JABATAN PERDANA MENTERI
JABATAN PERANGKAAN MALAYSIA

Developing an Index of Objective and Subjective Well-Being

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PRESENTATION ONLINE

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INTRODUCTION

INTRODUCTION

Objective of Study

1. This research aims to measure the level of Malaysian well-being using the latest methodology by focusing on objective indicators

2. To developed a questionnaire to identify the level of happiness of Malaysian, national happiness index.

INTRODUCTION

GDP represents the market value of all goods produced within a country over a period of time, based on the simple assumption that the higher the GDP, the better off the population of the country that produced said goods (Elliott et al., 2017)

According to UK's Index of Well-Being in Later Life (2017), **well-being** encapsulates how we are faring, in all domains of life, including financial, health, social, personal and the local environment. Well-being is multi-dimensional.

However, even though the growth of wealth occurred, the satisfaction of the population with their lives may not be increase at the same time. This situation is named as "**The Easterlin Paradox**" (Easterlin & OConnor, 2012)

Despite the term "well-being" is becomes the crucial topic, the word "**happiness**" is often used interchangeably with quality of life, subjective wellbeing of a person, satisfaction in life and is crucial in maintaining health (Sarah Ahtesham, 2020).

INTRODUCTION

A classification of existing well-being measures

Classification	Meaning
GDP	Gross Domestic Product (or Gross National Product)
Well-being	
Objective Well-being	Derived from a broad range of domains and indices that rely on objective measures of wellbeing typically sourced from secondary data sources
Subjective Well-being	Derived from domains and indices that require an individual to reflect on and evaluate their overall wellbeing, happiness or life satisfaction; these indices are typically based on the collection of primary data

INTRODUCTION

A classification measurement and data source by well-being indices

Indices	Primary Data	Secondary Data
International		
Human Development Index (HDI) - (UNDP)		UNESCO Institute for Statistics World Bank, IMF, UNSD and UNDESA
Better Life Index (BLI) - (OECD)	Gallup World Poll	OECD or National Accounts, United Nations Statistics, National Statistics Offices
World Happiness Report - (SDSN)	Gallup World Poll	World Bank World Health Organization (WHO)
Gross National Happiness (GNH) - (Bhutan)	GNH Survey	
National Well-Being – (ONS)	Annual Population Survey (APS) UK	
Happy Planet Index (HPI) - (New Economics Foundation (NEF))	United Nations, Gallup World Poll and the Global Footprint Network	
Local		
Malaysian Well-Being Index (MyWI) - (DOSM)		Administration data from different agencies
Malaysian Happiness Index - (DOSM)	National Household Indicator Survey (NHIS)	
Indeks Kesejahteraan Keluarga Malaysia - (LPPKN)	Survey	
Indeks Kesejahteraan Psikologi Malaysia - (JPA)	Survey	
Indeks Belia Malaysia - (KBS)	Survey	

INTRODUCTION

Domains of various well-being indices

Indices	Human Development Index (HDI)	Better Life Index (BLI)	World Happiness Report	Gross National Happiness (GNH)	Malaysian Well-Being Index (MyWI)
Organizational	United Nations Development Programme (UNDP)	Organisation for Economic Co-operation and Development (OECD)	Sustainable Development Solutions Network (SDSN)	Centre for Bhutan Studies & GNH Research - Bhutan	Department of Statistics Malaysia (DOSM)
Domains	1. Life expectancy at birth 2. Mean years of schooling 3. Expected years of schooling 4. GNI per capita	1. Housing 2. Income 3. Jobs 4. Community 5. Education 6. Environment 7. Civic Engagement 8. Health 9. Life Satisfaction 10. Safety 11. Work-Life Balance	1. Economic 2. Social 3. Governance	1. Psychological Wellbeing 2. Health 3. Education 4. Time Use 5. Cultural Diversity and Resilience 6. Good Governance 7. Community Vitality 8. Ecological Diversity and Resilience 9. Living Standards	1. Transport 2. Communications 3. Education 4. Income and Distribution 5. Working Life 6. Housing 7. Entertainment and Recreation 8. Public Safety 9. Social Participation 10. Governance 11. Culture 12. Health 13. Environment 14. Family
Source	Human Development Report 2020	Better Life Index Executive Summary 2014	World Happiness Report 2021	2015 GNH Survey Report	Malaysian Well-Being Index Report 2019

LITERATURE REVIEW

LITERATURE REVIEW

Well-being

Author	Title	Findings
Randall et al., 2014	Measuring National Well-Being: Life in the UK	Understanding the well-being of individual people and communities both within and across countries can help identify inequalities from more than one angle and compare strengths and weaknesses in different areas of life
Elliott et al., 2017	A Glowing footprint: Developing an index of wellbeing for low to middle income countries	It has been seen that this development is done through existing frameworks or through a consultative approach, where components, dimensions or domains are developed through citizen consultation, dialogue and political processes

LITERATURE REVIEW

Well-being

Author	Title	Findings
Costanza et al., 2007	Quality of life: An approach integrating opportunities, human needs, and subjective well-being	Recent research on Quality of Life has focused on two basic methodologies of measurement. One method utilizes quantifiable social or economic indicators to reflect the extent to which human needs are met, has been termed as "objective well-being". The other looks to self-reported levels of happiness, pleasure, fulfilment, and the like, and has been termed "subjective well-being"
Stiglitz et al., 2009	Report by the Commission on the Measurement of Economic Performance and Social Progress	Objective and subjective dimensions of well-being are both important. Research has shown that it is possible to collect meaningful and reliable data on subjective as well as objective well-being

LITERATURE REVIEW

Objective Well-being

Author	Title	Findings
Stiglitz et al., 2009	Report by the Commission on the Measurement of Economic Performance and Social Progress	The "objective" measurements of well-being generally center on social, economic, and health indicators. Meanwhile "subjective" measurement tools typically focus on personal reports of life experience that complement social, economic, and health indicators, such as the degree to which a perceived need is being met and the importance of that 'perceived need' to one's overall quality of life

LITERATURE REVIEW

Objective Well-being

Author	Title	Findings
Costanza et al., 2007	Quality of life: An approach integrating opportunities, human needs, and subjective well-being	Objective indicators may be used singly or in combination to form summary indexes. To the extent to which such a measure can be shown to be valid and reliable across assessment context. These relatively objective measures may help to gather standardized data that are less vulnerable to social comparison and local adaptation. Data for objective indicators can be gathered without a subjective evaluation being made by the individual being assessed.

LITERATURE REVIEW

Subjective Well-being

Author	Title	Findings
Klamár & Gavaľová, 2018	Regional application of the Gross National Happiness Index in the context of the quality of life in Slovakia	Most people are convinced that happiness and satisfaction with life is the choice of an individual. Happiness seems to be deeply subjective and vague to serve as a cornerstone for the objectives of the nation and its policy content. It seems that this traditional view has been changing

LITERATURE REVIEW

Subjective Well-being

Author	Title	Findings
Costanza et al., 2007	Quality of life: An approach integrating opportunities, human needs, and subjective well-being	Subjective measures typically rely on survey or interview tools to gather respondents' own assessments of their lived experiences in the form of self-reports of satisfaction, happiness, well-being or some other near-synonym.
		Subjective measures can also tap the perceived significance of the domain (or "need") to the respondent. It is valid measures of what people perceive to be important to their happiness and well-being

METHODOLOGY

METHODOLOGY

Objective Well-being

Linear Scaling Technique

Subjective Well-being

Reliability Test

Validity Test

Pearson Correlation

METHODOLOGY

Objective Well-being

Step 1

- Normalization score for each indicator data

- **Calculation of normalization scores for each indicator**
- **Calculation of min-max scaling index for each indicator**

Step 2

- Calculation index for each component

- **Calculation of the annual index for each component by average the normalization score for the indicators involved**

Step 3

- Composite index calculation

- **Calculation of the annual composite index by average the component indices**

METHODOLOGY

Objective Well-being

Minimum/Maximum value in data sets

- Min-Max Scaling is a procedure used to standardize the range of a variable so that they all take values between zero and one (0,1) (Osberg, 2009). The key reason why it may be necessary to scale variables is that raw data have significantly different proportional ranges
- This serves for two purposes which are it standardizes variables in such a way that an increase is always good for well-being and a decrease is always bad.
- It prevents well-being from being dominated by a few underlying variables that take on very large range of values.

Calculation index for each component (Min-Max Scalling)

$$I_j = \frac{x - x_{min}}{x_{max} - x_{min}}$$

Source: Human Development Index (UNDP), Better Life Index (OECD)

METHODOLOGY

Objective Well-being

Calculation index for each component (Min-Max Scalling)

- If a variable increase it corresponds to an increase in overall well-being, the value is scaled according to the formula:

$$I_j = \frac{x - x_{min}}{x_{max} - x_{min}}$$

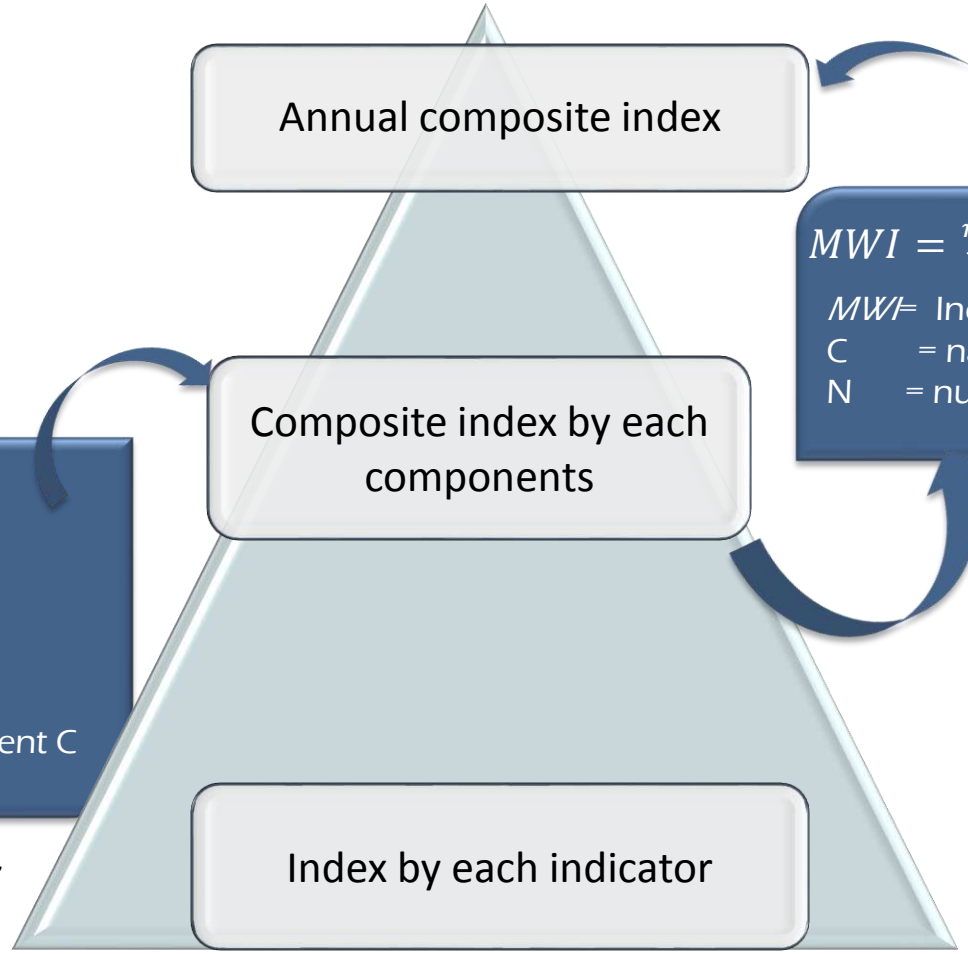
- If a variable increase it corresponds to a decrease in overall well-being, the value is scaled according to the formula:

$$I_j = \frac{x_{max} - x}{x_{max} - x_{min}}$$

- In both cases, the range of values is 0-1, and 0 corresponds to the lowest level of well-being, and 1 corresponds to the highest.
- Composite index assigns equal weight to indicators and components. Each dimension is normalized through linear scaling and aggregation relies on equal weighting (Osberg & Sharpe, 2010).

METHODOLOGY

Objective Well-being



Geo Mean

$$MWI = \sqrt[n]{I_1 \times I_2 \times \ldots \times I_c}$$

MWI = Index of Malaysia Well Being
C = name of component
N = number of component

Source: Human Development Index (UNDP)

Arithmetic Mean

$$I_c = \frac{1}{n}\sum_{j=1} I_j$$

I_c = Component index
J = name of indicator
n = number of indicators in component C

Source: Human Development Index (UNDP), Better Life Index (OECD)

METHODOLOGY

Objective Well-being

Cut point of Well-Being Scoring

Score Cut points	Category of Well-Being
0.80 – 1.00	Very High
0.70 – 0.79	High
0.550 – 0.69	Medium
0.00 – 0.550	Low

Source: Human Development Index (UNDP)

METHODOLOGY

Subjective Well-being

As the Malaysian Happiness Index is still in the development stage, the study data is derived from a pilot test using simple random sampling as sampling method. There were 414 usable respondents who were at least 15 years old.

RELIABILITY TEST

It measures to indicate that a reliable instrument to be used as collecting data and refers how dependably or consistently a test measures a characteristic

VALIDITY TEST

To measure and ensure each question is appropriate and meets the objectives of the study. It refers to how accurately a method measures what it is intended to measure.

PEARSON CORRELATION

To measure the relationship between each item and the significance of the item

METHODOLOGY

Subjective Well-being

Hypothesis Testing of Reliability Test:

H_0: If the value of Cronbach's Alpha is > 0.60, then the questionnaire items dictated reliable

H_1: If the value of Cronbach's Alpha is < 0.60, then dictated the questionnaire items unreliability

Rule of Thumb Cronbach's Alpha

Cronbach's Alpha	Consistency
α ≥ 0.9	Excellent
0.7 ≤ α < 0.9	Good
0.6 ≤ α < 0.7	Acceptable
0.5 ≤ α < 0.6	Poor
α < 0.5	Unacceptable

METHODOLOGY

Subjective Well-being

Hypothesis Testing of Validity Test:

H_0: If the significance value is < 0.05, then the instrument is declared valid

H_1: If the significance value is > 0.05, then the instrument is declared invalid

Rule of Thumb Pearson Correlation Coefficient

From	To	Strength of Relationship
+/- 0.81	+/- 1.00	**Very Strong**
+/- 0.61	+/- 0.80	**Strong**
+/- 0.41	+/- 0.60	**Moderate**
+/- 0.21	+/- 0.40	**Weak**
+/- 0.00	+/- 0.20	**Weak to No Correlation**

Source: Hair, Jr., Celsi, Oritinau & Bush,. 2013

RESULT & DISCUSSION

RESULT & DISCUSSION

Objective Well-being

Scoring of Malaysian Well-Being

Year	Economic Well-Being	Sosial Well-Being	MyWI
2010	0.52	0.49	0.50
2011	0.55	0.53	0.54
2012	0.60	0.56	0.57
2013	0.61	0.56	0.58
2014	0.65	0.59	0.61
2015	0.70	0.57	0.62
2016	0.71	0.56	0.61
2017	0.74	0.62	0.66
2018	0.77	0.63	0.68
2019	0.82	0.62	0.69

Based on the results, the value of the overall index score for Malaysian Well-being Index (MyWI) in 2019 increased to 0.69 as compared to 0.68 in 2018. In overall, the level of Malaysians well-being is at medium level in 2019

RESULT & DISCUSSION

Subjective Well-being

Reliability Test of Questionnaire Malaysian Happiness Survey

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.746	0.961	74

Based on the results, the value of Cronbach's Alpha is 0.746 > 0.60, then the questionnaire items dictated reliable. In overall, the level of consistency is in good level

RESULT & DISCUSSION

Subjective Well-being

Validity Test of Questionnaire Malaysian Happiness Survey

Components	Pearson Correlation	Sig. (2-tailed)	N	Strength of Relationship
Family	.470**	0.000	141	Moderate
Housing and Environment	.575**	0.000	141	Moderate
Social Participation	.598**	0.000	141	Moderate
Health	.652**	0.000	141	Strong
Communication Facilities	.583**	0.000	141	Moderate
Education	.751**	0.000	141	Strong
Working Life	.723**	0.000	141	Strong

RESULT & DISCUSSION

Subjective Well-being

Validity Test of Questionnaire Malaysian Happiness Survey

Components	Pearson Correlation	Sig. (2-tailed)	N	Strength of Relationship
Income	.746**	0.000	141	Strong
Public Safety	.576**	0.000	141	Moderate
Time Use	.622**	0.000	141	Strong
Religion and Spiritual	.549**	0.000	141	Moderate
Culture	.352**	0.000	141	Weak
Emotional Experience	.405**	0.000	141	Moderate

Based on the results, overall, the value of significance value is 0.000 < 0.05, then the instrument is declared valid. Result of Pearson Correlation showed positive correlation which the higher scale of variable, the higher happiness scale.

CONCLUSION

CONCLUSION

Objective Well-being

The value of the overall index score for Malaysian Well-being Index (MyWI) in 2019 was 0.69. Malaysian Well-being was at medium level.

Subjective Well-being

The questionnaire items dictated reliable and level of consistency is in good level.

Subjective Well-being

The instrument is declared valid.

Subjective Well-being

The correlation showed all positive correlation which the higher scale of variable, the higher happiness scale.

DISCUSSION

Objective Well-being

Further analysis needs to be conducted by look into components that truly give impact to Malaysian well-being. It is needed to reviewing back the components to avoid multicollinearity and noise to the data.

Subjective Well-being

A measure of the level of happiness should be developed which uses a well-established, standard index so that the right solutions can be found.

Subjective Well-being

Thus, further analysis and study need to be done especially in identifying significant components and calculating happiness score index.

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