of green spaces. The measurement carried out in all province of Indonesia at 2021, which is 34 provinces.

The area of public green spaces in Table 2 is represented by a set of data from the Ministry of Environment and Forestry 2021 which include 11 components, namely city parks, urban forests, green lanes on roads, river borders, beach borders, public cemeteries, railway borders, green lanes of high-voltage power lines, safety of raw water sources / springs, nurseries, and others. The total area of public green space per province were used in this study because all components of green spaces can be related to the happiness of the population, both in terms of the availability of public space, the availability of clean air, and the availability of other special functions. Meanwhile, the comparison of public green space in each province is not clear because the total area of each province is different. Thus, this study uses the percentage of public green space to the total area as one of variables.

There are at least three important reasons that justify green space is associated with health, well-being, and happiness (MacKerron & Mourato, 2013). Firstly, there is an innate human emotional affiliation with nature Secondly, green space can contribute to a reduction in environmental "harms" and thirdly, green space can facilitate behaviors that are beneficial to physical and mental health. It been reported that greenery may have beneficial effects through five pathways: stress relief, stimulation of physical activity, facilitation of social interactions,

generation of aesthetic enjoyment, and provision of a sense of shelter from and adjustment to environmental stressors (Dadvand et al, 2016 and de Vries et al, 2013).

Discussions

To test the relationship and impact of public green space on the Happiness Index in Indonesia, the researcher utilized data from the public green spaces and happiness indexs of each province in Indonesia. Due to differences in data scales, the researcher normalized the data using regression analysis in SPSS. After the data normalization, it can be observed that the distribution of the 'percentage of green open space' in the provincial capitals of Indonesia follows a linear pattern approaching an absolute value of 1. In other words, there is a relationship between the 'percentage of green open space' and the happiness index in Indonesia, as shown in the scatter plot below, Figure 1.

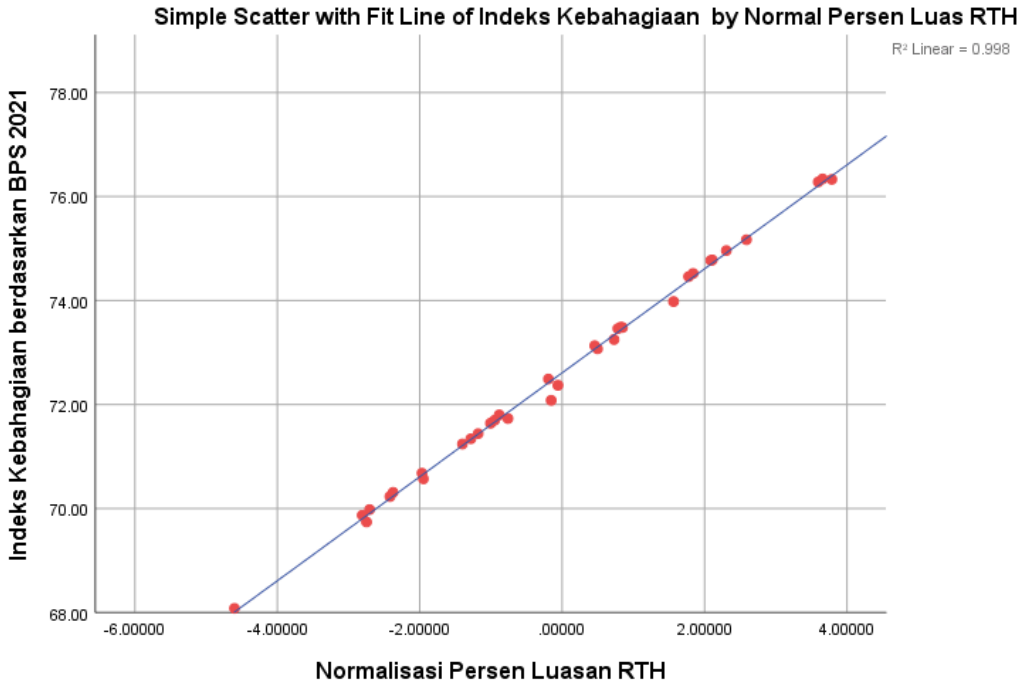

Figure 3. Scatter Plot of Happiness Index by Public Green Space

Based on the results shown in Figure 3, it is evident that there is indeed a correlation between Public Green Space and the Happiness Index in Indonesia. With Indonesia's Happiness Index averaging 72.6 in 2021, this number can be improved further through the provision of infrastructure, particularly public green spaces, as demonstrated in this study. The findings suggest that public green spaces contribute positively to the overall well-being and happiness of the population, highlighting the importance of accessible and well-maintained green areas in spatial planning.

Table 4. ANOVA Calculation by SPSS between Happiness Index and Public Green Space

ANOVA[a]						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	144.852	1	144.852	13413.903	.000[b]
	Residual	.346	32	.011		
	Total	145.198	33			

a. Dependent Variable: Indeks Kebahagiaan berdasarkan BPS 2021
b. Predictors: (Constant), Unstandardized Residual

The significance of developing public green spaces is underscored by the results of the ANOVA analysis, which indicate that the area of public green space has a significant impact on the Happiness Index. This relationship is clearly illustrated in Table 3, where the ANOVA calculation shows a strong linkage between green space availability and increased happiness levels. These insights emphasize the need for strategic investments in public green spaces to enhance the quality of life and support sustainable urban development. This is evidenced by the significance test value (F-test) showing a result of 0.00, which is less than 0.05. Therefore, the hypothesis that public green spaces significantly impact the Happiness Index is proven to be true.

Table 5. Coefficients Calculation by SPSS between Happiness Index and Public Green Space

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	72.611	.018		4074.310	.000
	Unstandardized Residual	1.000	.009	.999	115.818	.000

a. Dependent Variable: Indeks Kebahagiaan berdasarkan BPS 2021

From the final calculation with SPSS, it is known that Figure 3 explains the constant value (a) of 72.611, while the value of the area of Public Green Space (b/regression coefficient) is 1, so the regression equation can be written as follows:

$$Y = a + bx$$

$$Y = 72.611 + 1x$$

This equation can be interpret as follows:

a. The constant value of 72.611 means that this value represents the consistent value of the happiness index variable in Indonesia. Thus, it can be concluded that the average happiness index distribution in Indonesia, especially in the provincial capitals, is 72.611.
b. The regression coefficient for the area of Public Green Space of 1 indicates that for every 1% increase in the area of Public Green Space, the happiness index value increases by 1. This positive regression coefficient suggests that an increase in the area of Public Green Space is directly proportional to the increase in the Happiness Index in Indonesia.

These findings highlight the importance of public green spaces because their direct correlation with the well-being and happiness of the population. By investing in expanding green spaces in Indonesia, urban planners can contribute to improving the quality of life, fostering a happier and healthier society. All provinces in Indonesia need to pay attention to the availability of green space, as the highest percentage of green space is only 13.9% in East Java. Most provinces in Indonesia have less than 3% of their total area designated as RTH, except for 10 out of 34 provinces. These 10 provinces are North Sumatra, South Sumatra, Bengkulu, Jambi, Bangka Belitung Islands, North Kalimantan, Central Java, East Java, Southeast Sulawesi, and South Sulawesi. One approach that can be taken is through adjustments in spatial planning documents and aligning them with development planning documents. Additionally, the implementation of these plans must be enforced rigorously through monitoring, incentives, and disincentives. This study only concludes the correlation between RTH and happiness but cannot provide clear standard figures for its provision.

According to Montgemory (2013), small doses nature has to be part of our life daily, habitat and routine so cities need green spaces in sized S, M, L, and XL. The World Health Organization (WHO) recommends that urban residents have access to at least 0.5-1 Ha of public green space within 300 m of their home (WHO, 2017). WHO also proposed at least 9 sqm green space per capita within 15 minutes walking distance as a health indicator of sustainable cities (WHO, 2012). Meanwhile, in Indonesia, policies related to green spaces only apply to urban areas, which must cover at least 30% of the city (UU No. 6 of 2003/UU No. 26 of 2007). Ministerial regulations further regulating the provision and utilization of RTH propose types of RTH based on environmental units (Permen ATR/BPN No. 14 of 2022 and Permen PU No. 5 of 2008). These types of RTH include RT parks, RW parks, village parks, sub-district parks, cemeteries, city parks, urban forests, and RTH for specific functions. The largest type of RTH, namely urban forests with a minimum area of 4 sqm per capita, should be within a radius of 5,000 m to serve the needs of 480,000 people.

The findings of this research align with previous literature about the positive impact of urban green spaces on happiness and well-being. MacKerron & Mourato (2013), justify that green space is associated with health, well-being, and happiness from study ‘Happiness is greater in natural environments’. The results of another study “Identify Significant Indicators For a Happy City” stated that although socio economic factors affect happiness significantly, environmental factors such as air quality, climate, noise and access to green spaces also can affect happiness (Mirzaei & Zangiabadi, 2021). Study “Would You Be Happier Living in a Greener Urban Area? A Fixed-Effects Analysis of Panel Data” by White et al. (2013) showed

that on average, those who had less stress and emotional pressure, as well as a sense of happiness and satisfaction, living in areas of the city where the amount of green space in the city was higher. Study "Contact with blue-green spaces during the COVID-19 pandemic lockdown beneficial for mental health" by Pouse (2021) found that nature helped them to cope with lockdown measures; and emotions were more positive among individuals with accessible outdoor spaces and blue-green elements in their views.

5. CONCLUCION

The findings of this research align with existing literature on the positive impact of urban green spaces on happiness and well-being. For instance, a study by Kwon et al. (2021) found that urban green spaces contribute to citizen happiness by promoting physical and mental health, reducing environmental harms, and facilitating social interactions. Similarly, Jabbar et al. (2021) highlighted the importance of urban green spaces for human well-being, noting that these spaces provide a natural environment that supports physical, psychological, and social well-being. This finding support the integrating spatial analysis with subjective well-being metrics in Indonesia's urban policy context. All provinces in Indonesia need to pay attention to the availability of green space, as most provinces in Indonesia have less than 3% of their total area designated as RTH. One approach that can be taken is through adjustments in spatial planning documents and aligning them with development planning documents. This analysis does not include other aspect except green spaces that may also explain variations in happiness. Future studies should apply multivariate variable and other methods to prove the correlation, for example the qualitative dimensions of happiness.

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