

Valuation of the Youth's Self-Identity via Principal Component Analysis

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Abstract: Self-identity is believed to be an important determinant of psychological well-being that is mostly challenging during young life stage. Youth with high self-identity able to develop positive attitude such as self-confidence, more optimist, and accept disagreement. Therefore, in this study, Northern Region of Peninsular Malaysia was investigated to identify the most influential factors that contributing to the youth's self-identity. The data first investigate by using descriptive statistics followed by a multivariate statistical analysis. Principal component analysis (PCA) was utilized to simplify the complex relationship among 35 self-identity parameters. Based on 63.85 total variation in the data, the results show that youth's self-identity are influent by four main factors which are religion, patriotism, economy and government aids. This study presents the usefulness of PCA in evaluating the factors of self-identity. It is valuable for educators to conceive optimum action plans for controlling low self-identity in future generation. Finding of this study on the self-identity of young generation in the state of Kedah are discussed. Taking into consideration are the complexity of Malaysian society, one that consists of differences in ethnicity, class, education, religion, language and geographical location, which in itself produces young Malaysians of various identities.

Keywords: Youth, Self-identity, multivariate statistics, principal component analysis

1. INTRODUCTION

Identity is a core construct in psychology because it refers to how a person addresses issues dealing with who that person is. Important theorists studying the concept of identity, like Erikson and Higgins, assert that identity is organized, is learned, and is dynamic, and a subjective evaluation of an individual's identity has emotional consequences for that individual. As 'identity' is socially-construct and historically-based, scholars of these school of thought offers various definitions to 'identity'. Hall (1996) defined it as a "process of articulation, a suturing, an over determination not subsumption" and a process of "becoming rather than being: not "who we are" or "where we came from" so much as what we might become, how we have been represented and how that bears on how we might represent ourselves". Jenkins (2004) saw identity as a process and not as something given. In defining identity, he does not see construction of identity as a product of a personal and individual choice or decision. Rather, it involves the constant interaction between individual with society. According to Giddens (1991), self-identity is not something that is natural and readily exist. He believes it needs to be continuously created, reworked and maintained by the individual particularly in a post traditional society. But what is pivotal in Giddens idea is that the construction of one's identity is a result of a reflexive process by the individual. It is about how one understood oneself.

In order to really grasp the situation of self-identity of young generation in The State of Kedah Malaysia, it is important to take into consideration the complexity of Malaysian society, one that consists of differences in ethnicity, class, education, religion, language and geographical

location, which in itself produces young Malaysians of various identities. Ironically young people in Kedah, lives, irrespective of ethnicity, religion and class, are very much influenced by religion, custom and culture.

However, it is the level of attachment of their parents to religion and ethnic culture at home that differentiates young Malaysians from one another. Thus, some young Kedahan have a more liberal upbringing. Also, religion, ethnic culture and values permeate their social worlds, such as through school or the media. Ethnic minorities tend to take extra measures to preserve the cultural identity of their children. Malaysia as a multicultural society is a much diversified not only of different races and ethnicity but also various language (dialect). In each of its major race, they have their own dialect and the way they talk in their own local dialect. Take for example the Malay in Kelantan speaks different dialect from its brethren in other state. Kelantanese as it is geographically closer with southern Thai, their dialect is somehow similar with their cousins up north. The same goes with its unique culture in term of attire, way of life and also their cuisine.

This goes similarly with Chinese who has dozens of different dialects used in the Chinese diaspora in Malaysia. Chinese in north mostly spoke Hokkien while in central spoke Hakka and Cantonese. Chinese in Malaysia also speaks Teochew in other part of the country along with their mother tongue Mandarin and also Bahasa Melayu. Majority of Indians in Malaysia speaks Tamil but there is othervariant of dialect that were apply and use by Indians in Malaysia such as Telegu, Malayalam, Hindi, Gujerati and also Punjabi.

2. METHODS

For the purpose of this article, discussion and analysis of findings and methods focuses on the eight-district of the state of Kedah sampling responds.

Two-stage sampling technique is implemented to select the youth samples from Northern Region of Peninsular Malaysia randomly. In the first stage, cluster analysis is used to choose one cluster among three states in Northern region (Perlis, Kedah or Penang). Then, in the second stage, simple random sampling is used to select a random sample from twelve (12) districts of state of Kedah. There are 400 questionnaires were distributed proportionately to all youth respondents in eight districts of Kedah from April to May 2017. Next, after performing data screening, the remaining data is about 73% which is 292 out of 400 respondents. Thus, the response rate was exceeding the acceptance value. Generally, 60% response rate is the aims of every quantitative analysis researchers (Fincham, 2008). The outlier and missing data problems in the questionnaires were handled before doing further analysis.

a. Study area

This cross-sectional study was carried out in the eight districts in the state of Kedah, Malaysia. Kedah is a state of Malaysia located in the northern part of Peninsular Malaysia. The state covers a total area of over 9,000 km². In year 2015, Department of Statistics Malaysia reported that there are three major ethnics group in Kedah which are Bumiputera (76%), Chinese (12.7%), and Indian (6.9%). The rest are 0.9% others and 3.4% non-Malaysian. The details are presented in Table 1.

Table 1: Ethnic Groups in State of Kedah, Malaysia
Source: Statistics Department of Malaysia (2015)

Ethnicity	Population	Percentage
Bumiputera	1,574,400	76.0
Chinese	263,200	12.7
Indian	143,200	6.9
Others	19,600	0.9
Non-Malaysian	71, 500	3.4

b. Analysis Method: Principal Component Analysis (PCA)

Principal component analysis (PCA) provide on the most meaningful parameters that aid data set interpretation, data reductions, and summarize the statistical correlation among constituents in the water with minimal loss of original information (Mizumukai et al, 2008; Wunderlin, 2001). The first principal component loading represents most of the variance in the observed variables, while each subsequence component explains progressively less variance (Chen et al, 2007). PCA is used for understanding the characteristics of multi variables in many fields (Oketola, Adekolureja & Osibanjo, 2013; Harada & Yoshida, 2001). PCA technique extracts the eigenvalues and eigenvectors from the covariance matrix of original variables. The Principal Component (PC) is the uncorrelated variables obtained by multiplying the original correlated variables with the eigenvector, which is a list coefficient. Thus, the PCs are weighted linear combinations of the original variables (Sarita, Sharma & Awasthi, 2015). According to Osei et al (2010) new orthogonal variables (factors) explained by a reduced set of calculated factors are called principal components (PCs).

The intention of PCA is to assess the most influential variable among multi interrelated parameters on the basis of linear combination approach. There are three important statistical measure in PCA which are eigenvalues, variance explained, and percentage variance explained (Table 2). Generally, data analysis on 35 parameters yields 35 principal components. The combination of these parameters in the principal component is primarily a tool for simplifying the interpretation of the observe parameter. Since PCA is a linear combination, it is possible to consider only a few of them which together explain most of the original variable. In selecting the appropriate number of principal components, Kaiser Criterion (eigenvalues >1) and scree plot are used. Kaiser criterion approach yield ten principal components where the percentage of total variance explained is 63.845% (Table 2). Additional factors provide marginally less explanatory capability and were not examined further.

Table 2: Eigenvalues, Varian Explained & Percentage of Variance Explained for Largest 10 Component

Components	Eigenvalues	Variance Explained	Percentage of Variance Explained
PC 1	7.389	21.111	21.111
PC 2	3.722	10.634	31.745
PC 3	2.172	6.204	37.950
PC 4	1.685	4.815	42.764
PC 5	1.526	4.361	47.125
PC 6	1.369	3.912	51.037
PC 7	1.221	3.487	54.524
PC 8	1.147	3.277	57.801
PC 9	1.111	3.174	60.975
PC 10	1.005	2.870	63.845

In other hand, the scree plot (Figure 1) is also can serve to identify the suitable number of principal components. The figure show clearly the bend is noticeable after third principle components.

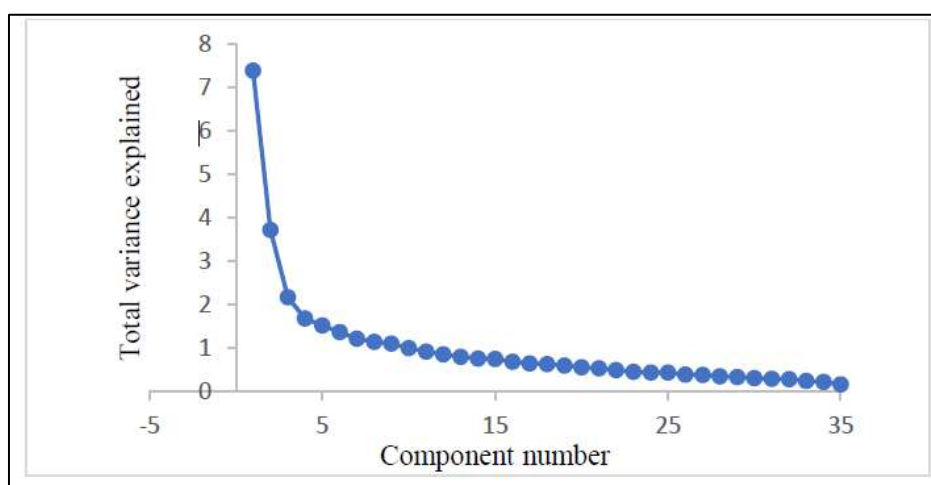


Figure 1. Scree plot of Principles Component Analysis

In what follows, the explanation of the results is on the basis of three most important principal components where the first, second, and third principle components explained total variances of 21.111%, 10.634%, 6.204%, respectively.

In addition, information in Table 3 is used to elaborate the most influential parameters. The higher the factor loading represent the most importance of that particular parameter. The analysis show that, the most important parameter is P14- I'm willing to face the risk in achieving my goals. This means that, among 35 parameters under study, P14 is strongly influence the youth self-identity. It is followed by P13, P15, P12 and P16. These top five parameters should be controlled by educators in producing good youth for future generation.

Table 3. Factors loading of the top five parameters

Parameter #	Parameter	Factor Loading	Rank
P12	I will tolerate with everyone	0.644	4
P13	I have a clear vision and know how to achieve it	0.712	2
P14	I'm willing to face the risk in achieving my goals	0.713	1
P15	I'm happy with my life	0.645	3
P16	I have sufficient knowledge in financial management	0.634	5

3. RESULTS AND DISCUSSION

Below is the discussion of findings of the study of youth's self-identity via principal component analysis.

a. Findings1: Demographic Profile of Kedah States Respondents

The descriptive statistics and PCA were performed as presented in Table 4, respectively. Based on Table 2, it shows that 51% and 49% of the respondents were male and female, respectively. The respondent is classified into four different age groups. The first age group (16-20 years) occupied 12.7%, the second age group (21-25 years) is 58.9%, the third age group (26-30 years) is 17.1% and the last age group (31-35 years) is 11.3%. Based on ethnicity, majority of respondents is Malay (78.1%). The second and third ethnic are Chinese

(11.6%) and Indian (6.8%), respectively. Others ethnic constituted 3.4%, which adds up to the overall 100 percent of the 292 youth respondents in Northern region of Peninsular Malaysia. The classification of respondents according to their educational level is dominated by three levels which are degree level (44.9%), STPM (15.8%) and Diploma level (13.7%).

Table 4. Demographic Profile of Kedah States Respondents

Profile	Frequency	Percent
Gender		
Male	149	51.0
Female	143	49.0
Age		
16-20 years old	37	12.7
21-25 years old	172	58.9
26-30 years old	50	17.1
31-35 years old	33	11.3
Ethnicity		
Malay	228	78.1
Chinese	34	11.6
Indian	20	6.8
Others	10	3.4
Education Level		
SRP/PMR/PT3	4	1.4
SPM	28	9.6
STAM	4	0.7
STPM	46	15.8
Matriculation	4	1.4
Certification after School	23	7.9
Diploma	40	13.7
Degree	131	44.9
Master	10	3.4
Ph.D	4	1.4

b. Kedah States Respondents Monthly Household income

Based on Chart 1, it shows that respondents with an average of RM1,001-RM3,000 monthly household income has the highest percentage of 37.90% in compare to only 0.5% respondents with an average of RM13,149 and above. Nonetheless, average household income of Kedah States respondents which are below RM1,000 is alarmingly high with 36.3% (21.50% No income & 14.80% below Rm1,000). This situation of financial hardship on individuals and families will further create psychological effects within community. Within such contexts, low of income, are muchly associated with household stress and it increases levels of distress, depression, and anxiety

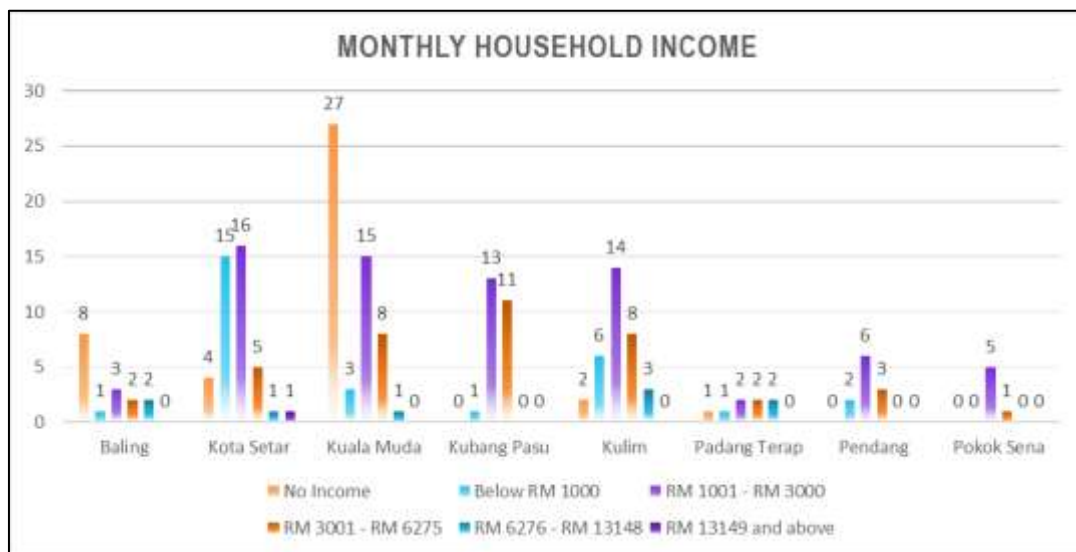


Figure 2. Kedah States Respondents monthly Household Income

c. Kedah States Respondents Residential Area

Chart 2, shows respondentsKedah States respondents residential area fraction, namely Village, Housing Area, Flat Condominium, Dormitory and Others. residential area information is very important because it gives us an understanding of the surrounding quality of living and its community form of engagement. A total of 51.7% (102) respondents living in housing area meanwhile 38.5% (76) lives in villages around state of Kedah.Oliver Ling Hoon Leh., Nurul Amanina Mansor. and Siti Nur Afifah Mohamed Musthafa (2016) suggested that young people tend to have diverse housing preferences due to experiencing tough stages of life such as leaving parental home for job opportunities and marriage. Therefore, young people tend to consider the environmental elements and services at a specific location when purchasing a house



Figure 3. Kedah States Respondents Residential Area

d. Kedah States Respondents on Malaysia Unity

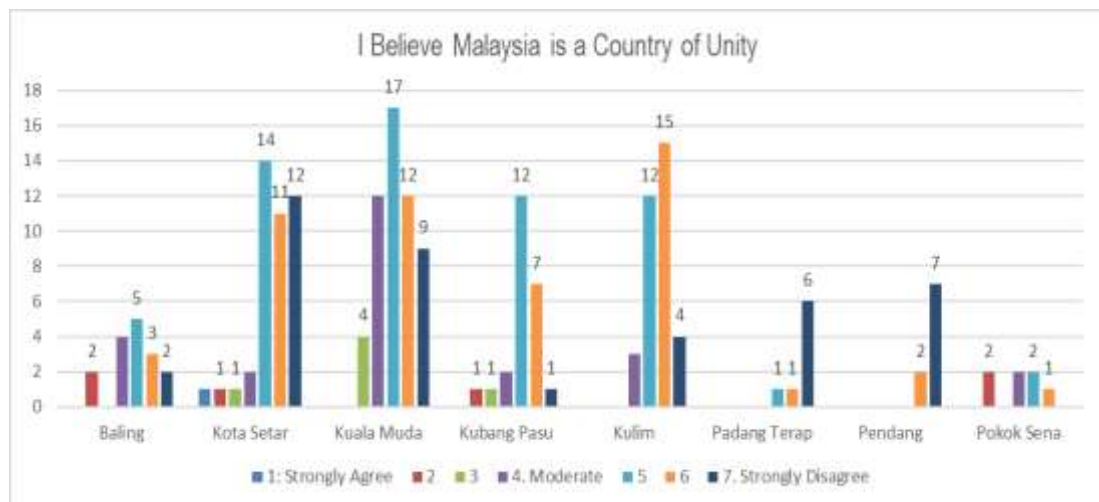


Figure 4. Kedah States Respondents Believe on Malaysia Unity

Finally, figure 4, shows respondents Kedah States respondents believe in Malaysia Unity. It is surprising to comprehend that a large number of respondents has doubt of Malaysia as a country of unity. More than 82.3% out of total 194 respondent (32.4% - Moderate Disagree, 32.4% - Disagree and 21.1% - Strongly disagree) have disagree with the account that Malaysia is a country of unity. This is consistent with the current Malaysia political turmoil. The Edge Financial Daily, on February 26, 2020 clearly highlights the need for the current obnoxious political environment in Malaysia to be sanitised, and by de-emphasising partisan politics, sensitive issues of race and religion to be managed in the spirit of national unity.

4. CONCLUSION

The top four component which are high as stated by eigenvalues are from the personality variable. Which known as PC1: I'm willing to face the risk in achieving my goals; PC2: I have a clear vision and able to make decisions in achieving it, PC 3 : I'm happy with my life and PC4 : I am passionate to everyone.

Based on these finding it shows that our youth are on the right track. This also shows, Malaysian youth have significant potential to be engaged in active roles to develop themselves, their communities and their nation. On that account, a national youth policy should continue to demonstrate the country's commitment to, and strategic directions for, promoting and progressing the well-being and participation of young people and create opportunities for the young to become skilled, healthy and productive to develop the country and specific strategies to translate the policy into action needed.

Finally, just to illustrate the future of Malaysia, we believe as what the government had done to ensure stability of nation until year 2050, with this kind of finding, we expect that Malaysia continues to be a peaceful and plural nation: multi-cultural, multi-ethnic and multi-religious just like Andalusian model in Islamic Spain whereby Muslim and non-Muslim living and building nation together with relative peace. Islam, being a moderate and humanist religion, promotes universal Malaysian and eastern values which transcend religions, races and cultures. Malaysian Muslims seek knowledge, and along with it, dignity, humility and tranquillity. Like other Malaysians, values of openness and respect are engrained in our character which in Islamic teachings and 'good character' behaviours are instilled from young.

Hopefully the results obtained in this study can be used as a general guide on the self-identity level and its associated factors among youth in Malaysia as a whole. The findings of this study can

be used by academician and other professionals in handling matters pertaining to youth self-identity and well-being. Larger and more in-depth studies should also be carried out to determine the correlation between low self-identity and other social problems among adolescents in this country based on the findings of this study. Youth self-identity is often misunderstood as the coming of age phenomenon among the youth in this country. This self-identity among our youth is actually how their lives was influenced by the culture, religion and environment that they live during their upbringing. This self-identity refers how they defines themselves and forms the basis of their self-esteem when they reach adulthood. It is imperative 34 that the youth know how to reflect their self-identity during the process of matureness in their live.

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