

Life Expectancy

Group 12

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Introduction

This data consists of developed and developing countries with a varying degree of life expectancy which is dependent on various factors which we try to determine using our analysis techniques. This project will help in suggesting a country which area should be given importance in order to improve the life expectancy of its population



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- Objectives
- Data Source
- Variable Descriptions
- Descriptive Statistics
- Findings

Part B:

- Correlation matrix
- Scatterplots
- Multiple regression
- Hypothesis testing

Part A

Descriptive Analysis of Our Variables

Objectives:

The objective of this part is to understand the statistics of our variables so that we may shed more light on which variables we analyzed further and to determine which variables might be helpful in determining/predicting Life Expectancy.



Data Source:

The dataset related to life expectancy, health factors for 184 countries has been collected from the same World Health Organization (WHO) data repository website and its corresponding economic data was collected from United Nation website. In this project, we focus on the data on 2000 and 2015 for 184 countries for economic, mortality and other health related analysis.



**World Health
Organization**

Data Source:

<https://www.who.int/>

<https://www.kaggle.com>

<https://data.worldbank.org>

Description of Variables

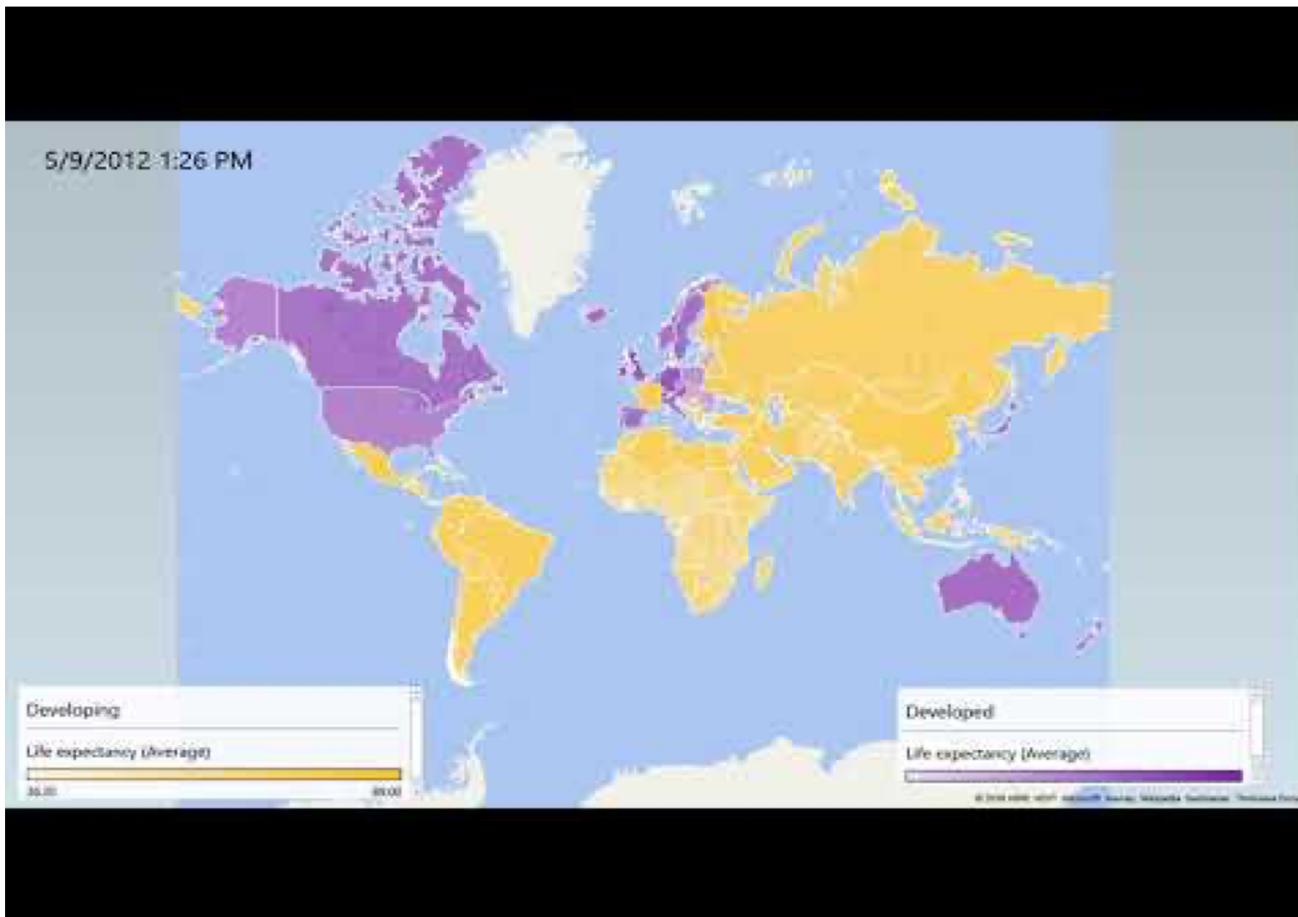
Variable	Data Type	Description
Country	Qualitative	Name of countries
Year	Quantitative	Year of data
Status	Qualitative	Developed/Developing country
Life Expectancy	Quantitative	Life expectancy in age
Adult Mortality	Quantitative	Adult mortality rates of both sexes (probability of dying between 15-60 years per 1000 population)
Alcohol	Quantitative	Recorded per capita (15+) consumption (in litres of pure alcohol)
Percentage Expenditure	Quantitative	Expenditure on health as a percentage of GDP per capita (%)
BMI	Quantitative	Average Body Mass Index of entire population
Polio	Quantitative	Polio immunization coverage among 1 year olds (%)

Variable	Data Type	Description
Total Expenditure	Quantitative	General government expenditure on health as a percentage of total government expenditure (%)
Diphtheria	Quantitative	Diphtheria tetanus toxoid and pertussis (DTP3) immunization coverage among 1 year olds (%)
GDP	Quantitative	Gross Domestic Product per capita (in USD)
Population	Quantitative	Population of the country
Schooling	Quantitative	Number of years of schooling (years)
Smoking Prevalence	Quantitative	The percentage of men & women ages 15+ who currently smoke any tobacco product on a daily/non-daily basis.
CHE per capita	Quantitative	Current Health expenditure per capita (in USD)
CHE as percentage of GDP	Quantitative	Current health expenditure (CHE) as percentage of gross domestic product (%)
GGHE-D as percentage of GGE	Quantitative	Domestic general government health expenditure as percentage of general government expenditure (%)

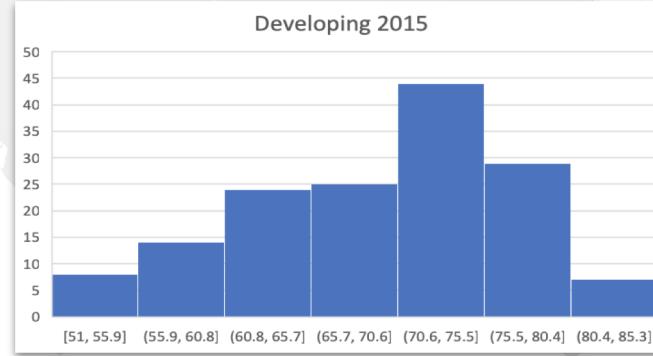
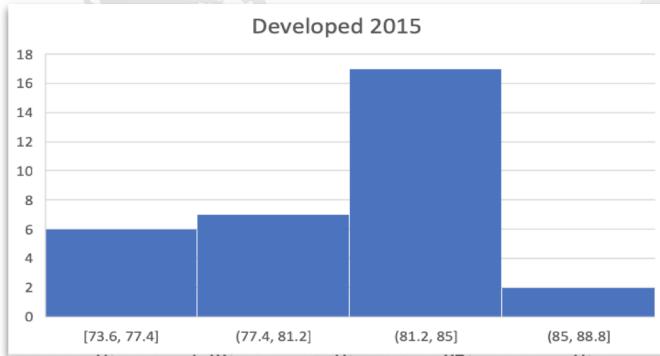
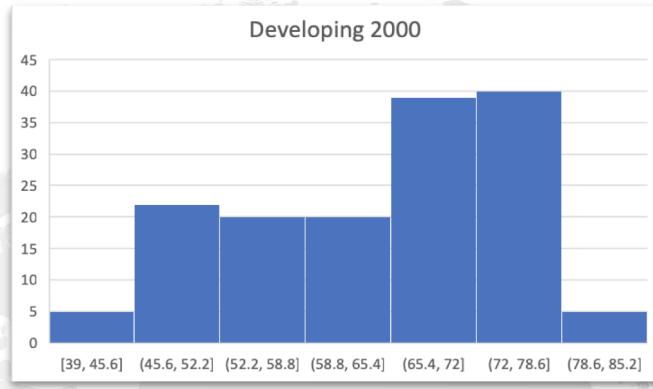
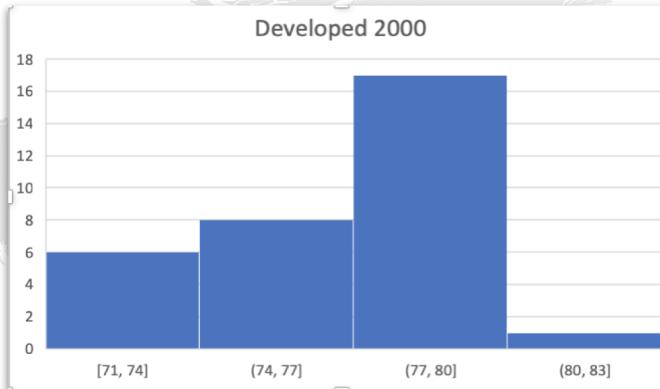
About Data

- ❑ Population of Interest: The population of interest is Life Expectancy data for 184 countries taken in the year 2000 and 2015.
- ❑ Our sample is not a random sample, it is two samples, one taken from the year 2000 and one taken from the year 2015 for all countries, which would mean data of 184 countries for the year 2000 & 184 countries for the year 2015.
- ❑ This is representative of our Population of Interest.

Variable Description- Life Expectancy(Time Series Map)



Life Expectancy

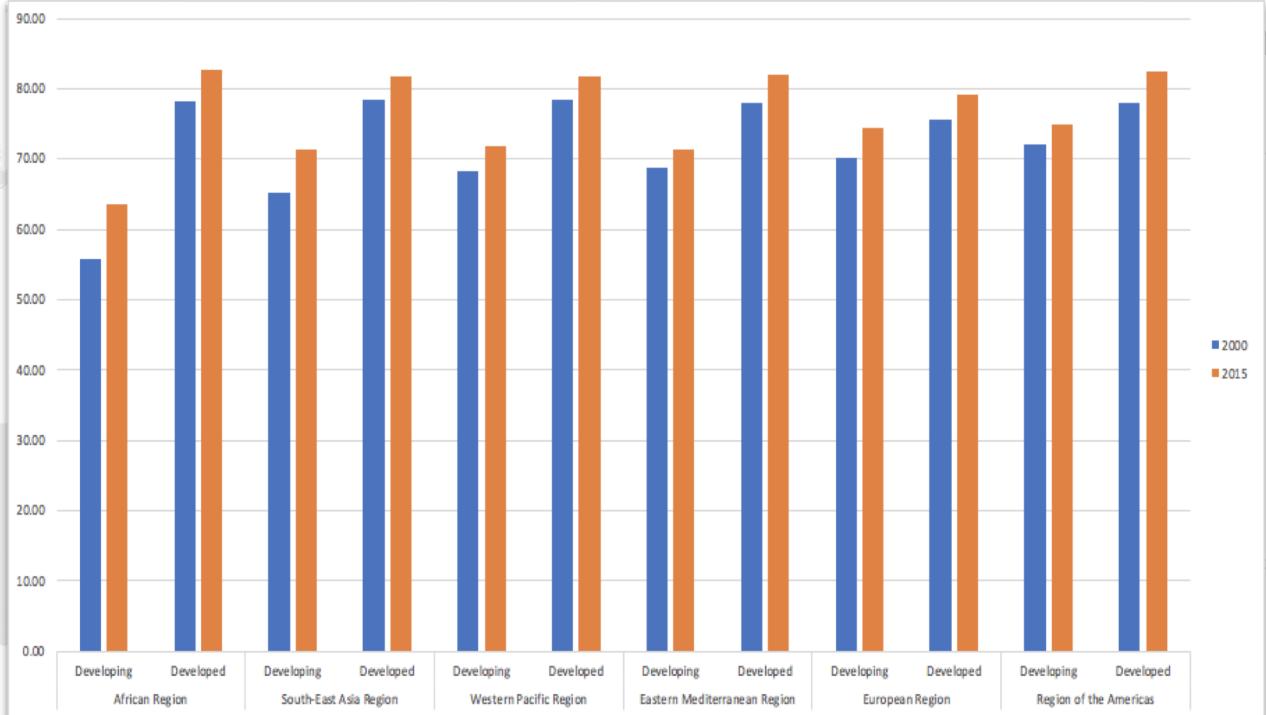


From map and histogram:

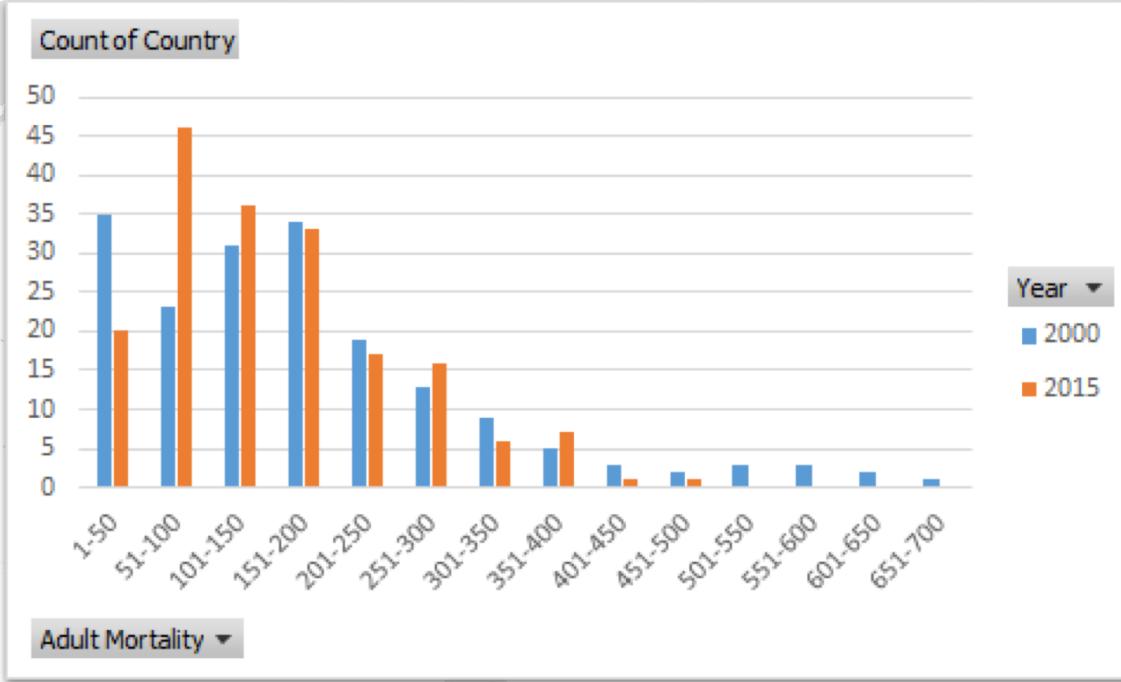
- The median and mean of life expectancy on developed countries are higher than developing countries
- The range of developing countries is larger than developed countries

Variable Description- Life Expectancy(Pivot charts/tables)

Average of Life expectancy		Year	▼
Countries		2000	2015
African Region		58.37	65.68
⊕ Developed		78.27	82.67
⊕ Developing		55.79	63.48
Eastern Mediterranean Region		69.89	72.61
⊕ Developed		77.90	82.05
⊕ Developing		68.74	71.26
European Region		72.52	76.43
⊕ Developed		75.58	79.24
⊕ Developing		70.26	74.35
Region of the Americas		72.71	75.56
⊕ Developed		77.97	82.50
⊕ Developing		72.15	74.82
South-East Asia Region		67.04	72.70
⊕ Developed		78.35	81.75
⊕ Developing		65.30	71.31
Western Pacific Region		68.81	72.36
Grand Total		66.75	71.62



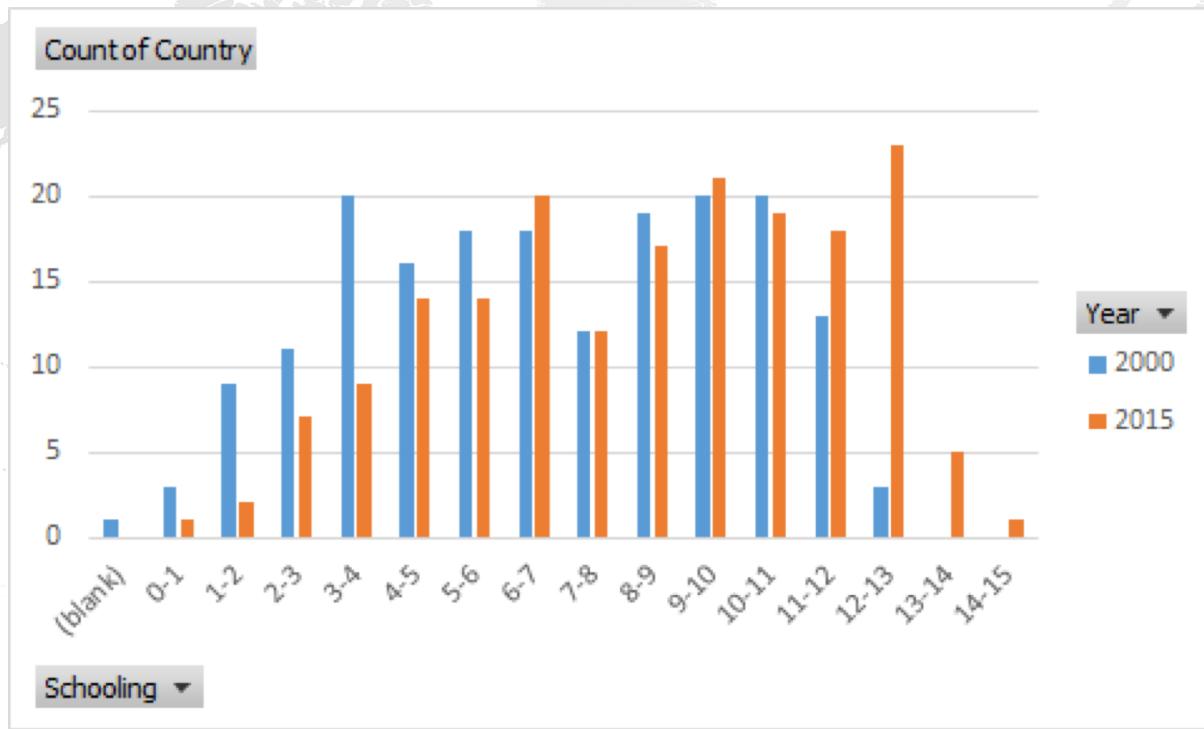
Variable Description- Adult Mortality



Adult Mortality	
One Variable Summary	
2000 LE	
Mean	181.48
Variance	19677.34
Std. Dev.	140.28
Median	155.00
Mode	11.00
Minimum	2.00
Maximum	665.00
Range	663.00

Adult Mortality	
One Variable Summary	
2015 LE	
Mean	152.86
Variance	9518.18
Std. Dev.	97.56
Median	138.00
Mode	118.00
Minimum	1.00
Maximum	484.00
Range	483.00

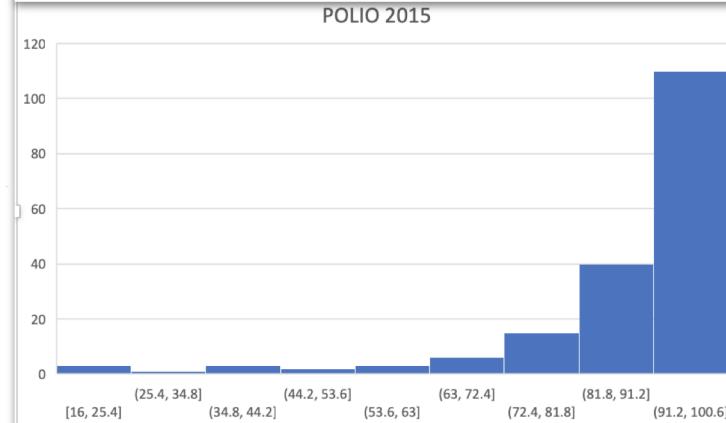
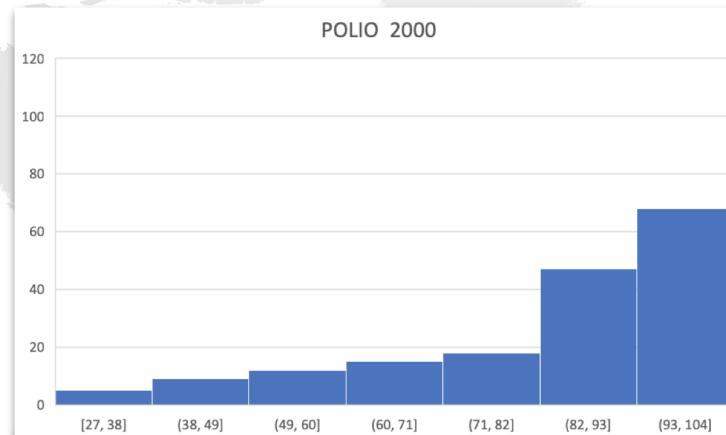
Variable Description- Schooling



	Schooling
One Variable Summary	2000 LE
Mean	6.748
Variance	9.822
Std. Dev.	3.134
Skewness	-0.0967
Kurtosis	1.9059
Median	6.700
Mean Abs. Dev.	2.697
Mode	3.300
Minimum	0.600
Maximum	12.700
Range	12.100

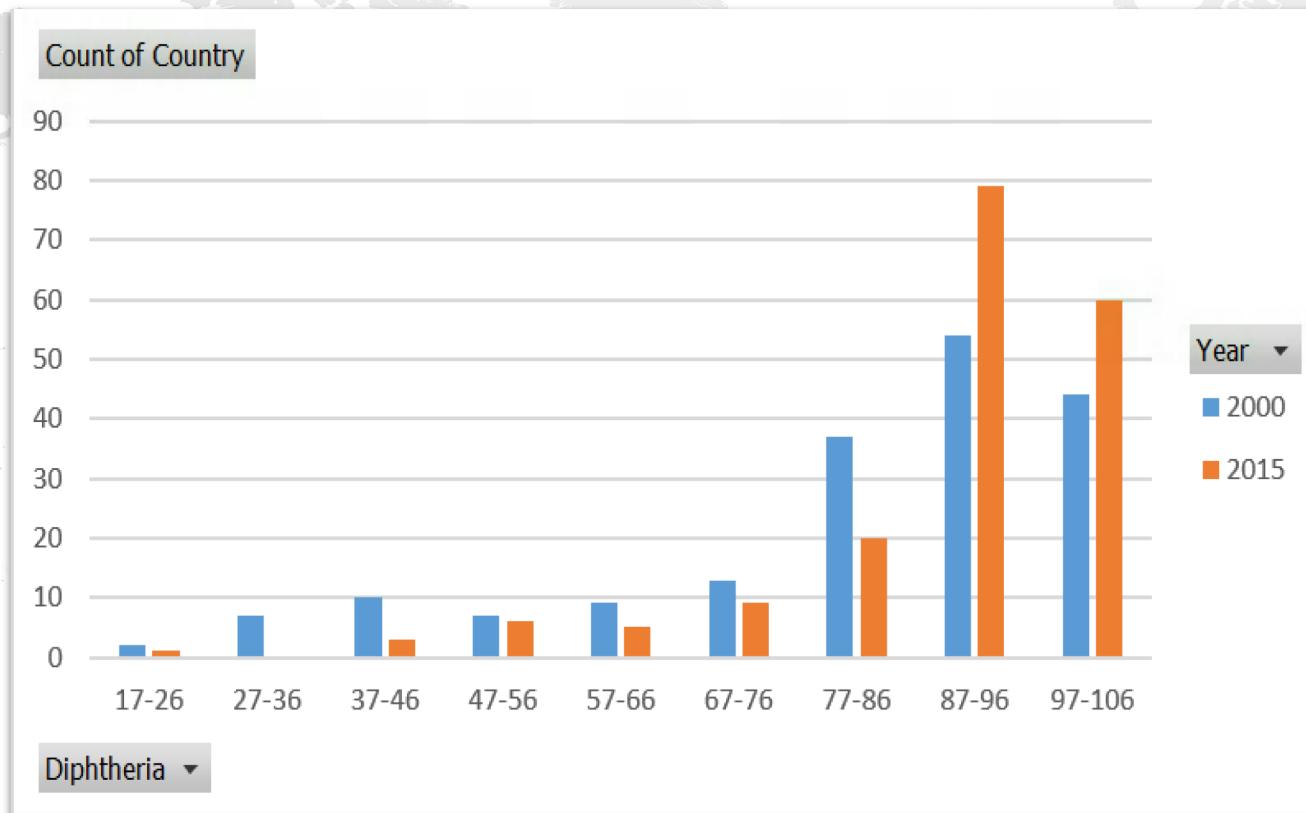
	Schooling
One Variable Summary	2015 LE
Mean	8.314
Variance	10.144
Std. Dev.	3.185
Skewness	-0.2923
Kurtosis	2.0805
Median	8.700
Mean Abs. Dev.	2.719
Mode	6.300
Minimum	0.000
Maximum	14.100
Range	14.100

Variable Description- Polio Immunization among 1 year olds (%)



One Variable Summary	
Mean	81.81
Median	89.00
Minimum	24.00
Maximum	99.00
Range	75.00
1st Quartile	71.00
3rd Quartile	97.00
Polio	
One Variable Summary	
Mean	88.42
Median	93.00
Minimum	16.00
Maximum	99.00
Range	83.00
1st Quartile	87.00
3rd Quartile	97.00

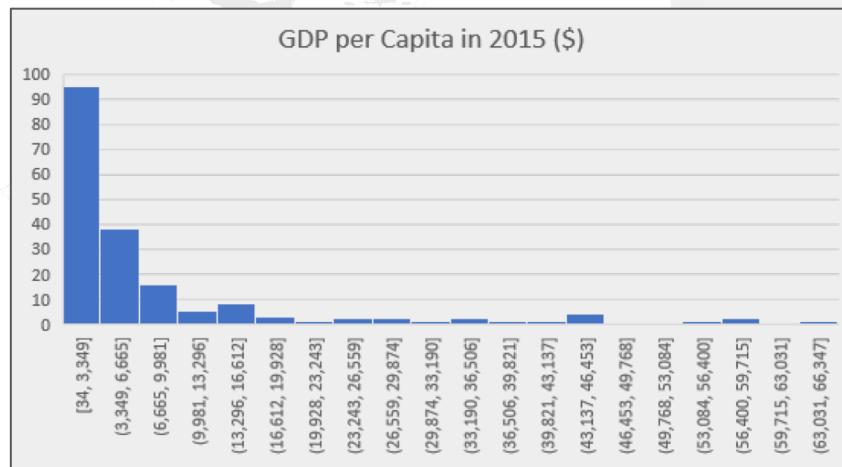
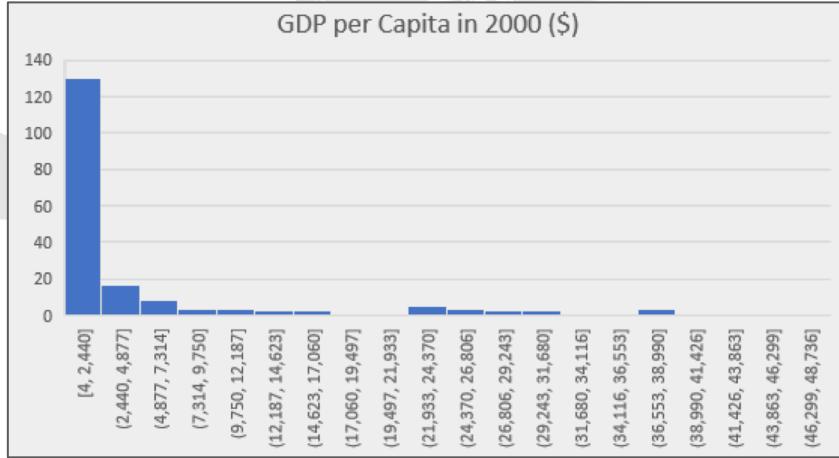
Variable Description- Diphtheria



Diphtheria	
One Variable Summary	
2000 LE	
Mean	81.30
Variance	374.48
Std. Dev.	19.35
Median	89.00
Mode	99.00
Minimum	23.00
Maximum	99.00
Range	76.00

Diphtheria	
One Variable Summary	
2015 LE	
Mean	88.63
Variance	189.46
Std. Dev.	13.76
Median	93.00
Mode	99.00
Minimum	17.00
Maximum	99.00
Range	82.00

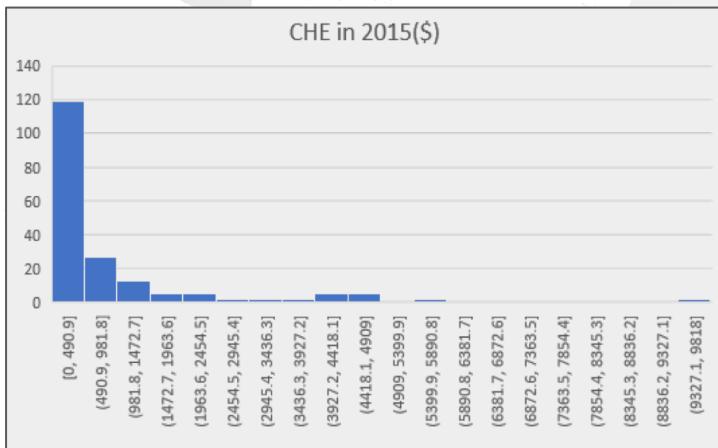
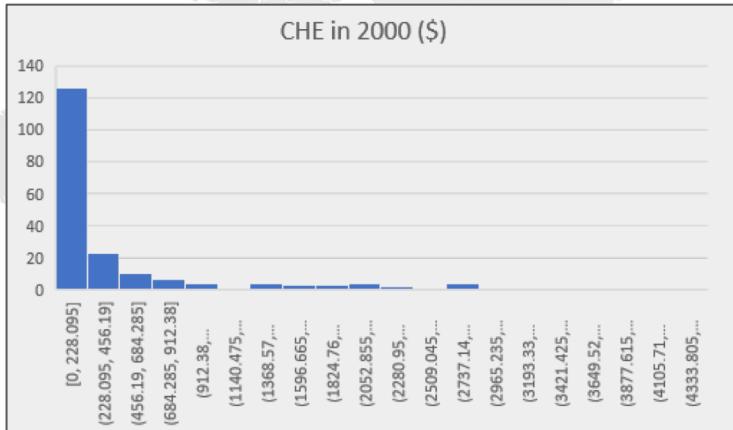
Variable Description - GDP



GDP in 2000	
One Variable Summary	
Mean	4763.17
Std. Dev.	9168.83
Median	947.00
Minimum	3.69
Maximum	48736.00
Range	48732.31

GDP in 2015	
One Variable Summary	
Mean	7522.60
Std. Dev.	12037.04
Median	3018.01
Minimum	33.68
Maximum	66346.52
Range	66312.84

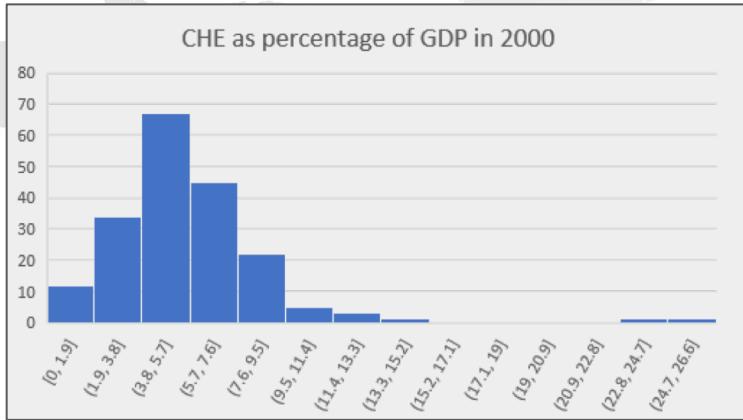
Variable Description - Current health expenditure (CHE) per capita



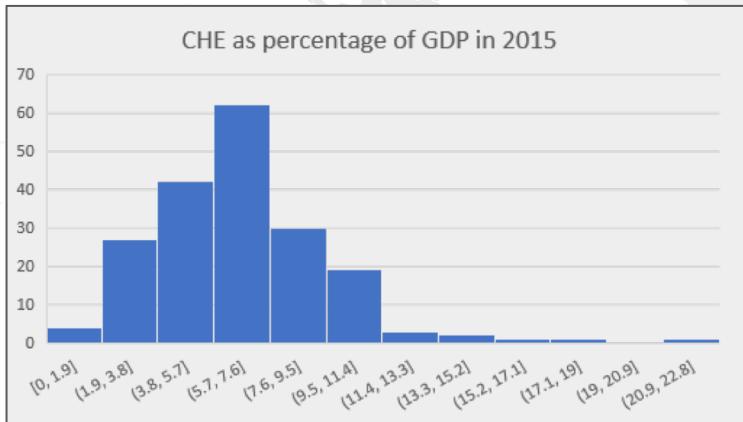
CHE in 2000	
One Variable Summary	
Mean	414.35
Std. Dev.	763.12
Median	80.20
Minimum	3.30
Maximum	4561.90
Range	4558.60

CHE in 2015	
One Variable Summary	
Mean	983.01
Std. Dev.	1689.65
Median	295.40
Minimum	16.60
Maximum	9818.00
Range	9801.40

Variable Description - Current health expenditure (CHE) as percentage of gross domestic product (GDP) (%)



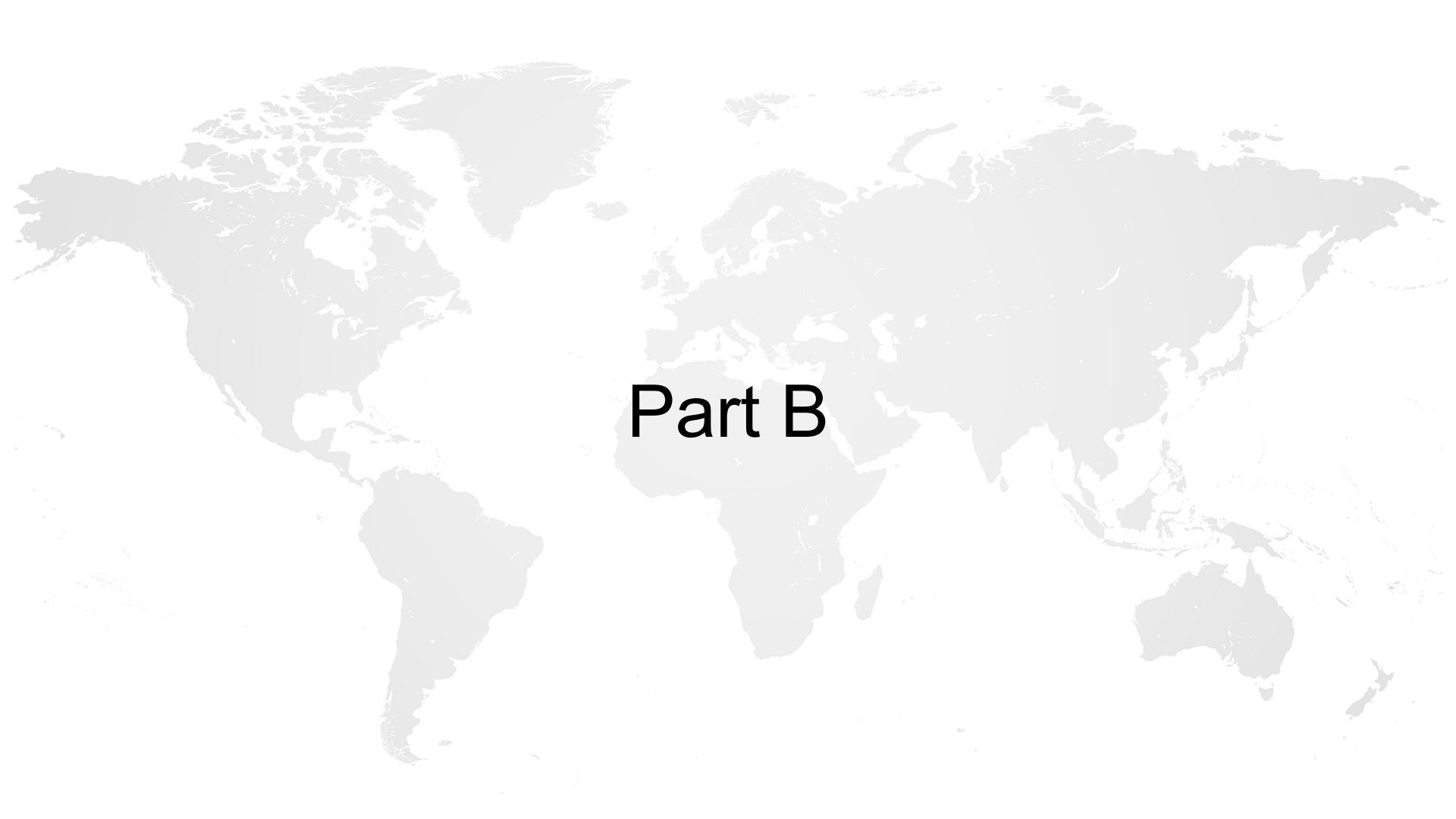
CHE of GDP in 2000	
One Variable Summary	
Mean	5.516
Std. Dev.	2.118
Median	5.200
Minimum	1.400
Maximum	12.500
Range	11.100



CHE of GDP in 2015	
One Variable Summary	
Mean	6.676
Std. Dev.	2.675
Median	6.200
Minimum	2.500
Maximum	18.300
Range	15.800

Findings

- Life expectancy of both developing and developed countries has increased in the 15 years, and developing countries' progress is more outstanding.
- Governments' financial investment to health and immunization coverage has improved in the 15 years.
- Adult mortality rates were on the drop.
- More and more countries' BMI lies within the Normal weight(18.5–24.9) range.
- Schooling was on increase means education coverage is improving.



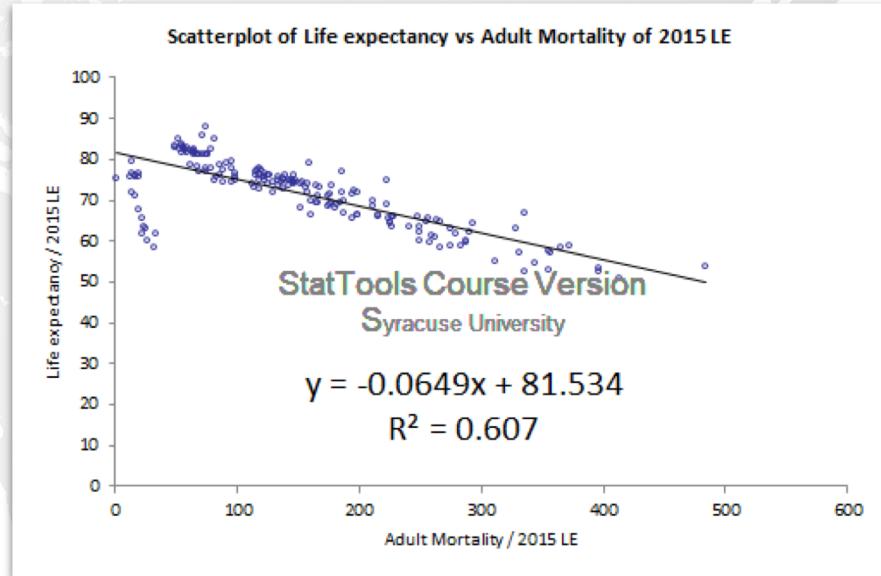
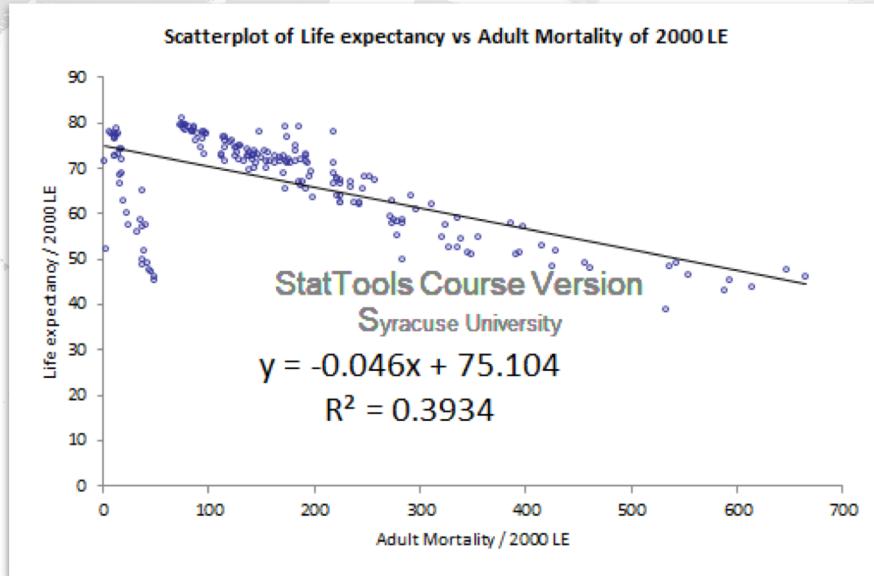
Part B

Objectives

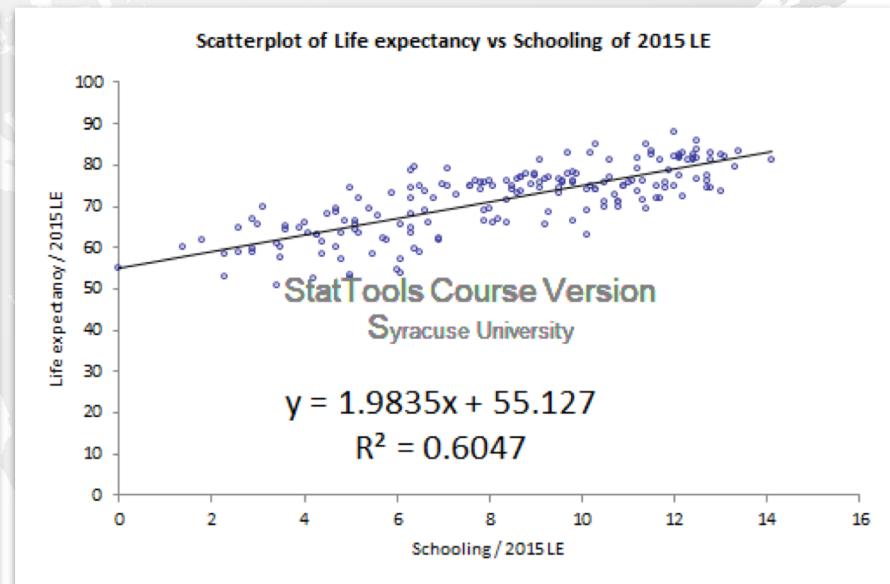
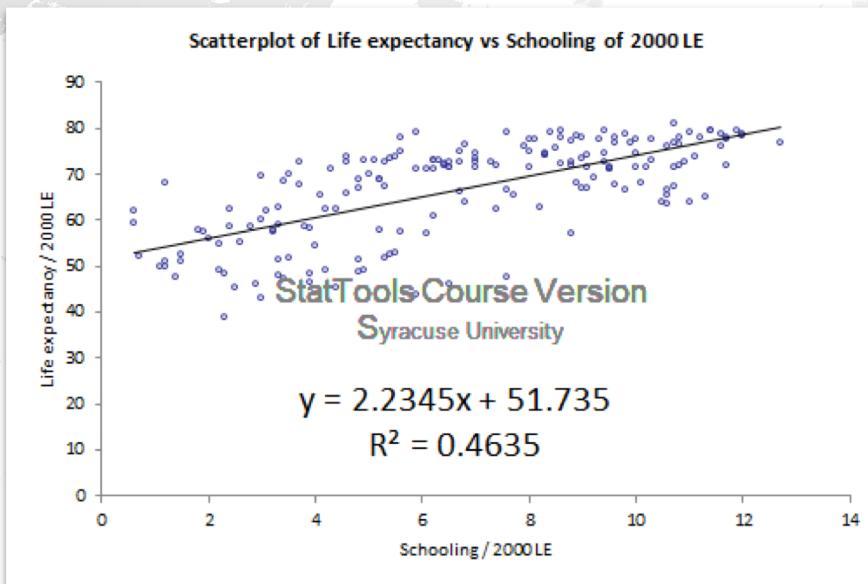
Analyzing the related variables for life expectancy.

- Correlation matrix
- Scatterplots
- Multiple regression
- Hypothesis testing

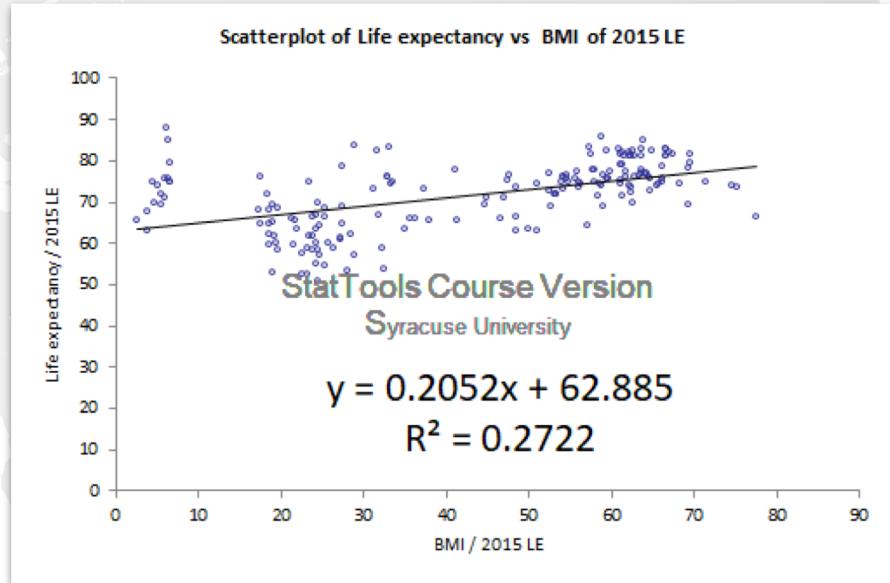
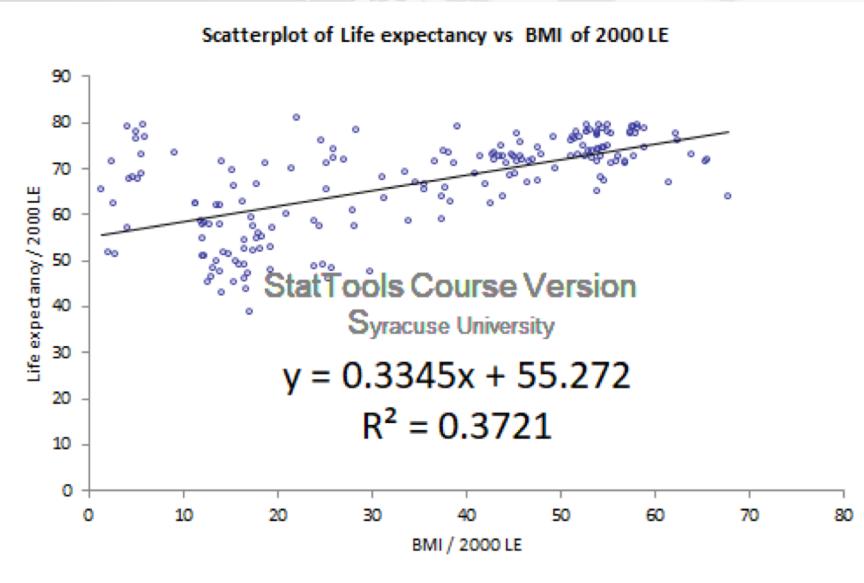
Simple Linear Regression - Life Expectancy vs. Adult Mortality



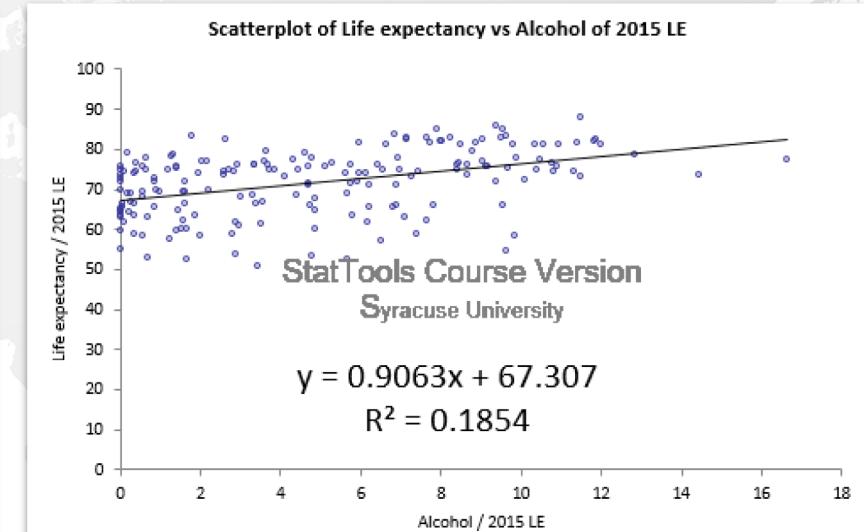
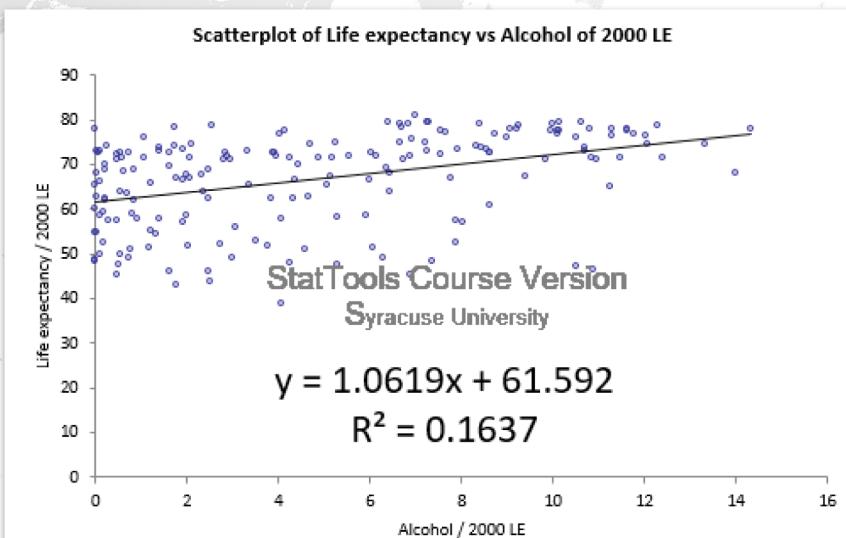
Simple Linear Regression - Life Expectancy vs. Schooling



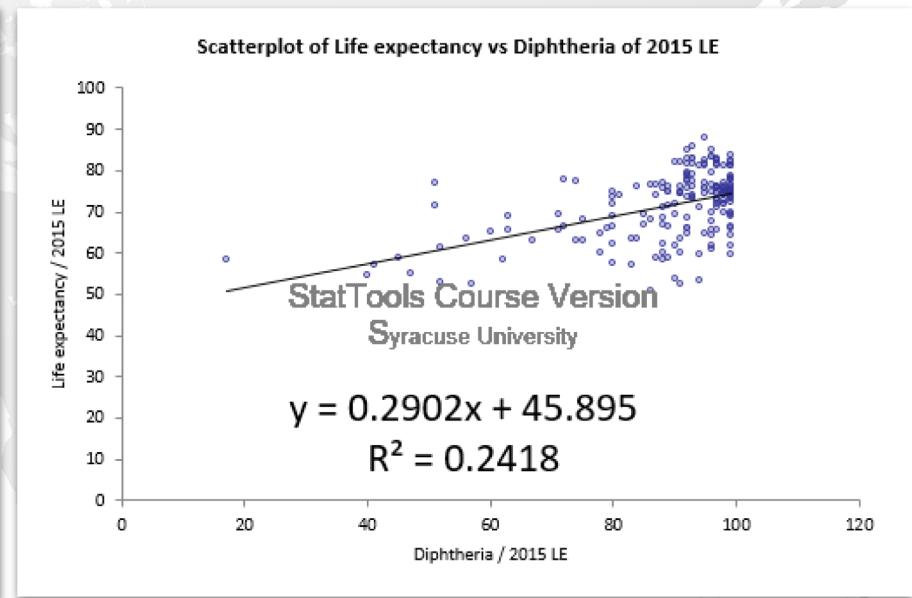
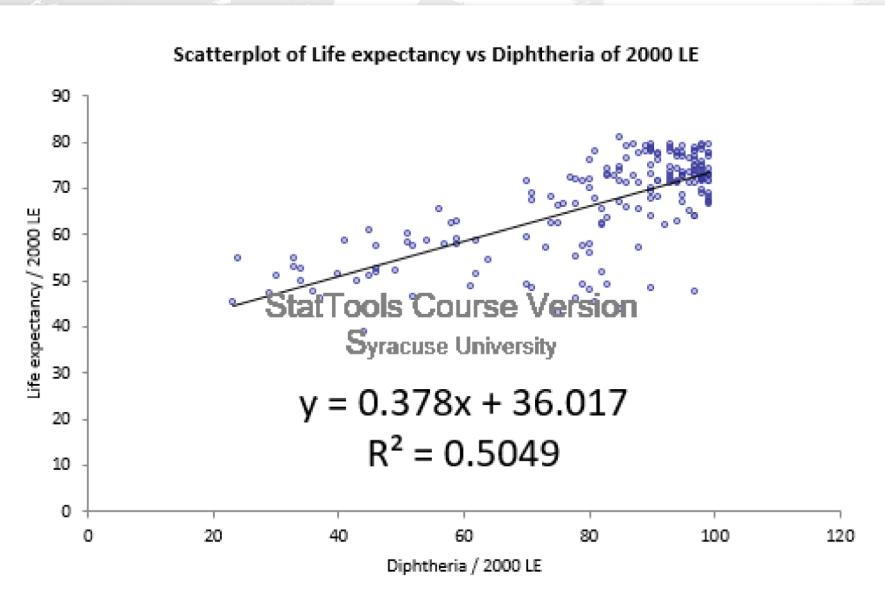
Simple Linear Regression - Life Expectancy vs. BMI



Simple Linear Regression - Life Expectancy vs. Alcohol

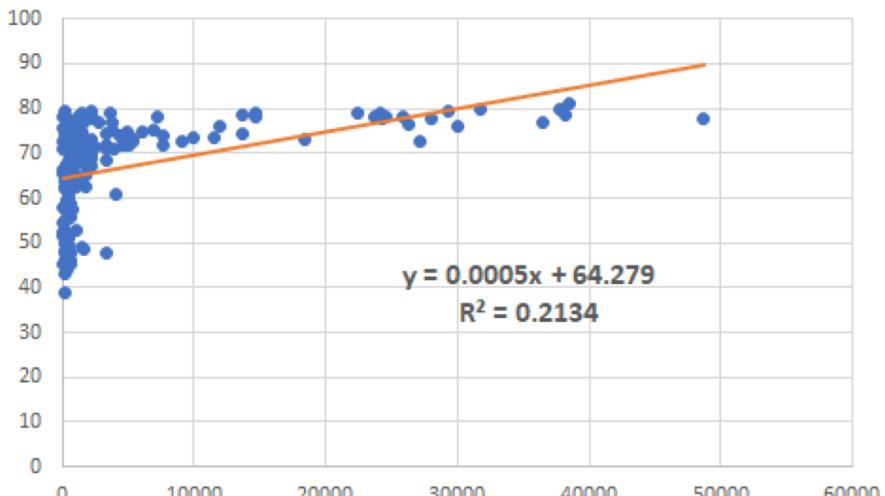


Simple Linear Regression - Life Expectancy vs. Diphtheria

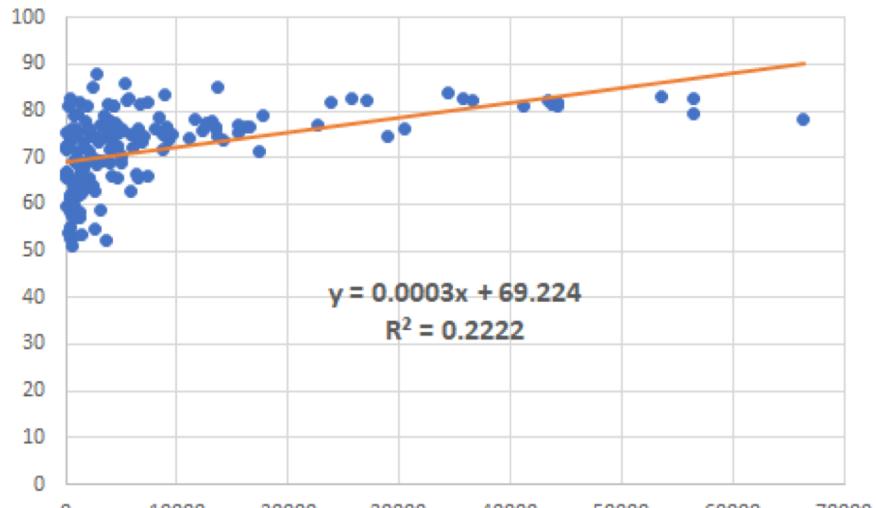


Simple Linear Regression - Life Expectancy vs. GDP

Life expectancy predicted by GDP in 2000

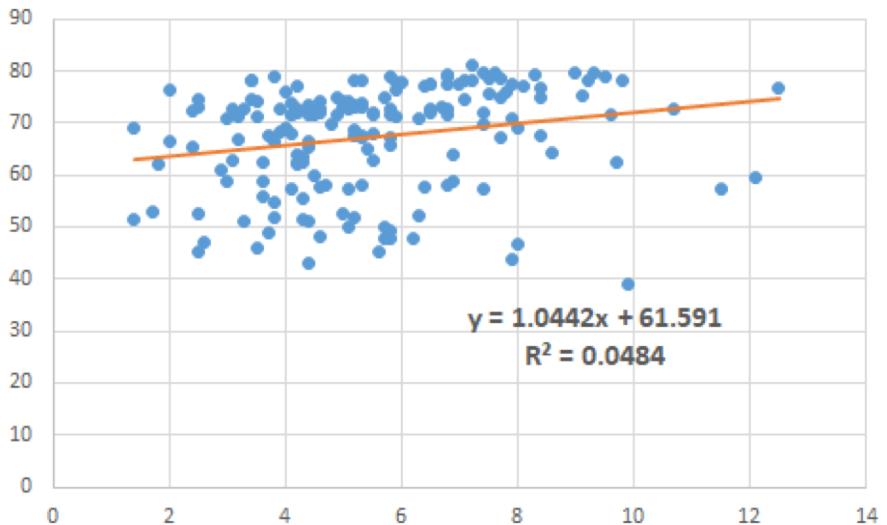


Life expectancy predicted by GDP in 2015

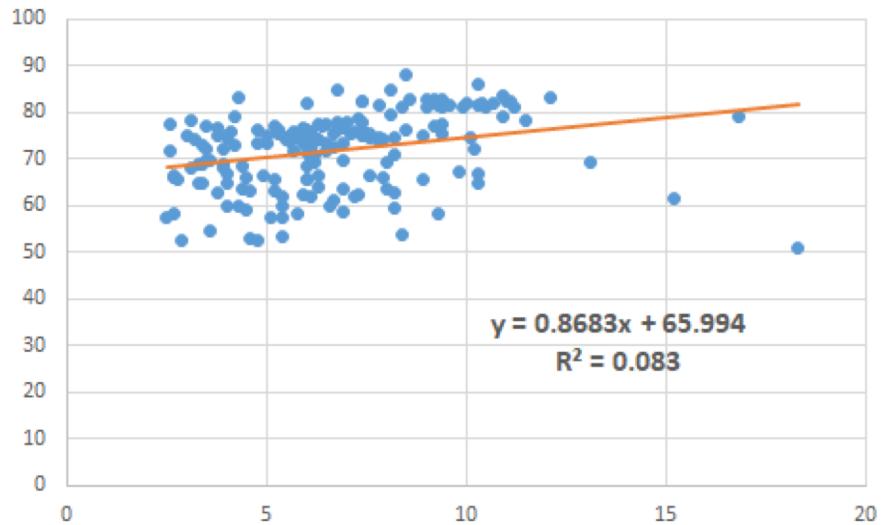


Simple Linear Regression - Life Expectancy vs. CHE of GDP

Life expectancy predicted by CHE as percentage of GDP in 2000

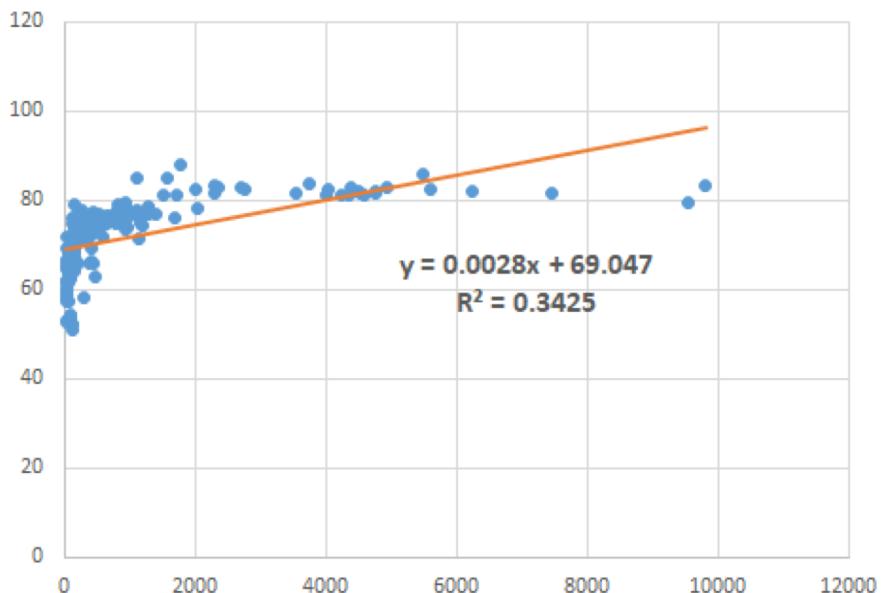


Life expectancy predicted by CHE as percentage of GDP in 2015

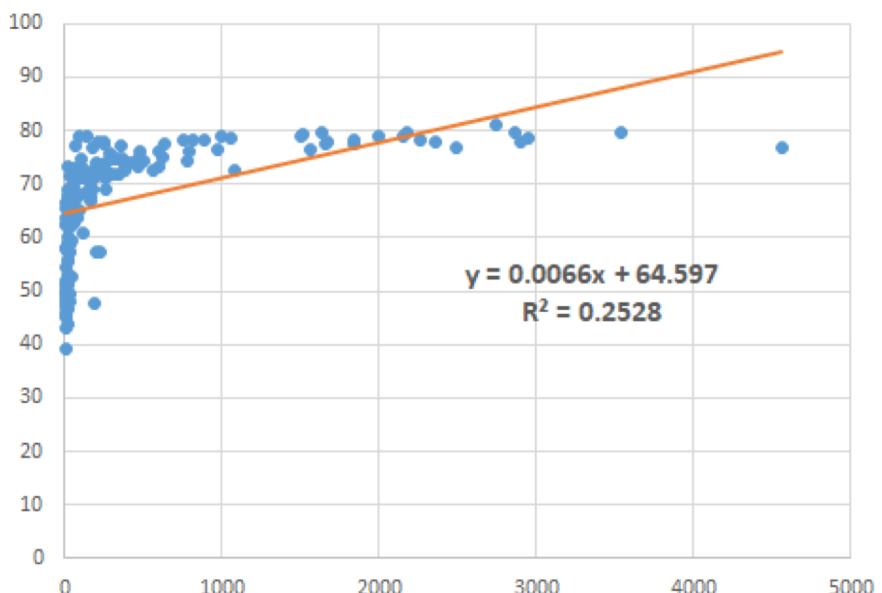


Simple Linear Regression - Life Expectancy vs. CHE

Life expectancy predicted by CHE per capita in 2015



Life expectancy predicted by CHE per capita in 2000



Multiple Linear Regression - Life Expectancy vs. CHE & Country status

2000

	Coefficient	p-Value
Constant	74.6325286	< 0.0001
Current health expenditure (CHE) per capita in US\$	0.001507668	0.2241
dummy(developing1,developed=0)	-11.98953045	< 0.0001
dummy*CHE	0.013383737	< 0.0001

$$\text{Life expectancy} = 74.63 + 0.001508 * \text{CHE} - 11.99 * \text{Developing} - 0.01338 * \text{CHE} * \text{Developing}$$

Adjusted R-square= 0.3684

2015

	Coefficient	p-Value
Constant	78.5462038	< 0.0001
Current health expenditure (CHE) per capita in US\$	0.00063468	0.1180
dummy (developing=1, developed=0)	-11.6079303	< 0.0001
Dummy*CHE	0.00614549	< 0.0001

$$\text{Life expectancy} = 78.54 + 0.0006347 * \text{CHE} - 11.61 * \text{Developing} - 0.006145 * \text{CHE} * \text{Developing}$$

Adjusted R-square= 0.5052

Multiple Linear Regression - Life Expectancy vs. CHE of GDP

2000

	Coefficient	p-Value
Constant	74.00301421	< 0.0001
Current health expenditure (CHE) as percentage of gross domestic product (GDP) (%)	0.399917783	0.6602
dummy(developing1,developed=0)	-10.03710137	0.1544
dummy*CHE of GDP	-0.174566712	0.8593

2015

	Coefficient	p-Value
Constant	76.3694977	< 0.0001
Current health expenditure (CHE) as percentage of gross domestic product (GDP) (%)	0.49523127	0.3243
dummy (developing=1, developed=0)	-8.12325293	0.0951
Dummy*CHE of GDP	-0.25173778	0.6484

$$\text{Life expectancy} = 74.00 + 0.3999 * (\text{CHE of GDP}) - 10.04 * \text{Developing} - 0.1746 * (\text{CHE of GDP}) * \text{Developing}$$

Adjusted R-square= 0.2000

$$\text{Life expectancy} = 76.37 + 0.4952 * (\text{CHE of GDP}) - 8.12 * \text{Developing} - 0.2517 * (\text{CHE of GDP}) * \text{Developing}$$

Adjusted R-square= 0.2794

Correlation Matrix - Year 2000

	Life Expectancy	Adult Mortality	Alcohol	Percentage Expenditure	BMI	Polio	Total Expenditure	Diphtheria	GDP	Population	Schooling	Smoking Prevalence	CHE per capita in US\$	CHE as percentage of GDP	GGHE-D as percentage of GGE
Life expectancy	1.000														
Adult Mortality	-0.627	1.000													
Alcohol	0.405	-0.186	1.000												
Percentage Expenditure	0.381	-0.235	0.327	1.000											
BMI	0.610	-0.391	0.328	0.199	1.000										
polio	0.719	-0.293	0.308	0.217	0.507	1.000									
Total expenditure	0.198	-0.052	0.343	0.216	0.232	0.206	1.000								
Diphtheria	0.711	-0.261	0.318	0.205	0.503	0.965	0.186	1.000							
GDP	0.462	-0.283	0.368	0.848	0.247	0.282	0.232	0.280	1.000						
Population	0.044	-0.011	0.067	-0.027	-0.058	0.017	-0.023	0.019	-0.008	1.000					
Schooling	0.681	-0.341	0.608	0.367	0.543	0.628	0.269	0.617	0.463	0.043	1.000				
Smoking prevalence	0.399	-0.214	0.370	0.232	0.382	0.335	0.250	0.364	0.226	0.099	0.405	1.000			
per capita in US\$	0.503	-0.337	0.437	0.756	0.233	0.294	0.423	0.287	0.845	0.001	0.529	0.296	1.000		
as percentage of gross domestic health expenditure (GGHE-D)	0.220	-0.074	0.368	0.291	0.211	0.239	0.685	0.234	0.278	0.034	0.260	0.314	0.485	1.000	
	0.038	-0.040	0.000	-0.109	0.069	0.121	0.189	0.125	-0.047	-0.044	0.023	-0.014	-0.018	0.298	1.000

Correlation Matrix of Variables Highlighting with a ± 0.5 Interval, the highlighted variables are strongly Correlated with Life Expectancy

For the Year 2000

This does not imply causality but shows us that diphtheria along with BMI, Polio, Schooling and Per Capita earning are highly correlated with Life Expectancy.

Correlation Matrix - Year 2015

	Life Expectancy	Adult Mortality	Alcohol	Percentage Expenditure	BMI	Polio	Total Expenditure	Diphtheria	GDP	Population	Schooling	Smoking Prevalence	CHE per capita in US\$	CHE as percentage of GDP)	GGHE-D as Percentage of GGE
Life expectancy	1.000														
Adult Mortality	-0.779	1.000													
Alcohol	0.437	-0.262	1.000												
Percent Expenditure	0.044	-0.043	-0.019	1.000											
BMI	0.522	-0.377	0.288	0.038	1.000										
Polio	0.447	-0.280	0.199	0.029	0.179	1.000									
Diphtheria	0.492	-0.290	0.193	0.025	0.205	0.967	1.000								
GDP	0.471	-0.372	0.326	-0.030	0.367	0.220	0.226	1.000							
Population	0.013	-0.020	-0.019	-0.019	-0.098	0.015	0.013	0.002	1.000						
Schooling	0.778	-0.529	0.618	0.011	0.553	0.358	0.402	0.481	-0.038	1.000					
Smoking prevalence	0.442	-0.306	0.320	0.051	0.344	0.189	0.211	0.189	0.044	0.446	1.000				
expenditure (CHE)	0.585	-0.442	0.463	-0.039	0.406	0.211	0.227	0.566	0.002	0.579	0.235	1.000			
expenditure (CHE)	0.288	-0.152	0.318	0.023	0.237	0.186	0.176	0.256	-0.072	0.304	0.200	0.512	1.000		
government health	0.629	-0.464	0.403	-0.029	0.351	0.372	0.404	0.415	-0.048	0.536	0.234	0.610	0.529	1.000	

For the year 2015, this correlation matrix shows that Diphtheria is no longer highly correlated with Life Expectancy if we consider a ± 0.5 interval. Which can be tested further using our regression models.

Stepwise Linear Multiple Regression (2000) -

without dummy and interaction variables

Multiple Regression for Life expectancy Summary		Multiple R	R-Square	Adjusted R-square	Std. Err. of Estimate	Rows Ignored	Outliers
		0.8765	0.7682	0.7616	5.022463213	1	0
		Degrees of Freedom	Sum of Squares	Mean of Squares	F	p-Value	
ANOVA Table							
Explained		5	14713.16588	2942.633176	116.6547959	< 0.0001	
Unexplained		176	4439.624063	25.22513672			
Regression Table		Coefficient	Standard Error	t-Value	p-Value	Confidence Interval 95%	
						Lower	Upper
Constant		46.30986594	1.969790174	23.51005023	< 0.0001	42.42241729	50.19731458
Adult Mortality		-0.0288379	0.002955658	-9.75684396	< 0.0001	-0.03467099	-0.0230048
BMI		0.069898408	0.025268499	2.766227204	0.0063	0.020030157	0.119766659
polio		0.054886434	0.077101564	0.711871867	0.4775	-0.09727615	0.207049021
Diphtheria		0.170778897	0.07411323	2.30429706	0.0224	0.02451389	0.317043905
Schooling		0.722219994	0.164288234	4.39605429	< 0.0001	0.397991516	1.046448473

$$\text{Life expectancy} = 46.3 - 0.029(\text{Adult Mortality}) + 0.070(\text{BMI}) + 0.549(\text{polio}) + 0.171(\text{Diphtheria}) + 0.722(\text{Schooling})$$

Stepwise Linear Multiple Regression with dummy(2000)

Multiple Regression for Life expectancy		Multiple R	R-Square	Adjusted R-square	Std. Err. of Estimate	Rows Ignored	Outliers
Summary							
		0.8672	0.7520	0.7464	4.090723288	0	0
ANOVA Table		Degrees of Freedom	Sum of Squares	Mean of Squares	F	p-Value	
Explained		4	9032.362457	2258.090614	134.9401409	< 0.0001	
Unexplained		178	2978.655029	16.73401702			
Regression Table		Coefficient	Standard Error	t-Value	p-Value	Confidence Interval 95%	
Constant		64.53907837	2.175709042	29.6634693	< 0.0001	60.24557573	68.83258101
Adult Mortality		-0.046827573	0.003585461	-13.06040543	< 0.0001	-0.053903053	-0.039752093
BMI		0.081380946	0.016187614	5.027359105	< 0.0001	0.049436619	0.113325273
Polio		0.112760311	0.020965725	5.378316784	< 0.0001	0.07138695	0.154133672
Status Dummy		4.453172334	0.869342902	5.122457804	< 0.0001	2.737627665	6.168717004

- Developed : Life expectancy= $64.54 - 0.047(\text{Adult Mortality}) + 0.08(\text{BMI}) + 0.11(\text{polio}) + 4.45$
- Developing : Life expectancy= $64.54 - 0.047(\text{Adult Mortality}) + 0.08(\text{BMI}) + 0.11(\text{polio})$
- Holding other variables constant, the life expectancy of developed countries are higher than developing countries by 4.45 year.

Stepwise Linear Multiple Regression (2000) - with dummy and interaction variables

Multiple Regression for Life expectancy Summary	Multiple R	R-Square	Adjusted R-square	Std. Err. of Estimate	Rows Ignored	Outliers
ANOVA Table	Degrees of Freedom	Sum of Squares	Mean of Squares	F	p-Value	
	Explained	11249.51253	3749.83751	83.46333674	< 0.0001	
Unexplained	179	8042.104958	44.92796066			
Regression Table	Coefficient	Standard Error	t-Value	p-Value	Confidence Interval 95%	
	Constant	37.78592011	2.196472444	17.20300212	< 0.0001	33.4516091
Diphtheria	0.340286101	0.027072773	12.56931082	< 0.0001	0.28686325	0.393708951
Status Dummy	57.28580045	23.9388681	2.393003721	0.0177	10.04710194	104.524499
Interaction Diphtheria * Status Dummy	-0.534581403	0.255629601	-2.091234349	0.0379	-1.039016684	-0.030146122

- Developed: Life expectancy= 95.09 - 0.19(Diphtheria)
- Developing: Life expectancy= 37.8 + 0.34(Diphtheria)

Stepwise Linear Multiple Regression (2015) -

without dummy and interaction variables

Multiple Regression for Life expectancy		Multiple R	R-Square	Adjusted R-square	Std. Err. of Estimate	Rows Ignored	Outliers
Summary		0.8922	0.7960	0.7926	3.699383122	0	0
ANOVA Table		Degrees of Freedom	Sum of Squares	Mean of Squares	F	p-Value	
Explained	3	9561.324535	3187.108178	232.8832124	< 0.0001		
Unexplained	179	2449.692952	13.68543548				
Regression Table		Coefficient	Standard Error	t-Value	p-Value	Confidence Interval 95%	
Constant	66.80039613	1.263064202	52.88756977	< 0.0001	64.30798467	69.29280758	
Adult Mortality	-0.04183284	0.003335476	-12.5417911	< 0.0001	-0.04841475	-0.03525093	
BMI	0.027916192	0.016048494	1.739489824	0.0837	-0.00375239	0.059584773	
Schooling	1.205633574	0.113607141	10.61230454	< 0.0001	0.981451986	1.429815161	

Life expectancy=66.8- 0.042(Adult Mortality) + 0.028(BMI) + 1.206(Schooling)

Stepwise Linear Multiple Regression (2015) - with dummy and interaction variables

Multiple Regression for Life expectancy Summary		Multiple R	R-Square	Adjusted R-square	Std. Err. of Estimate	Rows Ignored	Outliers
		0.8196	0.6717	0.6662	4.693561719	0	0
ANOVA Table		Degrees of Freedom	Sum of Squares	Mean of Squares	F	p-Value	
Explained		3	8067.733118	2689.244373	122.0745698	< 0.0001	
Unexplained		179	3943.284368	22.02952161			
Regression Table		Coefficient	Standard Error	t-Value	p-Value	Confidence Interval 95%	
Constant		79.13027578	0.766691303	103.2100866	< 0.0001	77.61735966	80.64319189
Adult Mortality		-0.05599049	0.003903987	-14.34187279	< 0.0001	-0.06369425	-0.048286731
Status Dummy		6.556419338	2.078083596	3.155031564	0.0019	2.455725686	10.65711299
Adult Mortality * Status Dummy		-0.010172493	0.023800109	-0.427413722	0.6696	-0.057137377	0.036792391

- Developed: Life expectancy= 85.69 - 0.07(Adult Mortality)
- Developing: Life expectancy=79.13- 0.066(Adult Mortality)

Hypothesis

- P values < alpha values
- Null hypothesis is rejected
- Mean Life expectancy (2015) > Mean Life expectancy (2000)

	Life expectancy(2000)	Life expectancy(2015)
Sample Summaries	LifeExpextancyHypothesis	LifeExpextancyHypothesis
Sample Size	183	183
Sample Mean	66.75	71.617
Sample Std Dev	10.30	8.124
	Equal	Unequal
Hypothesis Test (Difference of Means)	Variances	Variances
Hypothesized Mean Difference	0	0
Alternative Hypothesis	< 0	< 0
Sample Mean Difference	-4.87	-4.87
Standard Error of Difference	0.96945847	0.96945847
Degrees of Freedom	364	345
t-Test Statistic	-5.0200	-5.0200
p-Value	< 0.0001	< 0.0001
Null Hypoth. at 10% Significance	Reject	Reject
Null Hypoth. at 5% Significance	Reject	Reject
Null Hypoth. at 1% Significance	Reject	Reject

Z-score transformation linear model (2000)

Stepwise Regression for Life expectancy	Multiple R	R-Square	Adjusted R-square	Std. Err. of Estimate	Rows Ignored	Outliers
Summary	0.8781	0.7710	0.7621	0.49302428	0	0
ANOVA Table	Degrees of Freedom	Sum of Squares	Mean of Squares	F	p-Value	
Explained	5	105.5611754	21.11223508	86.85555456	< 0.0001	
Unexplained	129	31.35640937	0.243072941			
Regression Table	Coefficient	Standard Error	t-Value	p-Value	Confidence Interval 95%	
Constant	-0.000951936	0.042598529	-0.022346691	0.9822	-0.085234169	0.083330297
Polio	0.405259569	0.053780865	7.535385898	< 0.0001	0.298852811	0.511666327
Adult Mortality	-0.28186177	0.048126133	-5.856730091	< 0.0001	-0.377080503	-0.186643038
Schooling	0.223431641	0.066802688	3.344650477	0.0011	0.091260888	0.355602395
Current health expenditure (CHE) per capita in US\$	0.154107404	0.056441742	2.730380026	0.0072	0.042436036	0.265778772
BMI	0.126441861	0.05815235	2.174320737	0.0315	0.011386012	0.24149771

Z-score transformation linear model (2015)

Stepwise Regression for Life expectancy		Multiple R	R-Square	Adjusted R-square	Std. Err. of Estimate	Rows Ignored	Outliers
Summary							
ANOVA Table		Degrees of Freedom	Sum of Squares	Mean of Squares	F	p-Value	
Explained		5	115.8646177	23.17292353	141.6806216	< 0.0001	
Unexplained		129	21.0989132	0.163557467			
Regression Table		Coefficient	Standard Error	t-Value	p-Value	Confidence Interval 95%	
						Lower	Upper
Constant		0.028859557	0.034910585	0.826670684	0.4100	-0.04021189	0.097931005
Schooling		0.354384883	0.048223888	7.3487414	< 0.0001	0.25897274	0.449797027
Adult Mortality		-0.458199301	0.04351047	-10.53078253	< 0.0001	-0.544285833	-0.37211277
Diphtheria		0.186534758	0.038511197	4.843650027	< 0.0001	0.110339413	0.262730104
Domestic general government health expenditure (GGHE-D) as percentage of general government expenditure (GGE) (%)							
		0.12698285	0.04779805	2.656653372	0.0089	0.032413238	0.221552463
Current health expenditure (CHE) per capita in US\$		0.109963181	0.054754492	2.008295167	0.0467	0.001630078	0.218296283

Conclusions

The life expectancy has positive relationship with immunization coverage, Number of years of schooling, BMI and current health expenditure.

The life expectancy has negative relationship with adult mortality.

Status of a country is good at determining life expectancy. Especially when used as a dummy variable.

Thank you!

