# Validation and Establishment of Social Change Indicator among Urban Poverty: Multidimensional Verification Based on Multivariate Analysis

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**Abstract**
The issue of poverty becomes more serious with the migration of people from rural to urban in search of employment opportunities and comfortable life compared to rural areas. However, the process of development and modernisation has disrupted sustainability and lifestyle of the society. This study aims to examine the structure and the validity of social change indicators among urban poverty. The participants were 412 urban poor in Kelang Valley, Malaysia. A set of the semi-structured questionnaire were distributed, and the data set completed analyse with Exploratory Factor Analysis (EFA) to obtain the appropriate model for social change research indicator. Next, a series of Confirmatory Factor Analysis (CFA) was conducted, targeting to cross-validate the result obtain from EFA analysis. This study postulates suggestion of the reliability and validity of social wellbeing, social capital and human capital as social change indicator.
**Keywords:** Social Change, Urban Poverty, Urban Poor, Social Capital, Human Capital, Social Wellbeing

**Introduction**
Margono (1985) defines development as a planned effort to improve the quality of life that encompasses all aspects of life by using specific methods and technologies. Rogers (1985), argues that development is a useful change towards a social and economic system decided as the will of the state. The concept of development has become an ideology in pursuit of the growth and advancement of science and technology. The main focus in development is to achieve economic improvement, which is not only limited to the elite, but also comprehensively at all walks of life. In other words, it aims to eradicate poverty.

This change towards increasing progress requires the mobilization of all parties. By itself, development is a process of reasoning to create human culture and civilization. Development cannot be end because human life is often associated with change. The essence of

development is not only the occurrence of changes in physical or material structure, but also involves changes in the attitudes of society. Development is the effort to advance or improve and increase the value of something that already exists. Development also means a group of human efforts to direct social and cultural change in accordance with the objectives of the life of the nation and country, which is to achieve the growth of civilization in social and cultural life based on predetermined targets.

Development is an important indicator of a country's progress. Social changes is a result of driving economic growth has attracted many foreign investors to invest and improve the economy in the country. Despite the rapid development and urbanization process, there are those affected who have to struggle to continue living. They are the urban poor or better known as the urban poor. The urban poor live in several locations in major cities in the country. According to the Ministry of Economic Affairs (MEA), the poor are define as those whose monthly household income is less than the Poverty Line Income (PGK) of RM989.00 with a per capita income of RM253.00 and below. Report of the Economic Planning Unit (EPU) at the Parliamentary Caucus on 28 September 2019, there are 190,534 poor families with 134,553 being poor. Demographically, 107,114 (56 percent) households are in urban areas. The remaining 83,420 (42 per cent) live in rural areas.

These groups are vulnerable to high cost of living, health problems, dropouts, crime, social ills, basic amenities and property ownership as a result of social changes, especially modernization leading to high -income countries. This issue is important because it affects the sustainability of society to adapt to the changes that occur. Development that is supposed to help and facilitate the community, ultimately affects the survival of the next lagging behind in the modernization that is taking place.

**Literature Review**
A review of the literature shows the issue of tackling urban poverty is very important especially in this pandemic season. Poverty often refer as a phenomenon of lack, insufficiency of household income leading to insufficient or complete consumption, risk caused by failure to obtain facilities and goods especially basic necessities, low quality housing that causes vulnerability to health problems, crime and natural disasters, discrimination and facilities limited to the labour market formally especially to women and certain ethnic groups (Muhamad et. al., 2020). Poverty also refers to a state of deprivation faced by an individual or family to cope with the continuity of daily life (Zin & Tambi, 2018).

The concept of sustainable development is an effort to maintain the well -being of the physical environment meets the needs of life. Efforts towards achieving a good quality of life are not only seen in terms of a built environment that provides comfort to residents but also the ability of the environment to provide economic opportunities, quality of life also demands economic balance and environmental care that involves changes in society and social systems (Ahmad, 2008 : Zamhari & Perumal,2016). Issues related to human capital, social capital and the social well -being of the urban poor need immediate action

*Social Wellbeing*: is a goal that all individuals, families, communities and nations want to achieve. It is a key element in determining the level of development of a community and country (Mohamad et. al., 2017).

*Human Capital*: Knowledge, skills and attitudes. Best agent in efforts to change the status, family economy (Subhi, 2016)

*Social Capital:* refers to the social relationships that result from individuals, groups and communities. Although there are differences in terms of relationships, the three perspectives complement each other. Past studies have shown that social capital can improve the quality of life of society such as a study by Dinda (2014); Lumintang (2015) concluded that there is an influence of social capital on the quality of life.

This article is one of the first to attempt this model in the term of social change indicator for urban poverty. Thus, the specific research objective of this study was to establish a reliable questionnaire for social change indicators and to investigate the structure and the validity of social change indicators in Malaysia. Finally, the results of the validation of the model indicator could offer further insight for practitioners and significant to the parties concerned in formulate social development plans especially for the urban poor so that their livelihood is more secure.

## Methods

The study population is the urban poor in Klang Valley, Malaysia. The majority respondents are age between 20 – 29 years old (32.8%). 62.1% are male respondent (n=256) and 37.9% are female respondents (n=156). This study used simple random sampling as a mean of collecting data from the target population of the study throughout Malaysia and approximately 412 respondents were identified as a sample for this study.

The research instrument used in this study was a self-administered questionnaire developed from the literature review and several questionnaires that have been developing in previous studies such as Shaladdin et al (2009); Zolkifeli and Abdul Aziz (2019); Aziz and Yahaya (2019) and study by Shafii et al (2009) entitled "Development of Human Capital Towards Improving the Quality of Life of the Community". The questionnaire consisted of 70 items and divided into four sections. Part 1 presents the demographic questions in the instrument to gather necessary respondent profile data via categorical scale. In part 2 until part 4 deals with the measurement of social capital, social wellbeing and human capital respectively. Respondents are asked to indicate their agreement level for each item, for the last four parts on a five-point Likert-type scale, from 'strongly disagree' (=1) to 'strongly agree' (=5). The questionnaire was revised and finalized based on a pilot test conducted and the reliability of the constructs was then assessed using Cronbach's $\alpha$. All the items showed $\alpha$ levels above the 0.70 threshold recommended by Hair et. al (1995): social wellbeing (0.916), social capital (0.932) and human capital (0.936).

Descriptive statistics were computed for all survey items to provide a demographic profile of the respondents and to identify the relative importance of each attribute. An exploratory factor analysis (EFA), using principal axis factoring with varimax rotation, was conducted to determine dimensions of the choice attributes. EFA variable reduction technique which identifies the underlying factor structure of a set of variables (Hair et. al., 2010; Chua, 2014). A confirmatory factor analysis (CFA) was then implemented to validate the results of the EFA. The EFA was use to estimate a preliminary factor structure and to screen variables for

inclusion in the CFA. Principal factorial analysis is multivariate analysis toward validating indicator to reduce large set of matrices data with substantial of the slightest loss from the original data sets, to the significant items only.

**Findings**

Further analysis were sets for social wellbeing construct (see Table 1), initially encompass of 19 items. CFA revealed only 14 items which is S1 (0.86), S2 (0.76), S3 (0.73), S5 (0.70), H1 (0.73), H2 (0.81), H3 (0.883), H4 (0.77), H5 (0.72), H6 (0.89), NB3 (0.76), NB5 (0.98), NB6 (0.92) and NB7 (0.88) were met the expectation with cumulative percentage of variability at 57.82 %. Furthermore, social capital construct were reduced half number if the items to 9 items from the total of 18 items namely, NT1 (0.89), NT4 (0.9), NT5 (0.97), T1 (0.75), T2 (0.78), T3 (0.79), N3 (0.92), N4 (0.90) and N5 (0.86) with cumulative percentage of variability at 62.32 %. Meanwhile, construct for human capital reduced from 18 to only 15 items which is K1 (0.7), K2 (0.89), K3 (0.85), K4 (0.74), K5 (0.82), K6 (0.81), S1 (0.74), S4 (0.73), S5 (0.85), S6 (0.83), A1 (0.89), A3 (0.83), A4 (0.94), A5 (0.79), and A6 (0.83) with 54.25 % cumulative percentage of variability.

Table 1
*Factor loadings (>0.70) of all constructs in the confirmatory factorial analysis.*

| Items | PF1 | PF2 | PF3 |
|---|---|---|---|
| **Social Well-being** | | | |
| **Security 1** | **0.86** | -0.23 | -0.14 |
| **Security 2** | **0.76** | -0.13 | -0.16 |
| **Security 3** | **0.73** | 0.04 | -0.23 |
| **Security 4** | 0.67 | 0.22 | -0.41 |
| **Security 5** | **0.70** | 0.37 | -0.42 |
| **Security 6** | 0.53 | -0.06 | -0.12 |
| **Health 1** | **0.73** | 0.02 | -0.27 |
| **Health 2** | **0.81** | -0.26 | -0.13 |
| **Health 3** | **0.83** | -0.19 | -0.02 |
| **Health 4** | **0.77** | -0.06 | -0.07 |
| **Health 5** | **0.72** | -0.09 | 0.01 |
| **Health 6** | **0.89** | -0.15 | 0.06 |
| **Neighborhood 1** | 0.54 | -0.45 | 0.23 |
| **Neighborhood 2** | 0.57 | -0.53 | 0.34 |
| **Neighborhood 3** | **0.76** | 0.17 | 0.33 |
| **Neighborhood 4** | 0.45 | -0.18 | 0.08 |
| **Neighborhood 5** | **0.98** | -0.21 | 0.36 |

| Neighborhood 6 | **0.92** | -0.18 | 0.43 |
|---|---|---|---|
| Neighborhood 7 | **0.88** | 0.23 | 0.38 |
| Eigenvalue | 22.02 | 1.48 | 1.10 |
| Variability (%) | 39.45 | 8.43 | 8.19 |
| Cumulative % | 39.45 | 42.3 | 57.82 |

| Social Capital | | | |
|---|---|---|---|
| Networking 1 | -0.23 | **0.89** | 0.43 |
| Networking 2 | -0.13 | 0.26 | -0.32 |
| Networking 3 | 0.11 | 0.37 | -0.14 |
| Networking 4 | 0.34 | **0.89** | -0.24 |
| Networking 5 | 0.27 | **0.97** | -0.11 |
| Networking 6 | -0.15 | 0.04 | -0.04 |
| Trust 1 | 0.12 | **0.75** | -0.25 |
| Trust 2 | -0.14 | **0.78** | 0.32 |
| Trust 3 | -0.03 | **0.79** | 0.43 |
| Trust 4 | -0.04 | 0.08 | -0.13 |
| Trust 5 | 0.13 | 0.22 | -0.18 |
| Trust 6 | -0.09 | 0.23 | -0.14 |
| Norms 1 | -0.15 | 0.07 | -0.22 |
| Norms 2 | 0.17 | 0.33 | -0.04 |
| Norms 3 | 0.47 | **0.92** | 0.15 |
| Norms 4 | 0.21 | **0.90** | 0.43 |
| Norms 5 | 0.34 | **0.86** | -0.26 |
| Norms 6 | -0.23 | 0.43 | 0.12 |
| Eigenvalue | **7.05** | **22.14** | **3.09** |
| Variability (%) | **15.85** | 39.45 | 7.36 |
| Cumulative % | **25.85** | 43.2 | 62 .32 |

| Human Capital | | | |
|---|---|---|---|
| Knowledge 1 | 0.27 | 0.14 | **0.87** |
| Knowledge 2 | -0.07 | 0.37 | **0.89** |
| Knowledge 3 | -0.14 | -0.23 | **0.85** |
| Knowledge 4 | -0.25 | -0.03 | **0.74** |

| | | | |
|---|---|---|---|
| **Knowledge 5** | 0.35 | -0.23 | **0.82** |
| **Knowledge 6** | -0.06 | 0.12 | **0.81** |
| **Skills 1** | -0.09 | 0.02 | **0.74** |
| **Skills 2** | -0.41 | -0.18 | 0.03 |
| **Skills 3** | -0.09 | -0.30 | 0.18 |
| **Skills 4** | 0.34 | -0.02 | **0.73** |
| **Skills 5** | -0.14 | 0.54 | **0.85** |
| **Skills 6** | 0.34 | 0.43 | **0.83** |
| **Attitude 1** | 0.33 | -0.15 | **0.89** |
| **Attitude 2** | 0.01 | -0.05 | 0.36 |
| **Attitude 3** | 0.45 | 0.04 | **0.83** |
| **Attitude 4** | 0.36 | -0.24 | **0.94** |
| **Attitude 5** | -0.15 | 0.34 | **0.79** |
| **Attitude 6** | 0.36 | 0.14 | **0.83** |
| **Eigenvalue** | **12.05** | **7.54** | **5.42** |
| **Variability (%)** | **13.08** | 12.05 | 3.41 |
| **Cumulative %** | **12.63** | 26.31 | 54.25 |

*EFA and CFA of Multidimensional Data Set*
Output from the data mining using raw data set (initially 55 data set), all items on each constructs (result from Table 1) were combined together for further analysis including social wellbeing construct (14 items), social capital (9 items) and human capital (15 items), as a total of 38 items, respectively. At this stage, the same method with the same procedure was employed like annotated before, but the only different process in this step is by combining all the items and were analyzed accordingly. EFA will be revealed the principal factors contribute (eigenvalue >1) to the variation and then CFA will confirm the factor loading of each item by using varimax rotation method.

Factors loading on each principal factors were standardize at value more than 0.499 (>0.499) as reckoning as moderate loading. After varimax rotation method with selection of 3 principal factors (PF1-PF3), result of the factor loading were computed as shown in the Table 3 and 4. Based on this result, Table 3 revealed the most significant parameters which are items S1 (0.82), S2 (0.72), S3 (0.70), S5 (0.53), H1 (0.65), H2 (0.77), H3 (0.78), H4 (0.72), H5 (0.56), H6 (0.83), NB3 (0.58), NB5 (0.96), NB6 (0.89), NB7 (0.86), NT1 (0.81), NT4 (0.87), NT5 (0.96), T1 (0.52), T2 (0.75), T3 (0.77), N3 (0.89), N4 (0.89), N5 (0.84), K1 (0.85), K2 (0.87), K3 (0.83), K5 (0.79), K6 (0.79), S1 (0.59), S4 (0.59), S5 (0.83), S6 (0.79), A1 (0.87), A3 (0.79), A4 (0.89), A5 (0.76) and A6 (0.79) respectively. Initially, 38 items of matrixes data set were included in the EFA method. However, by employing CFA, 1 items were eliminated in this process as a result, total of 37 items were identified. From this result, CFA projected 34.24% total of variation yield by combining all items.

Table 2
*Principal Factor Analysis*

| Items | PF1 | PF2 | PF3 |
|---|---|---|---|
| **Social Well-being** | | | |
| **Security 1** | 0.82 | | |
| **Security 2** | 0.72 | | |
| **Security 3** | 0.70 | | |
| **Security 5** | 0.53 | | |
| **Health 1** | 0.65 | | |
| **Health 2** | 0.77 | | |
| **Health 3** | 0.78 | | |
| **Health 4** | 0.72 | | |
| **Health 5** | 0.56 | | |
| **Health 6** | 0.83 | | |
| **Neighborhood 3** | 0.58 | | |
| **Neighborhood 5** | 0.96 | | |
| **Neighborhood 6** | 0.89 | | |
| **Neighborhood 7** | 0.86 | | |
| **Social Capital** | | | |
| **Networking 1** | | 0.81 | |
| **Networking 4** | | 0.87 | |
| **Networking 5** | | 0.96 | |
| **Trust 1** | | 0.51 | |
| **Trust 2** | | 0.75 | |
| **Trust 3** | | 0.77 | |
| **Norms 3** | | 0.89 | |
| **Norms 4** | | 0.89 | |
| **Norms 5** | | 0.84 | |
| **Human Capital** | | | |
| **Knowledge 1** | | | 0.85 |
| **Knowledge 2** | | | 0.87 |
| **Knowledge 3** | | | 0.83 |
| **Knowledge 4** | | | 0.49 |
| **Knowledge 5** | | | 0.79 |

| | | | |
|---|---|---|---|
| **Knowledge 6** | | | 0.79 |
| **Skills 1** | | | 0.59 |
| **Skills 4** | | | 0.59 |
| **Skills 5** | | | 0.83 |
| **Skills 6** | | | 0.79 |
| **Attitude 1** | | | 0.87 |
| **Attitude 3** | | | 0.79 |
| **Attitude 4** | | | 0.89 |
| **Attitude 5** | | | 0.76 |
| **Attitude 6** | | | 0.79 |
| **Eigenvalue** | **23.469** | **7.670** | **2.427** |
| **Variability (%)** | **7.563** | 14.056 | 3.414 |
| **Cumulative %** | **7.563** | 21.620 | 34.248 |

## Discussions

*Significant Indicator*

The objective of the current study is to ascertain the most significant of the social change indicators by applying multivariate analysis specifically principal component analysis (EFA and CFA) towards validating the indicators prominently impact the viability of the urban poverty. Based on the result (see Table 1), EFA and CFA in the early stage formerly employed 55 items for all constructs. However, CFA revealed (after varimax rotation) only 38 items meet the standardized expectation of the analysis. From this finding, EFA and CFA efficiently showed the most significant parameters on all nine constructs. This finding is in concordance with the previous study stated that principal factor analysis by employing principal component analysis suggestively limiting to the significant items only when dealing with the huge dataset (Abdullah et al., 2016e). Furthermore, some of the researchers prefer to annotate as a sensitivity analysis (at this stage) because of the extraction process method with sophisticated approach insight of the identification stage (Abdullah et al., 2016f). This would lead the researchers to careful establish an instrument and comprehensively guided the researcher in term of making a crucial selection of the situation when dealing with large dataset. In the meantime, this method would help the researcher to identify the most significant items related to the research in the manner for the establishing and validating an instrument.

Result from reliability test CFA shows that every item Cronbach's Alpha value above >0.60 which is good. Table 3 show reliability test Cronbach's Alpha result for every construct which are social wellbeing (0.866), social capital (0.911) and human capital (0.839). We can conclude this construct can be use as social change indicator among urban poverty.

Table 3
*Cronbach's Alpha Coefficient*

| Construct | Items | Coefficient Alpha |
|---|---|---|
| Social Wellbeing | 14 | 0.866 |
| Social Capital | 9 | 0.911 |
| Human Capital | 14 | 0.839 |

**Conclusion and Implications**

This study provides initial evidence of the reliability and validity of social capital, social wellbeing and human capital as social change indicator. The amount of variance explained by the EFA suggests that these indicators are essentials for social change study. Furthermore, the factor analysis indicates that respondents clearly distinguish each variable for determining the social change indicator. However, this study recommends using a larger number of items to establish this social change indicator for future research (Amin et al., 2019) Poverty research still relevant till now and this current study makes contribution to the field of sociology to define more precisely and classify the variables of the social change. The results can also help the stakeholder take appropriate steps to improve the program's effectiveness in meeting the needs of the urban poor.

**Acknowledgement**

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