



MENU

ANALYSIS

CONTACT

DATA ANALYSIS

# QUALITY OF LIFE & MONEY

BY: LUCY YOON





# TOPIC & QUESTIONS

## “Relationship between quality of life and economic disparity in different geographical locations”

- Is there a difference between rich people and poor people, between undeveloped and developed countries, regarding quality of life?
- If so, what are the relationships and how big is the difference?





# PROBLEM DEFINITION

01

## QUESTIONS IMPORTANCE

Detect the significance of disparity & economy's impact

02

## DIFFICULTIES

Need to define certain variables

03

## EXISTING WORKS

Similar to the questions, but different focus

04

## DATA

7th wave of World Value Survey Database





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# DEFINING VARIABLES



QUALITY OF LIFE



RICH/POOR



UN/DEVELOPMENT





Sum of variables relating  
to QoL in the survey

1. Happiness
2. Self-Rated Health
3. Freedom of Choice
4. Satisfaction
5. Financial Situation

**Q46. Taking all things together, would you say you are (read out and code one answer):**

- 1 Very happy
- 2 Rather happy
- 3 Not very happy
- 4 Not at all happy

**Q47. All in all, how would you describe your state of health these days? Would you say it is... (read out):**

- 1 Very good
- 2 Good
- 3 Fair
- 4 Poor
- 5 Very poor

Q48. Some people feel they have completely free choice and control over their lives, while other people feel that what they do has no real effect on what happens to them. Please use this scale where 1 means "no choice at all" and 10 means "a great deal of choice" to indicate how much freedom of choice and control you feel you have over the way your life turns out (*code one number*):

No choice at all	1	2	3	4	5	6	7	8	9	10	A great deal of choice
------------------	---	---	---	---	---	---	---	---	---	----	------------------------

(SHOW CARD 5)

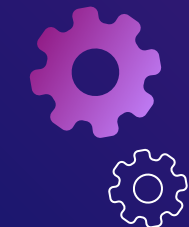
Q49. All things considered, how satisfied are you with your life as a whole these days? Using this card on which 1 means you are "completely dissatisfied" and 10 means you are "completely satisfied" where would you put your satisfaction with your life as a whole? (Code one number):

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

(SHOW CARD 6)

**Q50.** How satisfied are you with the financial situation of your household? Please use this card again to help with your answer (code one number):

Completely dissatisfied								Completely satisfied	
1	2	3	4	5	6	7	8	9	10





# QUALITY OF LIFE (QOL)

Sum of variables relating  
to QoL in the survey

```
cleanData <- subset(newdata, income >= 1, income <= 10)
cleanData <- subset(cleanData, happiness >= 1, happiness <= 4)
cleanData <- subset(cleanData, srh >= 1, srh <= 5)
cleanData <- subset(cleanData, freedom >= 1, freedom <= 10)
cleanData <- subset(cleanData, satisfaction >= 1, satisfaction <= 10)
cleanData <- subset(cleanData, finance >= 1, finance <= 10)
```

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cleanData <- subset(cleanData, finance >= 1, finance <= 10)
```

```
normalize5 <- function(var) {
  return (var * 2)
}
normalize4 <- function(var) {
  return ((var / 2) * 5)
}
```

```
cleanData$happiness <- apply(cleanData['happiness'], 1, normalize4)
cleanData$srh <- apply(cleanData['srh'], 1, normalize5)
```

Q46. Taking all things together, would you say you are (read out and code one answer):

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}
```

```
cleanData$happiness <- apply(cleanData['happiness'], 1, normalize4)
cleanData$srh <- apply(cleanData['srh'], 1, normalize5)
```

```
cleanData$qol <- cleanData$happiness + cleanData$srh +
  cleanData$freedom + cleanData$satisfaction + cleanData$finance
```

Q46. Taking all things together, would you say you are (read out and code one answer):

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# RICH/POOR

Income data in the survey

(SHOW CARD 30)

Q288. On this card is an income scale on which 1 indicates the lowest income group and 10 the highest income group in your country. We would like to know in what group your household is. Please, specify the appropriate number, counting all wages, salaries, pensions and other incomes that come in. (Code one number):

Lowest group										Highest group
1	2	3	4	5	6	7	8	9	10	

\*\*Assumption:

- No middle class
- Rich & Poor can be divided cleanly in half

```
#Separate people into rich and poor categories  
poorDataset = subset(cleanData, income <= 5)  
richDataset = subset(cleanData, income >= 6)
```





# UN/DEVELOPMENT OF COUNTRY



GDP of 2021  
\*from the World Bank

```
countrylist <- c(Armenia, Bolivia, Brazil, Myanmar, Canada, Chile, China, Taiwan,
Colombia, Cyprus, Czech Republic, Ecuador, Ethiopia, Germany,
Greece, Guatemala, Hong Kong, Indonesia, Iran, Iraq, Japan,
Kazakhstan, Jordan, Kenya, South Korea, Kyrgyzstan, Lebanon,
Libya, Macau SAR, Malaysia, Maldives, Mexico, Mongolia, Morocco,
Netherlands, New Zealand, Nicaragua, Nigeria, Pakistan, Peru,
Philippines, Puerto Rico, Romania, Russia, Serbia, Singapore,
Slovakia, Vietnam, Zimbabwe, Tajikistan, Thailand, Tunisia, Turk
Egypt, UK, US, Uruguay, Venezuela, Northern Ireland)
```

```
gdp <- c(3.33, 487.2, 1553, 416.3, 13.86, 40.41, 1609, 65.09,
1988, 317.1, 17730, 774.73, 314.5, 28.41, 281.8,
106.2, 111.3, 4260, 214.9, 85.99, 369.2, 1186,
359.7, 207.9, 4941, 197.1, 45.74, 110.3, 1811,
8.543, 23.13, 42.82, 30.12, 373, 5.406, 1273,
15.29, 142.9, 1013, 249.9, 14.01, 440.8, 348.3,
223.2, 394.1, 106.5, 284.1, 1779, 63.08, 397,
116.5, 366.1, 28.37, 8.746, 505.9, 46.69, 819,
200.1, 404.1, 3131, 23320, 59.32, 482.4, 60.6)
```

#billion USD



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# PREPARATION

## GROUP BY COUNTRY

To find difference in QoL within each country

## RICH/POOR PEOPLE

Separated people in the same country into two groups

## AVG QOL

Found the average value of QoL for each group

## DIFF IN QOL

Found  
 $\text{QoL}(\text{rich}) - \text{QoL}(\text{poor})$

## RICH/POOR COUNTRIES

Separated countries into four groups

## AVG DIFF QOL

Found the average value of *difference* in QoL for each group of countries



```

data <- read_dta("Downloads/WVS_Cross-National_Wave_7_Stata_v5_0.dta", encoding="latin1")
newdata <- dplyr::select(data, 'B_COUNTRY', 'Q288', 'Q46', 'Q47', 'Q48', 'Q49', 'Q50')
newdata <- rename(newdata, 'country_code' = 'B_COUNTRY', 'income' = 'Q288', 'happiness' =
poorCountry$Diff_QoL <- as.numeric(
mean(poorCountry$Diff_QoL)
richCountry$Diff_QoL <- as.numeric(richCountry$Diff_QoL)
mean(richCountry$Diff_QoL)
midhighCountry$Diff_QoL <- as.numeric(midhighCountry$Diff_QoL)
mean(midhighCountry$Diff_QoL)
countries <- (unique(poorDataset$country_code))
countries_qol = data.frame("Country", "Diff_QoL")
for(i in countries) {
  tmp <- subset(poorDataset, country_code == i)
  tmp_2 <- subset(richDataset, country_code == i)
  countries_qol[nrow(countries_qol) + 1,] = c(i, mean(tmp_2$qol))
}

```

```

poorCountry = subset(countries_qol, gdp <= 59.320)
middleCountry = subset(countries_qol, gdp >= 59.320, gdp <= 249.900)
midhighCountry = subset(countries_qol, gdp >= 249.900, gdp <= 487.200)
richCountry = subset(countries_qol, gdp >= 487.200)

```

```

      5, 28.41, 281.8,
    }, 369.2, 1186,
    1, 110.3, 1811,
    2, 46.69, 819,
    3, 482.4, 60.6)

```

```

finalData = data.frame(Countries = c(0, 1, 2, 3), Nation_Diff_QoL = c(1.483091, 1.414541, 1.592648, 1.553694))

```

```

      9, 46.69, 819,
    1, 482.4, 60.6)

```

```

countries_qol <- countries_qol[order(gdp),]
countries_qol
library(multcomp)
library(car)
library(psych)
library(moments)
library(nortest)
library(dplyr)
library(tidyverse)

```



# SPEARMAN TEST

Purpose:

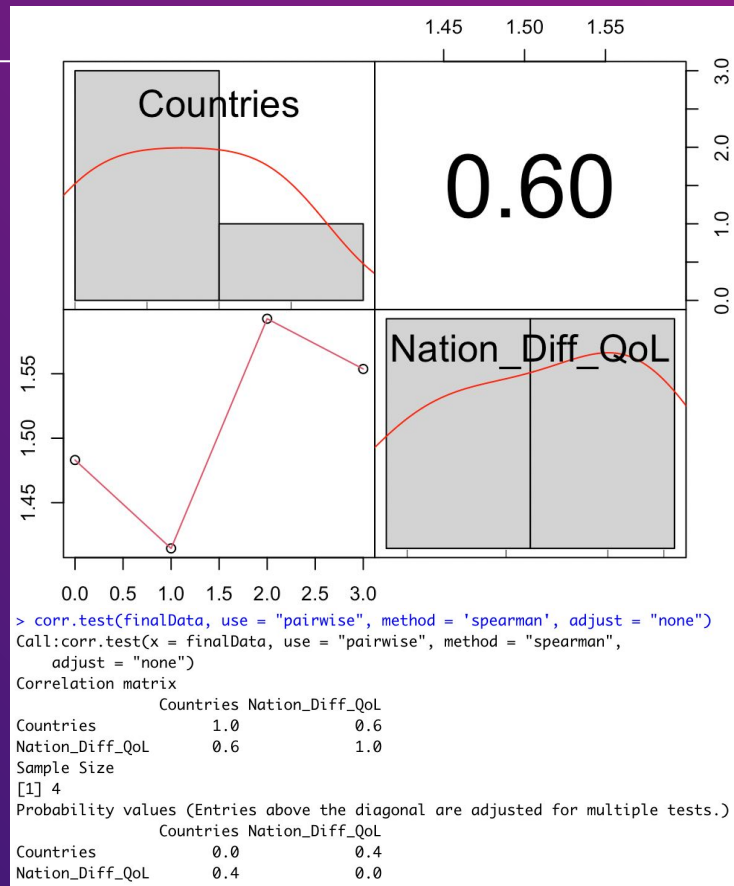
- Measures the degree of association between two variables

Variables:

- Rich/poor countries – ordinal (technically nominal)
- Diff in QoL – continuous

Hypothesis:

- Null: There is no association between the development of a country and the difference in quality of life from economic disparity
- Alternative: There is an association between ~



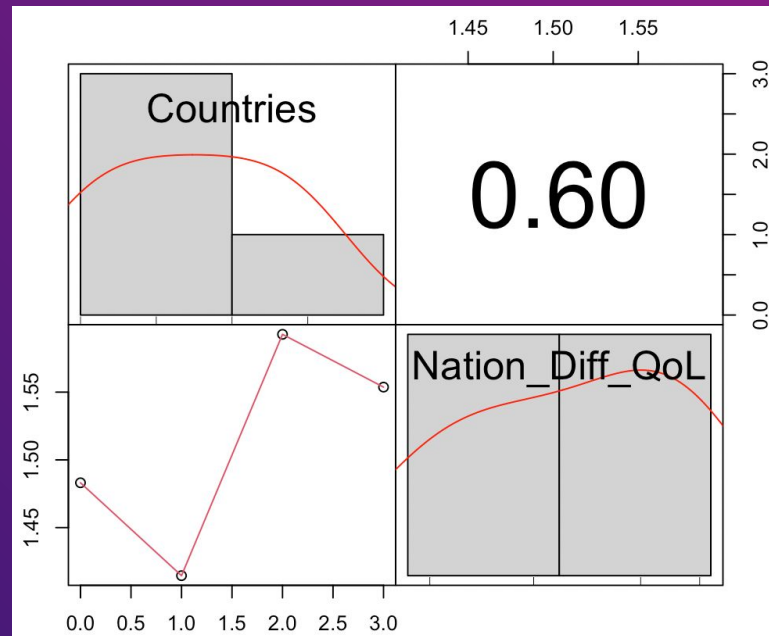
# INTERPRETATION

Spearman correlation coefficient = 0.6, which can be considered moderately~strongly associated positively.

- 0 = Rich, 3 = Poor country
- Generally, decrease in development associates to increase in QoL gap

## EXPLANATION

- ex. Third World countries
- Wider wealth inequality
- Less middle ground in economy





# PROBLEMS

## SELF-RATED QUESTIONNAIRE

01

- subjective, is biased
- could improve by objective measures
- lead to invasion of privacy

&

## ASSUMPTIONS & REALITY

assumed unrealistic -  
situation  
neglected real -  
economical factors

02



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# CONCLUSION

- There is a difference regarding quality of life
- Two variables in the questions are strongly associated
- Larger gap in difference in quality of life when the country is underdeveloped

## FUTURE WORK/DIRECTIONS

- Improve or solve the problems mentioned
  - Could be used to further analyze the impact of economic disparity and nationwide development
-



# ACKNOWLEDGEMENTS AND REFERENCES

Haerpfer, C., Inglehart, R., Moreno, A., Welzel, C., Kizilova, K., Diez-Medrano J., M. Lagos, P. Norris, E. Ponarin & B. Puranen (eds.). 2022. World Values Survey: Round Seven - Country-Pooled Datafile Version 5.0. Madrid, Spain & Vienna, Austria: JD Systems Institute & WWSA Secretariat. doi:10.14281/18241.20

World Development Indicators. The World Bank. (n.d.).  
<https://datatopics.worldbank.org/world-development-indicators/>



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# THANK YOU!



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