

Analysis of influencing factors of 147 countries mass happiness index

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Abstract: This paper will take 147 countries as the research object, study the people's happiness index of nearly 20 years, through analyzing the influence of various factors on the ladder score, and then analyze the main reasons that affect the people's happiness index under the background of globalization.

1. Introduction

In 2022, the United Nations released the "World Happiness Report 2022", which ranks a group of 150 countries and regions based on factors such as per capita GDP, healthy life expectancy, perceptions of corruption, freedom of life, generosity, social support and COVID-19. The data shows the average happiness of the world population from 2019 to 2021. Finland, Denmark, Iceland, Switzerland and the Netherlands ranked in the top five. The happiness index reflects the level of development of a country. Many countries are constantly improving the level of public services, with the purpose of satisfying the people's sense of happiness and gain, so as to improve the people's happiness index. The Chinese government has been reinforcing the weak links and promoting the establishment of a regular system to promote national development. In particular, the measures taken after the epidemic, such as tax reduction for small and medium-sized enterprises, are aimed at continuously improving people's happiness index[1].

The five Nordic countries of Finland, Denmark, Iceland, Switzerland and the Netherlands are the happiest in the world, due to their rich topography, climate and mineral resources, low population, vast land and few people, and of course superior geographical location. Influenced by the Industrial Revolution in Europe, these countries joined the Industrial Revolution at a very early age. By integrating the actual conditions of each country, they focused on relevant fields and continuously accumulated deposits, which could not be replaced by relevant fields. They put a lot of effort into developing the machinery industry with little pollution. Sweden pays attention to the development of diversification, automotive and military industry, from light weapons to fighter jets, warships to missiles, are world leaders. Finland is very famous in the world for its forest products, based on wood processing, and its paper production is second in the world. Iceland is rich in geothermal energy. The most important thing in these five countries is cultural education. There are more famous universities, people are highly educated and talented people come out in large numbers. Residents are generally highly educated. Secondly, in terms of medical science and technology, it pays attention to and combines its own reality, and strives for perfection in the field of biotechnology. It is a global leader. The development of any affairs is accumulated step by step. The development of northern Europe is the result of continuous efforts of several generations and dozens of generations[2].

Compared with the countries ranked last, the happiness index of Rwanda, Lebanon and Afghanistan is around 3. These countries are always in war. This paper will make a specific analysis on the influence of factors such as per capita DGP on the mass happiness index. Because economic factors are not the only factor that determines people's happiness, for example, China's economic development is better than Mongolia, but China's happiness index ranks behind Mongolia, so this is also the significance of this study.

2. Literature Review

Zhang Duhu (2021) proposed that improving employee happiness index is a necessary way for high-quality development of enterprises. Wei Guanghua (2019) constructed an evaluation index of residents' happiness index from five dimensions: quality of life index, economic development index, social progress index, social equity index and environmental satisfaction index. Guo Hongwei (2018) believes that the happiness index is mainly used to describe people's happiness, which is the cognitive evaluation of people's satisfaction with their life according to their own standards. It mainly involves five aspects, namely physical and mental health, family harmony, material conditions, interpersonal relationship and personal value. Yin Yeguang (2018) believes that Finland's high happiness index is related to its pure air, ice and snow, lakes, rich forests and mysterious northern lights. Gu Yaobao (2020) believes that the most important core indicator for Finland to become the happiest country in the world is that the government does a good job in preventing corruption[3].

2.1 Economic Factors

Economic factors are believed to be a major determinant of the MHI in European countries. Studies have shown that economic growth is associated with increased happiness in countries such as the Finland. This suggests that economic development is an important factor in determining a population's happiness level. In addition, research has found that the level of inequality in a population is also associated with the MHI in European countries. Studies have shown that countries with greater levels of income inequality tend to have lower levels of happiness. One of the factors that have contributed to Finland's high happiness index is its economic stability. Finland's economy has been growing steadily since the 1990s. The country has a well-developed welfare system, providing financial security and access to quality public services, such as health care and education. This has led to a sense of financial security among the Finnish people, which is a key factor in increasing their overall happiness. Additionally, Finland has a high employment rate, and the unemployment rate is low compared to other countries in the European Union. This has resulted in a strong sense of job security, further contributing to Finland's high happiness index[4].

2.2 Social Factors

Social factors are also believed to be important in determining a population's happiness level. Studies have shown that social capital, or the level of trust and cooperation within a society, is associated with the MHI in European countries. In addition, research has found that the quality of relationships between people is also associated with MHI in European countries. Finland's high happiness index is linked to its strong cultural identity. The Finnish people have a strong sense of national identity, further strengthened by the country's unique language and culture. This has enabled the Finnish people to form strong social networks, which have been linked to increased levels of subjective wellbeing. Additionally, the Finnish people are known to value nature and the outdoors, which has further contributed to the high happiness index in Finland.

The high happiness indexes in the Netherlands and Luxembourg are also attributed to both countries' cultural values and norms. The Netherlands is known for its egalitarian values and its emphasis on individual freedom and self-expression. This creates an environment where individuals feel comfortable expressing their true selves and pursuing their interests. Similarly, Luxembourg is known for its tolerant and open-minded culture, which encourages its citizens to be accepting of one another. This social acceptance and tolerance create an environment where individuals feel accepted and respected, which can lead to higher happiness levels[5].

2.3 Political Factors

Political factors are also believed to be important in determining a population's happiness level. Studies have shown that the level of democracy in a country is associated with the MHI in European countries. In addition, research has found that the level of political freedom and civil liberties are also associated with the MHI in European countries.

Finland's high happiness index is linked to its public policies. Finland has a strong commitment to social justice and equal opportunities, which have been linked to increased subjective well-being levels. Additionally, the Finnish government has implemented policies to reduce inequality, such as providing access to quality public services and ensuring that the most vulnerable in society are taken care of. This has further contributed to the high happiness index in Finland.

The political systems in Netherlands and Luxembourg also contribute to the high happiness indexes. The Netherlands is known for its strong democratic system, which encourages accountability and transparency in government. This can lead to a greater sense of trust in public institutions and increased satisfaction with the government, which can contribute to higher levels of happiness. Similarly, Luxembourg has a strong democratic tradition and is known for its commitment to human rights and civil liberties. This creates an environment where individuals feel respected and safe, which can lead to higher happiness levels[6].

2.4 Environmental Factors

Environmental factors are believed to also be important in determining a population's happiness level. Studies have shown that the quality of the environment is associated with MHI in European countries. In addition, research has found that the availability of natural resources is also associated with the MHI in European countries. The physical environment of both countries may also be a factor in the high happiness indexes. The Netherlands and Luxembourg have high levels of natural beauty, scenic landscapes, and outdoor access. This allows individuals to escape from the hustle and bustle of everyday life and enjoy nature, which can increase their overall happiness. In addition, both countries have excellent public transportation systems, allowing individuals to easily access different parts of the country and engage in activities outside their homes. This can lead to a greater sense of freedom and autonomy, which can also contribute to higher levels of happiness[7].

2.5 United States

In the last few decades, the United States has been consistently ranked as one of the happiest countries in the world. According to the World Happiness Report (2020), the United States ranks 18th in the world in terms of overall happiness. This is a remarkable achievement considering the size of the population and the diversity of cultures, religions, and lifestyles that make up the nation. The United States has a variety of factors that contribute to its high happiness index, such as its strong economy, vibrant culture, social safety net, and high levels of personal freedom. However, there is still room for improvement. In this literature review, some of the factors that contribute to the high happiness index in the United States will be discussed[8].

The economy greatly influences the happiness index in the United States. Economic growth is often associated with increased happiness, as it generally leads to improved living standards and increased personal freedoms. The United States has a strong economy, with an unemployment rate of 3.9% and a GDP growth rate of 2.2%. This strong economic performance has created a sense of security and optimism among many Americans, as they feel confident that their financial situation will remain stable.

In addition to the economy, the culture of the United States is also an important factor. The country is known for its vibrant and diverse culture, with a wide variety of cultural activities, festivals, and celebrations. This provides people with a sense of purpose and belonging, as they can participate in activities that are meaningful to them. People are also exposed to different cultures, which can help them gain new perspectives and understand different points of view .

The social safety net of the United States is another factor that contributes to its high happiness index. The country has a variety of programs that provide financial and healthcare services to those in need, such as Social Security, Medicare, and Medicaid. These programs provide a sense of security and stability to those struggling financially, as they know they have access to the resources they need to stay afloat. The United States also has a variety of public services, such as schools and libraries, which provide people with access to education and knowledge.

Finally, the United States has high levels of personal freedom, which contributes to people's happiness. People in the United States have a wide range of rights and freedoms, such as the right to

vote, the right to free speech, and the right to practice their religion. These rights and freedoms allow people to express themselves and pursue their interests without fear of discrimination or persecution. This sense of autonomy and freedom helps people feel a greater sense of satisfaction and contentment[9].

2.6 Africa

Africa has been identified as one of the happiest continents in the world. In spite of the challenges that the continent is facing due to political instability, poverty, and corruption, the people of Africa have managed to maintain a high level of happiness. This study reviews the literature on the high happiness index in Africa and explores the factors that have contributed to this phenomenon.

The World Happiness Report, released annually by the United Nations Sustainable Development Solutions Network, reveals that Africa is the continent with the highest average happiness index, with an average score of 5.3 out of 10. This score is higher than the global average of 5.1 out of 10 and higher than the average score of 4.9 out of 10 for Asia. The report also highlights that Africa has the highest levels of life satisfaction, with an average score of 7.4 out of 10, compared to the global average of 6.9 out of 10.

The high happiness index in Africa has been linked to Africans' strong sense of community. According to a study by Juma (2015), Africans feel a strong sense of belonging and connection to their culture and community. This sense of community provides a sense of security and support, which is essential for happiness. Juma (2015) argues that this sense of community is a result of the traditional African values of Ubuntu, which is based on the belief that people are connected to one another and that we are all part of a greater whole. This sense of community has been shown to strongly predict overall wellbeing in Africa.

The high happiness index in Africa has also been linked to strong family ties in the continent. In a study by Mwamburi (2013), it was found that African families are very close and that this closeness provides a sense of security and support to individuals. This sense of security and support is essential for happiness. Mwamburi (2013) further argues that the strong family ties in Africa are a result of the traditional African values of respect for elders and the importance of family.

In addition to the strong sense of community and family ties, the high happiness index in Africa has also been linked to the strong religious values in the continent. According to a study by Karim (2019), religion plays an important role in the lives of many Africans, providing them with a sense of purpose and hope. Karim (2019) argues that religion enables individuals to cope with the hardships of life and provides them with a sense of direction and meaning. This sense of purpose has been shown to strongly predict overall wellbeing in Africa.

Finally, the high happiness index in Africa has been linked to the continent's natural beauty. According to a study by Oladapo (2018), the natural beauty of Africa provides individuals with a sense of awe and wonder, which is essential for happiness. Oladapo (2018) further argues that Africa's natural beauty helps create a sense of connection to the environment, which is essential for overall wellbeing.

In conclusion, the high happiness index in Africa is attributed to a number of factors, including the strong sense of community, strong family ties, strong religious values, and the continent's natural beauty. These factors provide individuals with a sense of security, support, purpose, and connection, which are essential for overall wellbeing and happiness.

2.7 Australia

Australians enjoy a high level of happiness, with the population consistently ranking among the top countries in the world in terms of overall happiness and satisfaction. According to the latest World Happiness Report (2019), Australia ranked 10th out of 156 countries, with a score of 7.3 out of 10. This is the highest ranking that Australia has achieved since the report began in 2012, suggesting that the country's citizens are generally content with their life. Research has been conducted to explore the reasons for this high level of happiness in Australia and the various factors that contribute to it.

One of the key factors that contribute to the high level of happiness in Australia is the country's economic prosperity. Australia's economy has grown steadily over the past few decades, with the Gross Domestic Product (GDP) per capita increasing steadily (Australian Bureau of Statistics, 2019). This is likely to have contributed to the population's sense of security, with citizens feeling more financially secure and able to enjoy a better quality of life.

In addition to economic prosperity, Australia's strong sense of community also contributes to its high level of happiness. Australians are known for their strong sense of social connection, emphasizing family, friends, and neighbors. This sense of connectedness is likely to contribute to a sense of social support, which can lead to higher levels of happiness and satisfaction. This is supported by research that has found that social networks are a key factor in predicting overall life satisfaction.

Australia's high level of happiness is also likely to be due to the country's strong social safety net. Australians enjoy a range of welfare benefits, such as access to free health care and education, as well as access to unemployment benefits and social security payments. This provides citizens with a sense of security and can lead to higher levels of happiness, as people are not as worried about their economic security.

Finally, the high level of happiness in Australia is also likely to be due to the country's high quality of life. Australia has a relatively low population density, with vast areas of natural beauty and a wide variety of wildlife. Australians also enjoy a range of leisure activities, such as swimming, surfing, camping, and bushwalking. This is likely to contribute to a sense of wellbeing, as people are able to spend time in nature and enjoy a range of activities[10].

2.8 Asia-Japan and South Korea

In recent years, Asia has experienced a significant rise in levels of subjective wellbeing. This trend is particularly prominent in the East Asian countries of Japan and South Korea. In a study of the happiness and life satisfaction of the Japanese population, Takahashi, Kawachi, and Subramanian (2015) reported that the average self-reported life satisfaction of their sample was relatively high, with 58.7% of the participants reporting high levels of life satisfaction. Similarly, in a study of happiness in South Korea, Kim, Hui, and Lee (2011) reported that the average life satisfaction of the South Korean population was relatively high, with 73.2% of the participants reporting high levels of life satisfaction.

The increased levels of happiness in these countries can be attributed to various factors. One likely factor is the strong emphasis on the importance of family in Asian cultures. In both Japan and South Korea, the family is the central unit of society, and the importance of family is highly valued. As such, family ties are often seen as an important source of emotional support and social support linked to higher happiness levels. Additionally, both Japan and South Korea have strong social safety nets, providing financial security and healthcare access to their citizens. This is also likely to contribute to increased levels of happiness, as financial security has been linked to higher levels of life satisfaction.

Another likely factor contributing to the increased levels of happiness in Japan and South Korea is the high degree of social cohesion in these countries. Social cohesion is defined as the "degree of interdependence between individuals within a society". The Japanese and South Korean societies have highly developed social cohesion systems characterized by strong norms of mutual respect, trust, and cooperation. This has likely contributed to increased levels of happiness in both countries, as social cohesion has been linked to higher levels of subjective wellbeing.

Finally, the high levels of happiness in Japan and South Korea can be attributed to the high degree of economic development in these countries. Both countries have experienced significant economic growth in recent decades, leading to increased prosperity and improved living standards. This is likely to have contributed to increased levels of happiness, as increased wealth has been linked to higher levels of life satisfaction. The above authors analyzed the influencing factors of happiness index in terms of above factors.

Level of economic development is not the only determinant of happiness, but it is a critical one.

It is paradoxical that a country with a developed economy has a low level of happiness. If the happiness index of a country is low, then the country's economic development level still has a lot of room for improvement[11].

3. Data and methodology

3.1 Data

In this paper, the research data from the United Nations official website published 147 countries people's happiness index statistics, the use of research methods to study and summarize.

3.2 Methodology

The existing data were analyzed by matlab and it was found that the degree of fit was not ideal when trying to carry out multiple linear regression for all the data. It was speculated that different regions had different feedback on the same variable due to political, economic, cultural and other factors. Therefore, through linear regression derivation using regions as a set, it was concluded that, in addition to Saharan Africa, The Ladderscore in other regions is all tied to Logged GDP percapita, Social support, Healthy life expectancy, and Freedom to make life choices. There is a linear relationship between choices, Generosity, Perceptions of corruption or some of them. The equation is as follows in the Table 1:

Table 1: The comparison between the eight regions

Area	Equation
Central and Eastern Europe	$y=f(x_1,x_2,x_3,x_4,x_5,x_6)=14.8279-1.6208x_1+9.32589x_2-0.0942x_3+5.4382x_4-4.1317x_5+1.5393x_6$
Commonwealth of Independent States	$y=f(x_1,x_2,x_3,x_4,x_5,x_6)=-28.8337-0.2703x_1+11.2352x_2+0.3699x_3+2.9671x_4-1.3242x_5+0.6128x_6$
East Asia	$y=f(x_1,x_2,x_6)=-5.5395+0.7143x_1+2.3973x_2+2.8484x_6$
Latin America and Caribbean	$y=f(x_1,x_2,x_3,x_4,x_5,x_6)=-2.2741-0.3693x_1+0.7974x_2+0.0410x_3+2.8520x_4+2.9106x_5-1.0433x_6$
Middle East and North Africa	$y=f(x_1,x_2,x_3,x_4,x_5,x_6)=-8.3434+0.2725x_1+6.7571x_2+0.0941x_3+1.8962x_4+2.1216x_5+1.5007x_6$
North America and ANZ	$y=f(x_2)=-0.6584+8.3014x_2$
South Asia	$y=f(x_1,x_2,x_3,x_4,x_5,x_6)=-8.9697+5.8316x_2-1.6806x_4-9.2606x_6$
Southeast Asia	$y=f(x_1,x_2,x_3,x_4,x_5,x_6)=-1.669+0.7559x_1+8.4599x_2-0.1135x_3+0.4386x_4-1.3948x_5+0.3169x_6$
Western Europe	$y=f(x_2,x_6)=7.1492+0.9419x_2-2.1213x_6$

y—Ladder score

x1—Logged GDP percapita

x2—Social support

x3—Healthy life expectancy

x4—Freedom to make life choices

x5—Generosity

x6—Perceptions of corruption

In order to further the influence trend of each value on Ladder score, the parameters are shown in the table as follows in the Table 2:

Table 2: The influence trend on Ladder core

	Constant term	Logged GDP percapita	Social support	Healthy life expectancy	Freedom to make life choices	Generosity	Perceptions of corruption
Central and Eastern Europe	14.8279	-1.6208	9.32589	-0.0942	5.4382	-4.1317	1.5393
Commonwealth of Independent States	-28.8337	-0.2703	11.2352	0.3699	2.9671	-1.3242	0.6128
East Asia	-5.5395	0.7143	2.3973	-	-	-	2.8484
Latin America and Caribbean	-2.2741	-0.3693	0.7974	0.0410	2.8520	2.9106	-1.0433
Middle East and North Africa	-8.3434	0.2725	6.7571	0.0941	1.8962	2.1216	1.5007
North America and ANZ	-0.6584	-	8.3014	-	-	-	-
South Asia	-8.9697	-	5.8316	-	-1.6806	-	-9.2606
Southeast Asia	-1.669	0.7559	8.4599	-0.1135	0.4386	-1.3948	0.3169
Western Europe	7.1492	-	0.9419	-	-	-	--2.1213

Through comparison, the influence trend of Logged GDP percapita on Ladder score, Central and Eastern Europe, Commonwealth of Independent States, Latin America and Caribbean are negative influence, As the number Logged GDP percapita goes up, Ladder scores show a downward trend, The average number of Logged GDP percapita in three regions is 10.11, 9.40, 9.47, The existence belongs to the high average level; Ladder scores of North America and ANZ, South Asia and Western Europe were not significantly affected by changes in Logged GDP percapita. The average Logged GDP percapita values of these three regions were 7.091, 4.27 and 6.90, respectively. East Asia, Middle East and North Africa and Southeast Asia were positively affected by Ladder score. With the increase of Logged GDP percapita, Ladder score showed an upward trend. The average Logged GDP percapita values of these three areas were 5.88, 5.17 and 5.43, respectively. It can be concluded that the general rule is that Logged GDP percapita had a positive impact on Ladder score when it was at a lower level. However, when the value is increased to a certain level, it will no longer have a significant impact on Ladder score, and when it is further increased, it will have a negative impact. The error of data in South Asia is mainly caused by abnormal data in Afghanistan. The low nonlinearity of Afghanistan's Ladder score is mainly due to off-balance sheet factors such as war.

Social support factors have a small impact on Latin America and Caribbean, Western Europe, East Asia Ladder score, mainly because:

Healthy life expectancy has a negative effect on Central and Eastern Europe and Southeast Asia, and the average values of Healthy life expectancy in the two regions are 68.34 and 64.89, respectively. There was no significant effect on East Asia, North America and ANZ, South Asia and Western Europe. The average values of Healthy life expectancy in the four regions are 71.25, 72.33, 61.36 and 73.03, respectively. Is positive for Commonwealth of Independent States, Latin America and Caribbean, Middle East and North Africa, The average values of Healthy life expectancy in the three regions are 65.01, 67.67 and 65.61, respectively, mainly because: Freedom to make life choices has no significant or positive influence on Ladder score in all regions except South Asia, which is mainly due to the influence of extreme data Afghanistan.

Generosity has a negative impact on Central and Eastern Europe, Commonwealth of Independent States, Southeast Asia, The average value of Generosity was -0.079, -0.036, 0.156, respectively. The average Generosity values of Latin America and Caribbean, Middle East and North Africa were -0.093 and -0.080, respectively. The average values of Generosity in East Asia, North

America and ANZ, South Asia and Western Europe were -0.062, 0.12, 0.046 and -0.003, respectively. The general rule of Generosity's influence on Ladder score is that when the value is low, it has a negative influence, but becomes positive with the increase of the value. When the value exceeds a certain threshold, it no longer has an obvious influence. The deviation of the value of South Asia and East Asia should be attributed to the influence of Buddhist culture.

Perceptions of corruption have a negative impact on Latin America and the Caribbean, South Asia and Western Europe, The average Perceptions of corruption in the three regions were 0.796, 0.793 and 0.523, respectively. There was no significant impact on North America and ANZ, and the average perception of corruption was 0.449; To Central and Eastern Europe, Commonwealth of Independent States, East Asia, Middle East and North Africa, Southeast In Asia, the average Perceptions of corruption in the five regions were 0.851, 0.725, 0.683, 0.762 and 0.709, respectively.

4. Conclusion

In this paper, 147 countries are divided into regions to study, first of all, literature review analysis; Secondly, through the multiple linear regression analysis on the data of 147 countries, the influence of different changes in different regions on the same variable is discussed. Thirdly, the analysis concludes that the happiness index of a country is closely related to economic development, but also related to other factors, such as religious belief and social welfare level of public security. This paper lays a good foundation for other scholars to conduct further research.

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