ASSOCİATİON BETWEEN PEACE AND EDUCATİON AS A SİNGLE INDEX VALUE: AN EMPİRİCAL STUDY OF THE WORLD COUNTRİES

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Abstract: The recent Human Development Report, "Uncertain Times, Unsettled Lives: Shaping our Future in a Transforming World", by UNDP, argues that layers of uncertainty are stacking up and interacting to unsettle life in unprecedented ways. The last two years of the pandemic along with the Ukraine war have caused drastic socio-economic changes and influenced many lives across nations. This is very much evident in the recent Human Development Index calculated by UNDP wherein the levels are the same as were in 2016. This is a huge setback to the Sustainable Development Goals and a cause for serious concern across nations. Education promotes peace. Education has been touted as one of the most powerful tools we can implement in our global efforts to promote world peace. Confucius said it as far back as 500 B.C.: "Education breeds confidence. Confidence breeds hope. Hope breeds peace." Education encourages independent thinking, and it opens doors to new ideas. Critical thinking coupled with independent thinking could lead to innovative solutions and alternatives to violence. Education Index published by United Nations Development Programme is considered with the Peace Index published by the Institute for Economics & Peace (IEP) which measures the relative position of nations' and regions' peacefulness. In this study, a single index value was computed using Multiplication probability and Max and Min methods by combining the education and peace index. It was found that there are countries whose education index is higher but whose peace index value is lower, with differences in ranking patterns. Therefore, by finding the single index value for education and peace, it is shown that education value is directly proportional to peace. The analysis helps design policies for reinstating human confidence in the system and living a peaceful coexistence with nature.

Keywords: Education Index; Peace Index; Multiplication Probability; Maximum and Minimum method, Bland-Altman plot

1. Introduction

1.1 Human Development Index

The Human Development Report published by UNDP, "Uncertain Times, Unsettled Lives: Shaping our Future in a Transforming World", argues that layers of uncertainty are stacking up and interacting to unsettle life in unprecedented ways [1]. The last two years of the pandemic along with the Ukraine war have caused drastic socio-economic changes and influenced many lives across nations. This is very much evident in the recent Human Development Index calculated by UNDP wherein the levels were found to be the same as were in 2016 [2]. This is a huge setback to the Sustainable Development Goals and a cause for serious concern across nations. Education has been touted as one of the most powerful tools we can implement in our global efforts to promote world peace. Confucius said it as far back as 500 B.C.: "Education breeds confidence. Confidence breeds hope. Hope breeds peace." Education encourages independent thinking, and it opens doors to new ideas. Critical thinking coupled with independent thinking could lead to innovative solutions and alternatives to violence.

1.2 Education index

The Human Rights Conventions declare: "Education must prepare a child for responsible life and effective participation in a free society in a spirit of understanding, peace, tolerance, equality of sexes and friendships among all peoples, ethnic, national and religious groups and persons of indigenous origin." Education is a major component of well-being and is used in the measure of economic development and quality of life, which is a key factor determining whether a country is a developed, developing, or underdeveloped country. Education Index published by United Nations Development Programme is considered with the Peace Index published by the Institute for Economics & Peace (IEP) which measures the relative position of nations' and regions' peacefulness. The education index is an average of mean years of schooling (of adults) [3] and expected years of schooling (of children) [3], both expressed as an index obtained by scaling with the corresponding maxima.
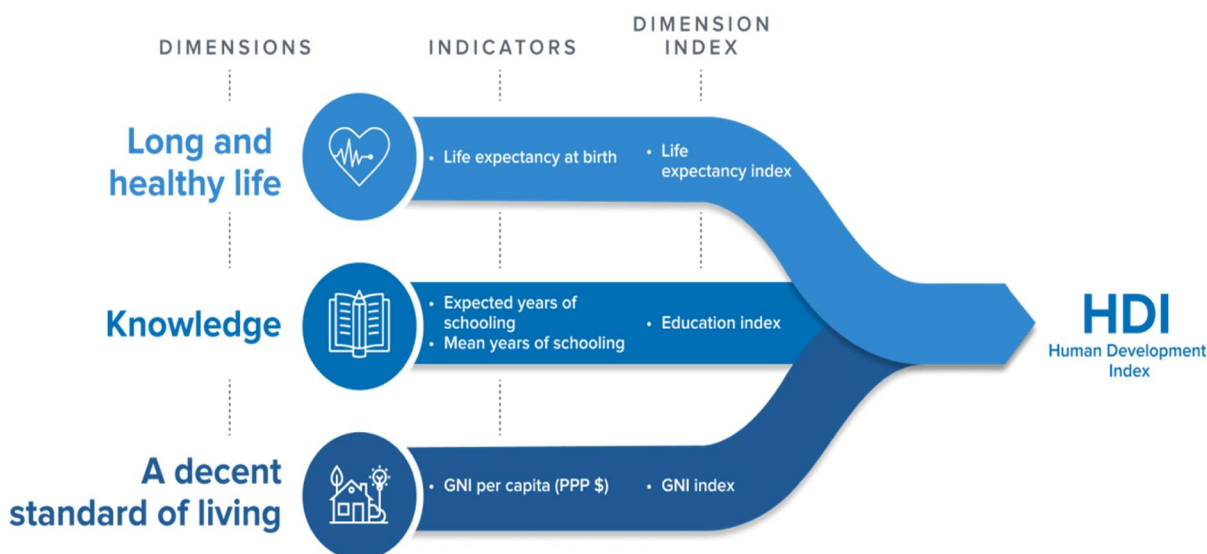
Fig 1: Human Development Index (source:https://hdr.undp.org/data-center/human-development-index#/indicies/HDI)

1.3 Calculation of Education Index

A country's education index is calculated with the following formula [4].

$$EI=(EYS/18+MYS/15)/2 ----- \rightarrow 1$$

EYS expected years of schooling, is a calculation of the number of years a student is expected to attend school or university. In most countries, a master's degree represents the highest obtainable level of education, and obtaining one reflects 18 years of education [5]. This means that if every student in a country is enrolled in a master's degree that country's EYS index would be 1.0.

MYS, mean years of schooling, is a calculation of the average number of years of education a student over the age of 25 has received. It's based on the education attainment levels of the population converted into years of schooling based on the theoretical duration of each level of education attended [6]. 15 years is the projected maximum of this indicator for 2025 and is thus used as the maximum for the index. This means that a country whose citizens all attained 15 years of education by the age of 25, would have an MYS index of 1.0.

Worldwide education indexes are provided by the UNDP's Human Development Report derived from the UNESCO Institute for Statistics and other sources. [7]

1.3 Data Collection of Education Index

Data is collected from the Human Development Report of 135 countries from the year 1990 to 2019. Data of the Education Index of each year lies between 0 to 1 which indicates that as the probability value increases the education value increases.

The ranking on Education Index is shown in Table 1 (appendix).

1.4 Peace Index

Global Peace Index (GPI) is a report produced by the Institute for Economics & Peace (IEP) which measures the relative position of nations' and regions' peacefulness. The GPI ranks 135 countries (collectively accounting for 95 percent of the world's population) according to their levels of peacefulness. It has also empirically developed the Positive Peace Index (PPI), which measures the attitudes, institutions and structures that create and sustain peaceful societies.[8]

The eight pillars of positive peace are well-functioning government, sound business environment, acceptance of the rights of others, good relations with neighbours, free flow of information, high levels of human capital, low levels of corruption, and equitable distribution of resources.

A composite index measuring the peacefulness of countries made up of 23 quantitative and qualitative indicators each weighted on a scale of 1-5. The lower the score the more peaceful the country. These 23 Indicators which are used to rank the countries are shown in Table 2. Ranked on a 1 to 5 scale, were converted by using the following formula:

x = [x - min(x)] / [max(x) - min(x)]----→2

    where max(x) and min(x) are the highest and lowest values for that indicator of the countries ranked in the index.

Table 2. Indicators of GPI ranks of countries [8]

	Indicator
1	Number and duration of internal conflict
2	Number of deaths from external organized conflict
3	Number of deaths from internal organized conflict
4	Number, duration, and role in external conflicts
5	Intensity of organized internal conflict
6	Relations with neighbouring countries
7	Level of perceived criminality in society
8	Number of refugees and displaced persons as a percentage of the population
9	Political instability
10	Impact of terrorism
11	Political terror
12	Number of homicides per 100,000 people
13	Level of violent crime
14	Likelihood of violent demonstrations
15	Number of jailed persons per 100,000 people
16	Number of internal security officers and police per 100,000 people
17	Military expenditure as a percentage of GDP
18	Number of armed-services personnel per 100,000
19	Volume of transfers of major conventional weapons as recipient (imports) per 100,000 people
20	The volume of transfers of major conventional weapons as a supplier (exports) per 100,000 people
21	Financial Contributions to UN peacekeeping missions
22	Nuclear and heavy weapons capability
23	Ease of access to small arms and light weapons

1.5 Data collection of Peace Index

Data is collected from the Global Peace Index Report of 135 countries from 2008 to 2019 [9]. Data is indicated on a scale of 1 to 5, which shows that the higher the values, the lesser the peace.

The values from a scale of 1 to 5 are required to be converted to a scale of 0 to 1 to be equivalent to the education index as it is required to study the relationship between education and peace [10].

The formula to convert the scale 1 to 5 as 0 to 1 is as follows:

$X = 1 - (x_i / Max(X))$ ----→ 3

X is a set of elements of the column such as (x1,x2,x3,…..)

The ranking on Peace Index is shown in Table 1.

1.6 Working procedure

Education index in the range of 0 to 1. Rank the countries in the descending order. It is represented as P(A).

Peace index in the range of 0 to 1. Rank the countries in the descending order. It is represented as P(B).

Since Education Index and Peace index are independent events, a single value index could be calculated as P(A)*P(B) as multiplication probability.

Find the correlation between the Education Index, Peace Index, and Single Index Value of Multiplication Probability.

The latitude and longitude of countries are plotted using the folium package of python [11].

Another method to calculate a single value index is-

Find the maximum and minimum of the education index which is represented as max(e) and min(e)

Find the maximum and minimum of the peace index which is represented as max(p) and min(p)

The single index value is calculated as

$X(e) - min(e)/(max(e) - min(e)) * X(p) - min(p)/(max(p) - min(p))$ -----→ 4

Where X(e) is the set of values of the education index and X(p) is the set of values of the peace index.

Find the correlation between the Education Index, Peace Index, and Single Index Value of the Maximum and Minimum methods.

The ranking of the Education index, Peace Index, Ranking of Multiplication Probability, and Max and Min Methods showed in Table1.

1.7 Result and Analysis

Education Index

The ranking of countries on the education index is shown in table 1. Countries plotted in the map using table 3 with the following range:

Table 3. Range based on the education index

Range	Number of countries	Colour
0-0.5	44	Red
0.5001-0.75	63	Orange
0.7501-0.8	11	Blue
>0.8	17	Green
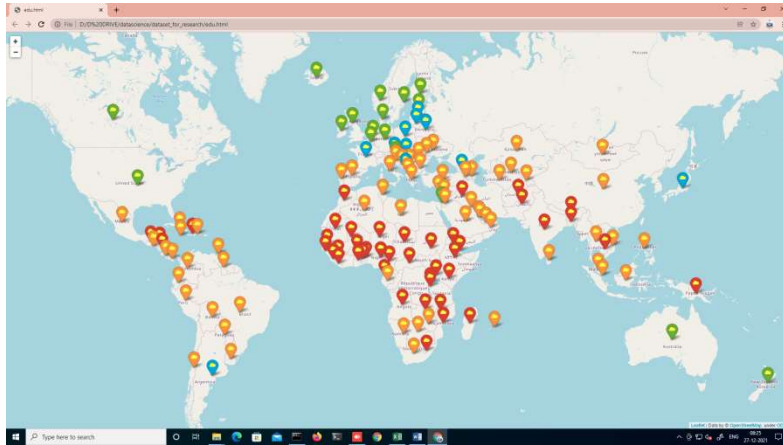
Fig. 2. Education Index values of different countries

Ranking of countries on Peace index is shown in the table 2. Countries plotted in the map using the table 4 with the following range.

Table 4. The above-mentioned countries in the table 1 are plotted in the map using the following range for the Peace Index.

Range	Number of countries	Colour
0-0.3	14	Red
0.300001-0.500000	84	Orange
0.500001-0.600000	27	Blue
>0.600001	10	Green

Fig. 3. Peace Index values of different countries

3.1 Single Index Value for Education and Peace using Multiplication probability

Ranking of countries on Peace and education index using Multiplication probability is shown in table 1.

3.1.1 Correlation Analysis

The correlation between Education, Peace and the single index value of multiplication probability is shown in Table 5.

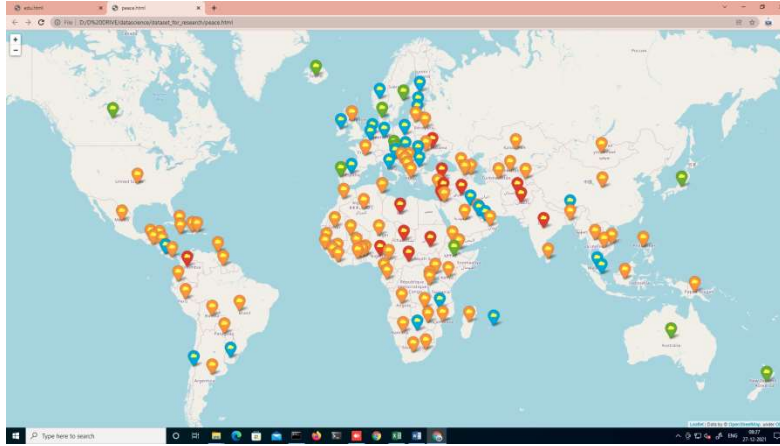Table 5: Correlation between Education & Peace Index

	Education	Peace	Single Index Value of Multiplication Probability
Education	1	0.533278	0.875473
Peace	0.533278	1	0.84597
Single Index Value of Multiplication Probability	0.875473	0.84597	1

It could be concluded that by converting the education and peace index as a single index value education and peace are highly positively correlated with the Single Index Value of Multiplication Probability.

The above-mentioned countries are plotted on the map using the following range for the Single index value of multiplication probability shown in Table 6.

Table 6. Range of single index value of multiplication probability

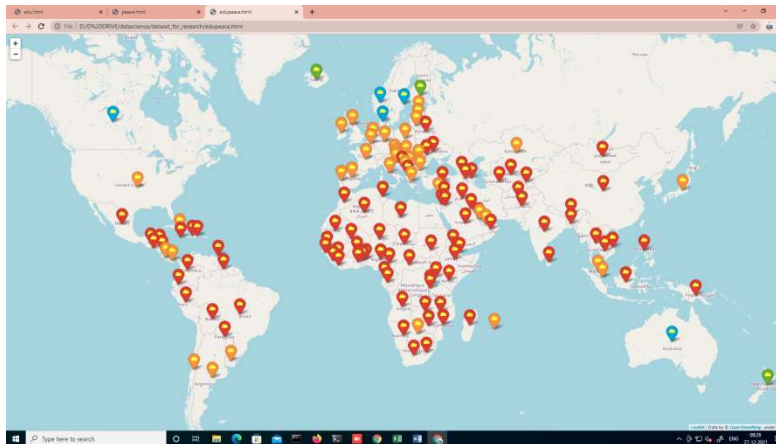| Range	Number of countries	Colour
0-0.3	89	Red
0.300001-0.500000	38	Orange
0.500001-0.600000	6	Blue
>0.600001	2	Green

Fig 4. Plotting of Range for Single index value of multiplication probability

3.2 Single index value using Max and Min Method

Ranking of countries on Peace and education index using Max and Min method is shown in table 2.

3.2.1 Correlation Analysis

The correlation between Education, Peace and the single index value of Max and Min method probability is shown in Table 1.

Table 7. The table shows the correlation of single index values using the Max and Min method

	Education	Peace	Single index value of using Max and Min method
Education	1	0.533278	0.887106
Peace	0.533278	1	0.816104
single index value using Max and Min method	0.887106	0.816104	1

It could be concluded that by converting the education and peace index as a single index value education and peace are highly positively correlated with Education & Peace. Therefore, based on the above conclusion, Table 8 is shown:

Table 8. The above-mentioned countries are plotted in the map using the following range for single index value using Max and Min method

Range	Number of countries	Colour
0-0.3	57	Red
0.300001-0.600000	56	Orange
0.600001-0.800000	15	Blue

>0.800001	7	Green
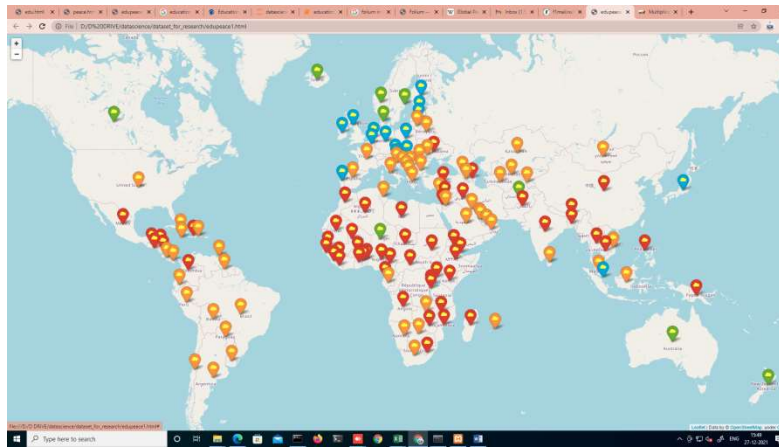
Fig 5. Plotting of range for single index value using Max and Min method

4. Comparison of the two methods

The correlation between the single index value of multiplication probability and the single index value of the max and min method is 0.998239.

Table 9. The range between the single index value of multiplication probability and the single index value of the max and min method.

Multiplication Probability		Max and Min Method	
Range	Number of countries	Range	Number of countries
0-0.3	89	0-0.3	57
0.300001-0.500000	38	0.300001-0.600000	56
0.500001-0.600000	6	0.600001-0.800000	15
>0.600001	2	>0.800001	7

R^2 score is 0.70013 and the Correlation is 0.8608 between the two methods.

A Bland-Altman plot [12] is used to visualize the differences in measurements between the two methods and their values are shown in table 10. A Bland–Altman plot (difference plot) in analytical chemistry or biomedicine is a method of data plotting used in analyzing the agreement between two different assays.[13,14]

Table 10. The Bland-Altman value between the two methods.

Mean of method 1	33.75

Mean of method 2	33.75
N	4
DoF	3
Mean Diff (Bias)	0
SD Diffs	19.065
Lower LoA	-37.368725
Upper LoA	37.368725
Within Subject SD	13.481469
Repeatability Coefficient	37.368725
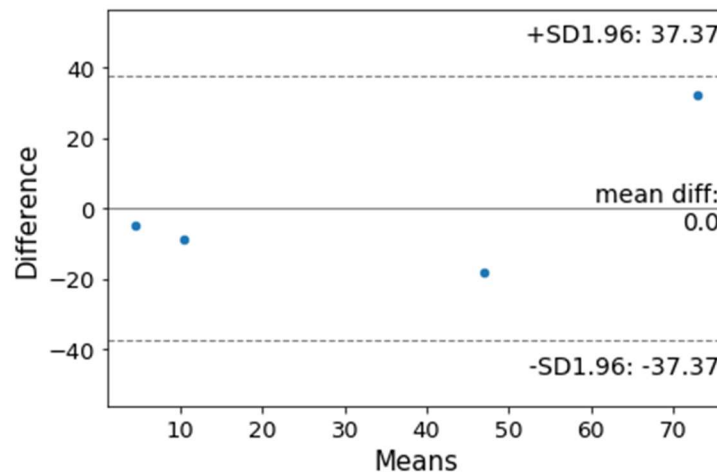
Fig 6. Mean difference of countries in Bland Altman plot.

The average difference turns out to be 0 and the 95% confidence interval for the average difference is [-37.37, 37.37].

The data is normally distributed since all the points lie within two standard deviations of the mean and the repeatability coefficient is 37.368725 which is the precision measure.

Since the average difference is 0 there is no significant difference between the two methods. Therefore, either of the methods could be used for calculating multiplication probability.

5. Discussion

Education is a significant contributor to peace and appears in two of the 24 indicators in the Positive Peace Index produced by the Institute for Economics and Peace.

Education can lead to peace and help build peaceful communities and thereby peaceful nations [15]. Education in many ways is a fundamental building block through which societies can build resilience and develop mechanisms to learn and adapt. Mean years of schooling are closely associated with the most peaceful countries

[9]. The focus on how peace leads to better education is evidenced in post-war countries and therefore both are inseparable. The suggested method of Single index value is for categorizing countries to consider the indicators for ranking of countries and a significant difference in ranking is observed for both indices as it is given by different agencies. In this study, the ranking of the countries varied with the use of Multiplication probability for a single value. The findings of this study reflect that by using a single method to combine both the education index and peace index the country's rankings can provide useful insights into the correlation between both indices. Therefore, by finding the single index value for education and peace it is shown that education value is directly proportional to peace.

6. Conclusion

The single index value of multiplication probability and the Single index value of Max and Min shows that the two methods are efficient and precise. Even though there are countries where the education index is good, peace is low. It is being plotted on the map for better visualization and information.

As educational values were given more importance in the countries such as New Zealand, Iceland, Denmark, Australia, Canada, Norway, Sweden, Finland, and so on, internal, and external conflicts are very less and found peacefulness in the country.[9]

There are countries such as Israel and the United States where education is best, but the peace index is low because of external/internal conflicts. This is suggestive that countries should focus on increasing their peace index value in correlation to their education index for better ranking in both. These countries should focus on educational values in order to increase the peace index.

The study on education and peace index as a single index value provides information that education is proportional to peace, and it is important to increase the education index for ensuring peace.

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Supplementary material
Table1: Education & peace Index values based on results of two methods

Country	Education Index		Peace Index		Multiplication Probability		Max and Min Method	
	Education	rank_edu	Peace	rank_peace	EduPeace	rankedu_peace	Edupeace1	Rank_max_min
New Zealand	0.878766667	3	0.64899	2	0.570311	1	0.920233	1
Iceland	0.8199	15	0.683274	1	0.560216	2	0.894368	2
Denmark	0.845766667	8	0.647025	3	0.547232	3	0.875558	3
Australia	0.8988	1	0.604079	8	0.542947	4	0.874323	4
Norway	0.8792	2	0.582703	14	0.512313	6	0.818349	5
Canada	0.839366667	11	0.613014	6	0.514543	5	0.817804	6
Sweden	0.8513	6	0.600163	10	0.510919	7	0.812902	7
Finland	0.8369	12	0.598329	12	0.500742	8	0.793498	8
Slovenia	0.8189	16	0.607032	7	0.497098	9	0.784981	9
Ireland	0.823266667	14	0.599974	11	0.493939	10	0.780052	10
Belgium	0.840733333	9	0.580193	15	0.487788	11	0.771394	11
Germany	0.856766667	5	0.562917	17	0.482289	14	0.763475	12
Austria	0.7724	22	0.628168	4	0.485197	12	0.758124	13
Japan	0.778	21	0.622827	5	0.484559	13	0.75786	14
Netherlands	0.845833333	7	0.561343	18	0.474803	15	0.749313	15

Hungary	0.757733 333	25	0.5706 6	16	0.4324 08	16	0.66617 9	16
Poland	0.7888	19	0.5442 43	22	0.4292 99	17	0.66459	17
Estonia	0.810766 667	17	0.5110 81	35	0.4143 67	19	0.64108 7	18
United Kingdom	0.839566 667	10	0.4831 62	43	0.4056 47	21	0.62831 7	19
Singapore	0.6961	40	0.5958 64	13	0.4147 81	18	0.62755 3	20
Portugal	0.680633 333	45	0.6040 16	9	0.4111 14	20	0.61887 7	21
Latvia	0.7668	24	0.5220 71	29	0.4003 24	22	0.61266 7	22
Lithuania	0.7933	18	0.4922 38	40	0.3904 93	25	0.59841 5	23
Spain	0.7388	30	0.5298 94	25	0.3914 86	24	0.59452 7	24
Romania	0.6997	39	0.5609 14	19	0.3924 72	23	0.59102 6	25
Bulgaria	0.715366 667	36	0.5313 51	24	0.3801 11	26	0.57253 4	26
Chile	0.7089	37	0.5294 75	26	0.3753 45	27	0.56374 4	27
Italy	0.725633 333	33	0.5010 63	37	0.3635 88	28	0.54604 3	28
France	0.756433 333	26	0.4756 68	45	0.3598 11	29	0.54273 6	29
Croatia	0.684866 667	43	0.5192 47	31	0.3556 15	30	0.52783 8	30
Uruguay	0.680733 333	44	0.5197 72	30	0.3538 26	31	0.52433 5	31
Cyprus	0.7172	35	0.4741 13	46	0.3400 34	34	0.50564 8	32
Montenegro	0.769352 941	23	0.4346 61	69	0.3344 07	35	0.50053 6	33
Malaysia	0.625933 333	60	0.5498 24	21	0.3441 53	32	0.50027 3	34

Qatar	0.6162	67	0.556017	20	0.342618	33	0.496111	35
Argentina	0.7529	28	0.436115	67	0.328351	36	0.489057	36
Greece	0.7317	32	0.436943	66	0.319711	39	0.472826	37
Mauritius	0.6093	70	0.537759	23	0.327656	37	0.470994	38
Kazakhstan	0.7364	31	0.42665	72	0.314185	41	0.463877	39
United States	0.8728	4	0.355289	105	0.310096	43	0.462817	40
Costa Rica	0.6209	63	0.517412	33	0.321261	38	0.462662	41
United Arab Emirates	0.6237	61	0.510916	36	0.318659	40	0.458913	42
Serbia	0.701466667	38	0.441226	62	0.309505	44	0.453174	43
Botswana	0.593466667	73	0.524614	27	0.311341	42	0.442359	44
Cuba	0.719	34	0.419744	74	0.301796	46	0.441747	45
Panama	0.636233333	57	0.477189	44	0.303604	45	0.436395	46
Belarus	0.75572	27	0.383993	90	0.290191	52	0.424482	47
Moldova	0.656666667	51	0.447584	58	0.293914	48	0.423053	48
Albania	0.6388	55	0.459766	52	0.293699	49	0.420682	49
Kuwait	0.570966667	77	0.523292	28	0.298782	47	0.418643	50
Oman	0.62035	64	0.472412	49	0.293061	50	0.41733	51
Mongolia	0.6192	65	0.472545	48	0.2926	51	0.416437	52
Jordan	0.655866667	52	0.439366	63	0.288165	53	0.413582	53

Bosnia and Herzegovina	0.63695	56	0.448436	56	0.285631	54	0.407407	54
Trinidad and Tobago	0.658733333	48	0.413806	76	0.272588	55	0.38841	55
Peru	0.643466667	54	0.412875	78	0.265671	56	0.375738	56
Bolivia	0.6223	62	0.418287	75	0.2603	57	0.36497	57
Ecuador	0.618433333	66	0.410232	82	0.253701	59	0.353985	58
Bahrain	0.656666667	50	0.381537	91	0.250543	61	0.352218	59
Sri Lanka	0.6935	41	0.358975	102	0.248949	64	0.351955	60
Uzbekistan	0.6716	46	0.370792	98	0.249024	63	0.350772	61
Indonesia	0.532933333	87	0.484096	42	0.257991	58	0.348918	62
Jamaica	0.612	69	0.407639	84	0.249475	62	0.346569	63
Armenia	0.690566667	42	0.35303	107	0.243791	67	0.343244	64
Tunisia	0.557333333	81	0.449752	55	0.250662	60	0.341673	65
Brazil	0.592733333	74	0.41163	81	0.243987	66	0.335796	66
Tajikistan	0.652233333	53	0.367513	100	0.239704	72	0.334216	67
Georgia	0.7817	20	0.301892	120	0.235989	75	0.332881	68
Namibia	0.532666667	88	0.463669	50	0.246981	65	0.332147	69
Gabon	0.5658	79	0.429413	70	0.242962	70	0.330921	70
Paraguay	0.554866667	82	0.438855	64	0.243506	68	0.330264	71
Turkmenistan	0.631	58	0.374325	95	0.236199	74	0.326968	72

Dominican Republic	0.579066 667	76	0.4129 97	77	0.2391 53	73	0.32662 7	73
Vietnam	0.514733 333	89	0.4730 16	47	0.2434 77	69	0.32371 1	74
Zambia	0.488366 667	92	0.4940 41	39	0.2412 73	71	0.31522 1	75
Guyana	0.563133 333	80	0.4124 6	79	0.2322 7	76	0.31397 6	76
South Africa	0.656966 667	49	0.3448 09	108	0.2265 28	78	0.31301 3	77
Saudi Arabia	0.630033 333	59	0.3576 38	103	0.2253 24	79	0.30935 5	78
Ghana	0.466333 333	95	0.4964 78	38	0.2315 24	77	0.29620 9	79
Azerbaijan	0.66224	47	0.3218 78	113	0.2131 61	82	0.29141 6	80
Nicaragua	0.4774	93	0.4468 1	59	0.2133 07	81	0.27228 1	81
Ukraine	0.7444	29	0.2677 13	123	0.1992 85	85	0.27013 9	82
Lesotho	0.469666 667	94	0.4478 37	57	0.2103 34	83	0.26650 7	83
Bhutan	0.418933 333	105	0.5177 43	32	0.2169	80	0.26362 7	84
China	0.534233 333	86	0.3718 2	97	0.1986 39	86	0.25889 8	85
Madagascar	0.46235	96	0.4444 41	60	0.2054 87	84	0.25813 1	86
Algeria	0.547033 333	85	0.3540 21	106	0.1936 61	90	0.25262 1	87
El Salvador	0.5108	90	0.3807 74	92	0.1944 99	89	0.24985 9	88
Equatorial Guinea	0.4321	101	0.4551 47	54	0.1966 69	88	0.23935 5	89
Philippines	0.598366 667	72	0.3039 26	118	0.1818 59	92	0.23791 5	90
Israel	0.827666 667	13	0.2162 97	130	0.1790 22	95	0.23427 8	91

Mexico	0.588666667	75	0.304768	117	0.179407	94	0.233527	92
Malawi	0.3878	111	0.511262	34	0.198267	87	0.229646	93
Thailand	0.549733333	83	0.32457	112	0.178427	96	0.229452	94
Togo	0.419266667	104	0.436115	68	0.182849	91	0.217582	95
Liberia	0.408761905	107	0.441278	61	0.180378	93	0.211852	96
Morocco	0.400366667	108	0.428463	71	0.171542	97	0.198163	97
Angola	0.396952381	110	0.423327	73	0.168041	98	0.192766	98
Cameroon	0.424266667	103	0.376819	94	0.159872	99	0.187333	99
Zimbabwe	0.5018	91	0.303137	119	0.152114	102	0.185873	100
Honduras	0.437966667	100	0.356763	104	0.15625	101	0.184564	101
Turkey	0.549266667	84	0.26577	124	0.145978	109	0.179536	102
Kenya	0.455333333	98	0.327248	111	0.149007	106	0.176737	103
Bangladesh	0.382266667	113	0.409067	83	0.156373	100	0.174235	104
Uganda	0.4156	106	0.359832	101	0.149546	105	0.171855	105
Libya	0.6046	71	0.230697	126	0.139479	110	0.170799	106
Lebanon	0.613733333	68	0.225446	127	0.138364	112	0.169092	107
Cambodia	0.3824	112	0.395896	88	0.151391	103	0.167885	108
Guatemala	0.397066667	109	0.370158	99	0.146977	108	0.165157	109
Haiti	0.370333333	115	0.403909	87	0.149581	104	0.162816	110

Colombia	0.5697	78	0.222767	129	0.126911	116	0.150593	111
Benin	0.340166667	117	0.40733	85	0.13856	111	0.141703	112
Rwanda	0.3438	116	0.393715	89	0.135359	114	0.138885	113
Sierra Leone	0.301666667	120	0.488127	41	0.147252	107	0.138445	114
Papua New Guinea	0.332033333	118	0.412442	80	0.136945	113	0.137539	115
Guinea-Bissau	0.371466667	114	0.337003	109	0.125186	117	0.132445	116
India	0.430333333	102	0.27604	122	0.118789	118	0.131881	117
Mozambique	0.2803	124	0.458145	53	0.128418	115	0.110517	118
Nigeria	0.448823529	99	0.22446	128	0.100743	123	0.108096	119
Senegal	0.2665	128	0.437644	65	0.116632	119	0.093649	120
Mauritania	0.302666667	119	0.336364	110	0.101806	122	0.090746	121
Djibouti	0.25584	130	0.405016	86	0.103619	120	0.077733	122
Burundi	0.280233333	125	0.309877	116	0.086838	126	0.070022	123
Eritrea	0.2742	126	0.317093	114	0.086947	125	0.068607	124
Ethiopia	0.28045	123	0.300026	121	0.084142	127	0.067449	125
Burkina Faso	0.22225	133	0.462504	51	0.102792	121	0.061217	126
Guinea	0.2387	132	0.379095	93	0.09049	124	0.060136	127
Iraq	0.457166667	97	0.143706	132	0.065698	128	0.058752	128
Chad	0.24425	131	0.251449	125	0.061416	130	0.038926	129

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Mali	0.2041	134	0.311628	115	0.063603	129	0.028687	130
Sudan	0.2633	129	0.167062	131	0.043988	132	0.026974	131
Pakistan	0.300066667	121	0.123187	134	0.036964	134	0.022059	132
Central African Republic	0.2728	127	0.136697	133	0.037291	133	0.021472	133
Niger	0.151866667	135	0.371867	96	0.056474	131	0	134
Afghanistan	0.289833333	122	0.053129	135	0.015398	135	0	135