

## **MEASURING ALTRUISM AMONG YOUTH IN MALAYSIA: AN INSTRUMENT DEVELOPMENT USING THE EXPLORATORY FACTOR ANALYSIS**

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### **ABSTRACT**

Altruism is the willingness of a person to act for the benefit and interest of others without any implicit motives which is regarded as the highest level of akhlaq in Islam especially in Muamalah. Realizing its importance, this paper seeks to design an instrument to measure the value of altruism among youth in Malaysia using the quantitative survey method. The proposed instrument comprises of two main components which are the altruism belief and the altruism behaviour. The first component was constructed by basing on the key elements of altruism found in the literature and the second component was adopted from the Self Report Altruism Scale (SRA) with some elements had been modified to suit the Malaysian context. The sampling involved in this study was 198 students of a polytechnic in Malaysia by using the cluster sampling with the ratio of 30:70 (30% Commerce students and 70% Engineering students) of the total enrollment. The data was then analyzed using the reliability analysis and the Exploratory Factor Analysis (EFA). The value of Cronbach Alpha was 0.935 for all components, 0.864 for the first component and 0.937 for the second component. The EFA result showed that almost all items have proven a sound validity construct with loadings more than 0.5 and an item with a loading less than 0.3

was removed. This study contributes to the formation of a sound instrument to capture a comprehensive value of altruism especially among youth in the local setting.

**Keywords:** altruism, youth, reliability analysis, instrument development, exploratory factor analysis

## INTRODUCTION

Altruism or *Īthār* is defined as a benovelant act for the sake of others which is expressed through extending favors in the form of material, physical, informational, emotional, spiritual and others. It is also defined as the willingness to act for the benefit and interest of others without any implicit motives (Nagel, 1970). The role of altruism in influencing prosocial behaviours is frequently discussed in many studies. In Islam, this altruistic act has been described in the Quran in *Surah al-Hasyr*, verse 9 that depicts the nobility of *al-Ansar* (people in Medina) who selflessly went all the way to help the *Muhajireen* (emigrants) without expecting anything in return for their kindness.

*As for those who had settled in the city and embraced the faith before the arrival of the emigrants, they love whoever immigrates to them, never having a desire in their hearts for whatever of the gains is given to the emigrants. They give the emigrants preference over themselves even though they may be in need. And whoever is saved from the selfishness of their own souls, it is they who are truly successful. (Surah Al-Hasyr: 59:9)*

Prosocial involvement has proven to impact positively on a person's wellbeing (Rhoads et al, (2021), Muhammad Yasin Omar Mokhtar et. Al (2020), Ashwini & Indumathy (2018) and Xi, et al (2017)). In the context of youth development, prosocial activities serve the functions of making them aware of and able to accept the social norms and moral standards of society which brings positive changes to themselves and consequently benefit the society (Ching Man Lam, 2012). Using the self-report altruism (SRA) scale by Rushton, Chrisjohn & Fekken, (1981), a study by Mehpare Tokay Argan & Metin Argan (2017) uncovered that altruistic values were significantly high for each trait in individuals with five-factor personality traits especially the positive ones. This proves to the positive impact of altruism in personality development.

Other than that, altruism also has been proven to promote self-wellbeing. A study on the causal effect of altruism and well being among youths has proven that altruism was a significant moderator in which the Kindness to Others among this group has shown an increase in positive affect, a decrease in negative affect, and a decrease in stress. These findings suggest that individual differences may shape the effects of altruistic acts on well-being during adolescence (Tashjian et al, 2021). Another study on the relationship between emotional intelligence,

altruistic behavior, and subjective well-being was conducted on 412 undergraduates in two South China universities. The findings indicated that emotional intelligence and altruistic behavior led to subjective well-being and that altruistic behavior partially mediated the relationship between emotional intelligence and subjective well-being (Huang et al, 2018).

Although the research on altruism is important, instruments used by researchers to capture the value of altruism among respondents varies depending on the context of the study. Instruments on altruism in the literature are also found to cater only on the behavioural component of altruism without including other crucial component of altruism such as the beliefs. This can be seen in a few studies such as in a study by Tegar Rismanuar Nuryitmawan (2022) who came out with six items concerning behavioural aspects of altruism. A study by Windmann et al (2021) suggested three different facets of altruistic behavioural traits which are help-giving which infers to sharing one's resources with needy or deserving others in the form of time, money, goods, energy, information, cognitive resources, or even blood and internal organs; moral courage which represents the willingness to defend ethical values against social threats which consequently putting one's own social status and personal well-being at risk, and peer punishment which has emerged from the economic game settings.

Most of the popular self-test on altruism are developed only on the behavioural aspects. Other than the altruistic self-construct by Rushton, Chrisjohn & Fekken (1981) there are other Altruistic Self Scale prepared by Tapia-Fonllem et al. (2013). The difference between these two scales is only in the number of items in which Rushton (1981) has 20 items and Tapia-Fonllem (2013) has reduced the items into 10 items but basically both scales focus only on the behavioural aspect of altruism. Some of the items in the existing altruistic self-test has multicultural issues which led to versions of adaptation and modification as found in a study by Feng & Guo (2017) who formulated the Chinese version of the Self-Report Altruism Scale Distinguished by the Recipient (SRAS-DR) which was adapted on the scale by Oda, Shibata, Kiyonari, Takeda, & Matsumoto-Oda (2013) known as the Japanese Self-Report Altruism Scale. In the study, this Chinese version of the Self-Report Altruism Scale measured three kinds of altruism (altruism to family members, to friends, or to strangers) by using 21 items and 3 dimensions.

However, there were a few studies which catered the aspects of altruistic beliefs such as a study by Ardian Adhiatma & Olivia Fachrunnisa (2021). Their study had measured altruism in the context of work through three items namely sympathy for co-workers, the intensity of help and attention to the work environment. These items were seen to be more on the internal traits or beliefs related to altruism. Another study that employed items related to altruistic beliefs was by Nakavachara (2018) which ask respondents to give feedback on the feeling of sympathy when others in misery, feeling of happy when people in trouble and the feeling to help when having a chance to. This study found that older people, higher income people and women were more altruistic. Thus, having discussed the aspects of altruism instrument, it is the objective of this study to propose a comprehensive altruistic scale consisting of the components of

beliefs and behaviour as well as adhering to the context of Malaysia to avoid multicultural issues.

## METHODOLOGY

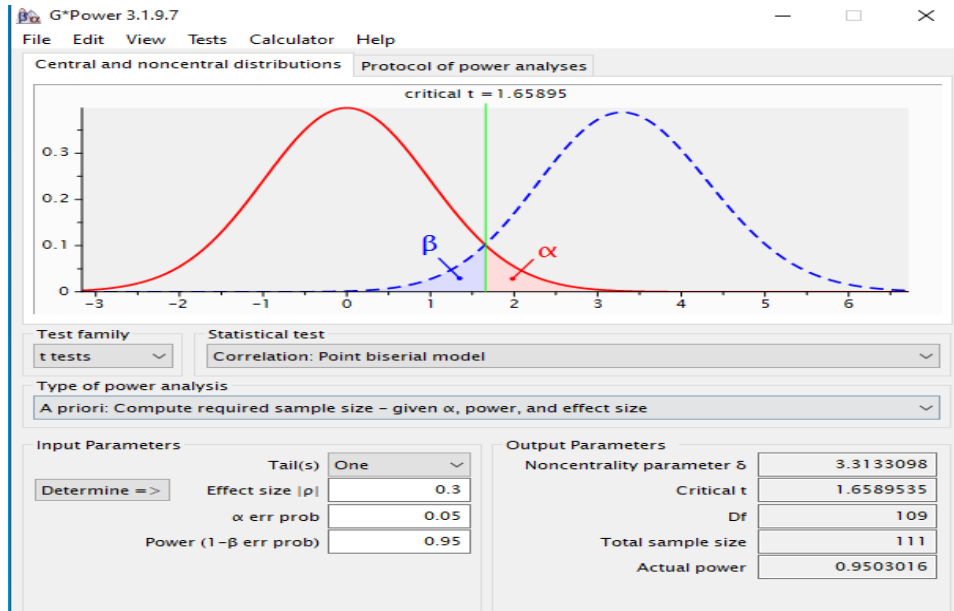
This study employed the quantitative survey design, and a set of questionnaires containing 26 questions were constructed and adopted based on the Self Report Altruism Scale (SRA) by Rushton, Chrisjohn, & Fekken, (1981) with added elements of altruism as discussed in the literature. The sampling used was cluster sampling and the portion of Sampling was determined by the percentage of the targeted polytechnic population as presented in the following Table 1.

**Table 1:** The Total Number of Students in the Targeted Polytechnic

| Department                           | Number of Students | %    |
|--------------------------------------|--------------------|------|
| Department of Mechanical Engineering | 890                | 28%  |
| Department of Electrical Engineering | 723                | 22%  |
| Department of Civil Engineering      | 721                | 22%  |
| Department of Commerce               | 891                | 28%  |
| TOTAL                                | 3225               | 100% |

Source: [spmp.psas.edu.my/uspmp2/cetakstatieojantina.jsp](http://spmp.psas.edu.my/uspmp2/cetakstatieojantina.jsp)

The size of the sampling was determined using the G\*Power Application and to run the correlation test with 95% statistical power (refer Figure 1), the sampling needed was 111 but because the data was analyzed using the factor analysis, the minimum number of samples adequate for running the test was 150-200 (Pallant,2020). This study was piloted by involving the participants from a polytechnic in Malaysia. As many as 198 respondents participated in answering the questionnaire and the data was processed using the IBM SPSS version 20.



**Figure 1: Result of G\*Power**

For data analysis, Exploratory Factor Analysis was employed in this study to determine which variables are coherent to form a factor by examining the correlation of the subsets that are independent of one another (Tabachnick & Fidell, 2007), it is also known as a form of construct validation statistical tool (Ahmad Hashim. (2014). There are three important steps in factor analysis. The first step is to evaluate the suitability of the data for the analysis, The analysis process commences with Bartlett's test of sphericity and Kaiser Mayer Olkin or KMO to confirm the number of samples adequacy. KMO is a statistical test that reflects the proportion of variance in the variables while Bartlett's test of sphericity determines the presence of correlations among the variables (Hair et.al, 2009). The significant result for suitability indication for both tests are significant at  $p < 0.05$  and the range of KMO index is between 0 to 1 with a 0.6 is the minimum acceptable value. The value of more than 0.3 is accepted for correlation coefficient to screening the variables (Tabachnick & fidell, 2007).

The second step is factor extraction to determine the smallest number of possible factors for data reduction. This study adopted the most popular technique which is the Principal Component Analysis or PCA (Hair et al, 2009). Using this technique, Kaiser's criterion and the scree plot are used to ascertain the number of factors to be retained. The retained factors must have an eigenvalue of 0.1 or more. The eigenvalue indicates the amount of variance explained by the factor (Pallant, 2020). Lastly, the third step is the rotation factor and interpretation. This procedure is done to decide the variables that group together using the oblique and the orthogonal rotation. The decision to use which technique depends on the focus of the research problem and the assumption made priori. If the focus was to reduce the number variables and with the assumption

that the variables were not correlated to each other than the suitable technique is the orthogonal rotation method. However, if the focus was on producing is to obtain theoretical meaningful factors or constructs with the assumption that the variables might be correlated, then an oblique rotation method will be more appropriate (Hair et.al, 2009). In this study, the oblique rotation method was used, and the Direct Oblimin Technique was chosen. The interpretation of loading values was based on Hair et al (2009) who consider the 0.3 level to be a minimum requirement, 0.4 more important, and 0.5 or higher as practically more significant.

## RESULT

Before processing the data using the Exploratory Factor Analysis (EFA), a reliability analysis was done and the result of the Cronbach Alpha for all 26 items was 0.935. The items were later broken down into two components. The reliability analysis for 6 items of altruistic belief component was 0.864 and 0.937 for 20 items of behavioural component. All results of reliability analysis indicate a very high value of reliability. Then, the first step of EFA was initiated by running the Bartlett's test of sphericity and Kaiser Mayer Olkin or KMO to confirm the number of samples adequacy. It was found that the KMO value was 0.913 which was beyond the accepted value of 0.6 as suggested by Pallant (2020) and the Bartlett's test of sphericity also resulted as significant at 0.05. Therefore, it was concluded that the number of samples was adequate for running the factor analysis The result is summarized in Table 2:

**Table 2:** Result of Reliability, KMO and Bartlett's test of Sphericity

| Reliability Analysis |            | KMO and Bartlett's Test                           |                     |                                  |       |
|----------------------|------------|---|---------------------|----------------------------------|-------|
| Cronbach's Alpha     | N of Items | Kaiser-Meyer- Olkin Measure of Sampling Adequacy. | Approx. Chi- Square | Bartlett's Test of Sphericity df | Sig.  |
| 0.935                | 26         | 0.913   | 3043.780            | 325                              | 0.000 |
| 0.864                | 6          |   |                     |                                  |       |
| 0.937                | 20         |   |                     |                                  |       |

Next, using the Principal Components Analysis (PCA), there were two components extracted and it was revealed that there were two eigenvalues exceeding 1, with 40.4% and 11.7% of the variance respectively as shown in Table 3. The total variance of both components explained altruism by 52.12%.

**Table 3:** Result of Principal Components Analysis (PCA)

| Component | Initial Eigenvalues |               |                    | Extraction Sums of Squared Loadings |               |              | Rotation Sums of Squared Loadings <sup>a</sup> |
|-----------|---------------------|---------------|--------------------|-------------------------------------|---------------|--------------|--|
|           | Total               | % of Variance | Cumulative Total % | Total                               | % of Variance | Cumulative % | Total  |
| 1         | 10.501              | 40.388        | 40.388             | 10.501                              | 40.388        | 40.388       | 9.892  |
| 2         | 3.049               | 11.727        | 52.116             | 3.049                               | 11.727        | 52.116       | 5.567  |
| 3         | 1.385               | 5.328         | 57.444             |                                     |               |              |  |
| 4         | .981                | 3.774         | 61.218             |                                     |               |              |  |

*Extraction Method: Principal Component Analysis*

The last step was to conduct the Oblique Rotation Factor by using the Oblimin Rotation Method. To confirm the suitability of using which technique of rotation, the result of component correlation matrix was referred. As displayed in the following Table 5, the result of Component Correlation Matrix was 0.325, then the Oblique Rotation Factor was chosen because values more than 0.3 indicating high possibility of correlation (Pallant, 2020).

**Table 4:** Result of Component Correlation Matrix

| Component | 1     | 2     |
|-----------|-------|-------|
| 1         | 1.00  | 0.325 |
| 2         | 0.325 | 1.000 |

The result of oblique rotation is summarized in Table 5. The Pattern coefficients indicate the factor loadings of each of the variables (Pallant, 2020). It was found that item 1-6 had shown high loadings exceeding 0.5 and were grouped as a component. As the nature of the items in this component are more of the altruistic belief, this component is labelled as altruistic belief. While the second component items, no 7-26, were grouped as one component with high loadings more than 0.5. Since most of the items in the second component refer to altruistic behaviour, this component is labelled as altruistic behaviour.

The Structure Coefficients, which is generated in the Oblimin output, provides information about the correlation between variables and factors (Pallant, 2020). Based on the result, the same components in the pattern coefficients were yielded with loadings more than 0.5 indicating strong correlation between items in the factor. The communalities value was also presented in the table, and it informs on how much of the variance in each item is explained. It was found that item no 1 had the lowest communality value of 0.292 which could infer that the item did not fit well with other items in the component. Thus, it was decided that item no 1 to be removed from the first component.

**Table 5:** Pattern and Structure Matrix for PCA with Oblimin Rotation of Two Factor Solution of Altruism Items

| No | Items  | Pattern Coefficients |              | Structure Coefficients |              | Communalities |
|----|--|----------------------|--------------|------------------------|--------------|---------------|
|    |  | Component            |              | Component              |              |               |
|    |  | 1                    | 2            | 1                      | 2            | Extraction    |
| 1  | I will not hesitate to help others in need   | -0.088               | <b>0.562</b> | 0.095                  | <b>0.534</b> | 0.292         |
| 2  | I believe that my assistance can help in giving a better life to others            | 0.141                | <b>0.731</b> | 0.378                  | <b>0.777</b> | 0.621         |
| 3  | Helping others makes me happy  | 0.08                 | <b>0.854</b> | 0.357                  | <b>0.88</b>  | 0.78          |
| 4  | I help others without expecting any returns  | 0.053                | <b>0.762</b> | 0.3                    | <b>0.779</b> | 0.609         |
| 5  | I easily sympathize in other people's misery                                       | 0.029                | <b>0.876</b> | 0.313                  | <b>0.885</b> | 0.784         |
| 6  | I easily emphasize in other people's misery  | 0.105                | <b>0.779</b> | 0.357                  | <b>0.813</b> | 0.671         |
| 7  | I have helped strangers who had car breakdowns at roadsides                        | <b>0.716</b>         | -0.178       | <b>0.658</b>           | 0.054        | 0.462         |
| 8  | I have helped giving directions to strangers                                       | <b>0.555</b>         | 0.237        | <b>0.632</b>           | 0.417        | 0.45          |
| 9  | I've helped strangers to exchange money.   | <b>0.649</b>         | -0.076       | <b>0.625</b>           | 0.135        | 0.395         |
| 10 | I have donated money to charity  | <b>0.639</b>         | 0.174        | <b>0.695</b>           | 0.382        | 0.511         |
| 11 | I have given money assistance to people who are in need or who are asking for help | <b>0.648</b>         | 0.245        | <b>0.728</b>           | 0.456        | 0.583         |
| 12 | I have donated items and clothes for charity                                       | <b>0.665</b>         | 0.016        | <b>0.671</b>           | 0.232        | 0.45          |
| 13 | I have done volunteer work for charity   | <b>0.668</b>         | 0.026        | <b>0.676</b>           | 0.242        | 0.458         |
| 14 | I have donated blood   | <b>0.651</b>         | -0.199       | <b>0.586</b>           | 0.012        | 0.379         |
| 15 | I have helped carry a stranger's belongings (books, parcels, etc.)                 | <b>0.725</b>         | 0.064        | <b>0.746</b>           | 0.299        | 0.56          |



|    |   |              |        |              |        |       |
|----|---|--------------|--------|--------------|--------|-------|
| 16 | I have delayed an elevator and held the door open for a stranger  | <b>0.585</b> | 0.171  | <b>0.64</b>  | 0.36   | 0.436 |
| 17 | I have allowed someone to go ahead of me in a lineup at public places (banks, supermarkets etc.)                                  | <b>0.672</b> | 0.069  | <b>0.695</b> | 0.288  | 0.487 |
| 18 | I have given a stranger a lift in my car.   | <b>0.768</b> | -0.294 | <b>0.673</b> | -0.045 | 0.53  |
| 19 | I have pointed out a clerk's error (in a bank, at the supermarket) in undercharging me for an item.                               | <b>0.647</b> | 0.17   | <b>0.702</b> | 0.38   | 0.519 |
| 20 | I have let a neighbour whom I didn't know too well borrow an item of some value to me (e.g., a dish, tools, etc.)                 | <b>0.684</b> | -0.074 | <b>0.66</b>  | 0.148  | 0.44  |
| 21 | I have helped a classmate who I did not know that well with a homework assignment when my knowledge was greater than his or hers. | <b>0.505</b> | 0.298  | <b>0.601</b> | 0.462  | 0.441 |
| 22 | I have before being asked, voluntarily looked after a neighbour's pets or children without being paid for it.                     | <b>0.762</b> | -0.038 | <b>0.75</b>  | 0.21   | 0.564 |
| 23 | I have offered to help a handicapped or elderly stranger across a street.   | <b>0.747</b> | 0.083  | <b>0.773</b> | 0.325  | 0.604 |
| 24 | I have offered my seat on a bus or train to a stranger who was standing.  | <b>0.71</b>  | 0.083  | <b>0.737</b> | 0.313  | 0.549 |
| 25 | I have helped an acquaintance to move households.   | <b>0.721</b> | 0.054  | <b>0.739</b> | 0.288  | 0.548 |
| 26 | I have helped to collect and dispose of garbage found in public places  | <b>0.526</b> | 0.251  | <b>0.607</b> | 0.421  | 0.425 |

\*Extraction Method: Principal Component Analysis

\*Rotation Method: Oblimin with Kaiser Normalization

a. Rotation converged in 5 iterations.

## CONCLUSION

As a conclusion, the instrument which is constructed and tested in this study has proven to have high reliability value. Using the exploratory factor analysis, it is found that these items have a sound validity construct by retaining items with high loadings of more than 0.5 and eliminating the item that has loadings less than 0.3. The formulation of this instrument is important as it can measure the degree of altruism in terms of altruistic beliefs and behaviour. As altruism becomes one of the influencing factors in prosocial behaviour, it is deemed crucial to construct a comprehensive instrument that able to capture every aspect of the matter so that the aim of education to produce balanced youths can be measured. This study is recommended to be explored further by analyzing the responses of the respondents.

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