

Factors Influencing Students' Self-Concept among Malaysian Students

Z. Ishak, S. Jamaluddin, and F.P Chew

Abstract—This paper examines the students' self-concept among 16- and 17- year- old adolescents in Malaysian secondary schools. Previous studies have shown that positive self-concept played an important role in student adjustment and academic performance during schooling. This study attempts to investigate the factors influencing students' perceptions toward their own self-concept. A total of 1168 students participated in the survey. This study utilized the CoPs (UM) instrument to measure self-concept. Principal Component Analysis (PCA) revealed three factors: academic self-concept, physical self-concept and social self-concept. This study confirmed that students perceived certain internal context factors, and revealed that external context factor also have an impact on their self-concept.

Keywords—academic self-concept, physical self-concept, Principal Component Analysis (PCA), social self-concept.

I. INTRODUCTION

SELF- concept is one of the most popular components in psychology and is developed by individuals through interaction with their environment. The cognitive gains and individuation issues of adolescence are thought to play a significant role in the development of self-concept during adolescence (Miyamoto, 2000) [1]. During these periods, an identity crisis always occurs and is crucial in adolescent development. Self-concept has also been found to be correlated to a lot of the development in adolescence. Studies show the importance placed on other people's evaluations of oneself may affect one's self-concept such that one's behavior is externally instead of internally guided (Kalliopuska, 1990) [2]. Therefore, it is not surprising that self-concept during adolescence remains an element of interest to be explored and understood about adolescents and their world.

Rogers (1951) [3] viewed the self as "organized, fluid, but consistent conceptual pattern of perceptions of characteristics and relationships of the 'I' or the 'me' together with the values attached to this concepts". He stated that the self-

concept includes only those characteristics of the individual that he is aware of and over which he believes he exercises control. There is a basic need to maintain and enhance the self. Threat to the organization of the self-concept produces anxiety. If the threat cannot be defended against, catastrophic disorganization follows.

Since there are several aspects of the self, there can also be as many corresponding aspects of self-concept (Lihanna, 1998; [4] Lihanna and Ishak, 2007) [5]. In addition to general self-concept, three subscales have been investigated in this study: physical self-concept, social self-concept and academic self-concept.

Physical self-concept is defined as the student's view of his or her body image. A student with positive physical self-concept feels comfortable with his or her body image and accepting it as it is whereas a student with negative physical self-concept is not happy or is uncomfortable with his or her body appearance.

Academic self-concept is related to the performance and achievement during the secondary phase of education (Marsh, Byrne, & Yeung, 1999) [6]. Students with positive academic self-concept feel that with the proper effort, they can do well in their studies whereas the students with negative academic self-concept doubt that they can do well in their studies and will not be able to fare adequately in their academic performance.

Social self-concept is how the students believe of their standing among peers. It reflects the students' ability to socialize among themselves and how they relate to other people.

II. INSTRUMENTATION

In this study, self-concept was measured through a 17-item questionnaire adapted from various self-concept scales and CoPs (Cognitive Psycho-social profile of the Malaysian Instruments). It sought to find out students' perceptions on:

- 1) Physical self-concept (6 items; no. 1-6)
- 2) Academic self-concept (7 items; no. 7-13)
- 3) Social self-concept (4 items; no. 14-17)

The response to each item is in the form of five-point Likert scale of "strongly disagree", "disagree", "undecided", "agree", and "strongly agree". The first section of the questionnaire relates to demographic characteristics and contains questions on the respondent's background information (gender, school type, and school location).

Z. Ishak, is with Department of Educational Psychology and Counseling, Faculty of Education, University of Malaya, 50603 Kuala Lumpur, Malaysia (corresponding author to provide phone: 603-79675090/5036; fax: 603-79675010; e-mail: irahaz@um.edu.my).

S. Jamaluddin, is with Department of Educational Psychology and Counseling, Faculty of Education, University of Malaya, 50603 Kuala Lumpur, Malaysia (corresponding author to provide phone: 603-79675038; fax: 603-79675010; e-mail: jamaluddinshahrir@um.edu.my).

F. P. Chew, is with Department of Language & Literacy Education,, Faculty of Education, University of Malaya, 50603 Kuala Lumpur, Malaysia (corresponding author to provide phone: 603-79675111; fax: 603-79675010; e-mail: fpchew@um.edu.my).

III. METHODOLOGY OF RESEARCH

The samples for this study consisted of tenth grade 16-year-old students in public secondary schools in Malaysia. Cluster sampling procedure was used to obtain the samples using school as cluster. The first stage involved random selection of two schools from the 5 states out of 13 states in Malaysia followed by the selection of all the tenth grade students in these selected schools. In total 1176 students comprising 618 males and 558 females from 10 schools participated from this study.

A survey was carried out in these schools to obtain the primary data using self-administered questionnaire. The students were assembled in a large hall and were told the purpose of the study with assurance given on the confidentiality of all information. The CoPs instrument was used included items pertaining to students' personal and family background. Each construct was piloted-tested and refined to obtain objectivity, validity and reliability.

The data were analyzed using SPSS (Statistical Package for the Social Sciences) to generate the descriptive statistics concerning the demographic data. To justify the application of factor analysis in this study, the measure of sampling adequacy, a statistical test to qualify the degree of inter-correlations among variables was used (Hair et al., 2006) [7] An Exploratory Factor Analysis (EFA) was carried out to construct-validate the factors influencing self-concept. To find out the number of factors the following rules were used: the Kaiser's rule of 1.0 as minimum eigenvalues, the scree plot test, and the interpretability of the solutions. Besides that, the degree of inter-item correlation among items justified the application of factor analysis as well as the Bartlett's Test of Sphericity recorded a Chi-Square value.

IV. RESULT OF RESEARCH

Table 1 show that out of 1167 students, 618 (52.6%) were males and 558 (47.4%) were females. The respondents represented various types of schools with 219 (18.6%) from MRSM, 222 (18.9%) from SBP, 224 (20.7%) from Technical School, 202 (17.2%) from Religious Boarding School, and 289 (24.6%) were from Malaysian secondary ordinary schools. Obviously, the percentage of the samples are quite balance between the gender and types of schools.

Tables 2, table 3, table 4 summarizes the results of the inter-item correlations among 17 items of Malaysian students' self-concept supported the use of principal component analysis. Specially, the Bartlett test of Sphericity yielded statistically significant inter-item correlation χ^2 (1167) = 5942.754, DF=136 and $p=0.00$ with overall Kaiser-Meyer-Olkin (KMO) value of .837, which is considered good. Thus, the data matrix has sufficient correlation to justify the use of exploratory factor analysis (EFA). Three factors were extracted that explained 49.99% of the total variation in the 17 items. The mean values range from 3.03 (KK26) to 4.13 (KK1), indicating a high level of overall agreement. Based on the correlation coefficients, each item did correlate adequately with at least one others items in construct ($0.3 < r < 0.9$).

TABLE I
DEMOGRAPHIC BACKGROUND OF RESPONDENTS

Variables	N*	Percent
Gender		
Male	618	52.6
Female	558	47.4
Types of School		
MRSM*	219	18.6
SBP*	222	18.9
Technical School	224	20.7
SBP (Religious)	202	17.2
Ordinary Daily School	289	24.6

*Total N = 1167

*MRSM = MARA Science Junior College

*SBP = Malaysia Boarding School

TABLE II
CORRELATION MATRIX AND DESCRIPTIVE STATISTIC

	KK1	KK2	KK3	KK4	KK5	KK6
KK1	1.00					
KK2	.393	1.00				
KK3	.482	.405	1.00			
KK4	.216	.436	.337	1.00		
KK5	.295	.302	.335	.315	1.00	
KK6	.361	.299	.316	.149	.328	1.00
M*	4.13	3.74	4.07	3.72	4.41	4.36
SD*	.73	.91	.78	.85	.73	.79

M*=Mean

SD*=Standard Deviation

TABLE III
CORRELATION MATRIX AND DESCRIPTIVE STATISTIC

	KK10	KK11	KK12	KK14	KK15	KK16	KK17
KK10	1.00						
KK11	.638	1.00					
KK12	.422	.467	1.00				
KK14	.494	.407	.317	1.00			
KK15	.356	.307	.290	.430	1.00		
KK16	.290	.334	.224	.282	.460	1.00	
KK17	.336	.315	.258	.327	.413	.491	1.00
M*	3.82	3.09	3.38	3.95	4.11	3.31	3.71
SD*	.90	.94	.93	.92	.82	.99	1.0

M*=Mean

SD*=Standard Deviation

TABLE IV
CORRELATION MATRIX AND DESCRIPTIVE STATISTIC

	KK24	KK25	KK26	KK28
KK24	1.00			
KK25	.165	1.00		
KK26	.085	.524	1.00	
KK28	.392	.371	.672	1.00
M*	3.75	3.35	3.03	3.07
SD*	.94	1.09	1.08	1.10

M*=Mean

SD*=Standard Deviation

The 17-item analysis of students' self-concept construct was then subjected to EFA with principal component factor analysis and varimax rotation used to confirm the number of factors to be extracted (Hair et al., 2006) [8]. Table 3 shows the factors extracted, factor loading and their communalities.

A three factor model was derived, and 17 items were found to have high factor loading > 0.5. The three factors of self-concept labeled as physical self-concept, academic self-concept and social self-concept with factor loading ranging from 0.549 to 0.862 and communalities ranging from 0.349 to 0.746. In this study coefficient of more than 0.5 for the factor loading (Hair et al., 2006) [9] is used as a benchmark to indicate a reasonable loading for each item.

TABLE V
RESULT OF EXPLORATORY ANALYSIS ON SELF-CONCEPT

Code	Factor/Item	Factor Loading	Communalities
KK1	I am a healthy person	.688	.480
KK2	I am a beautiful/smart person	.704	.533
KK3	I take good care of my physical appearance	.687	.536
KK4	I am supposed to be physical attractive	.589	.376
KK5	I like to be seen as tidy/smart all the time	.623	.428
KK6	I like myself as I am	.548	.349
KK10	I am confident of my academic achievement	.747	.583
KK11	I am among the top students in my academic achievement	.719	.547
KK12	My academic achievement is at par with others	.598	.382
KK14	I am confident to excel through my entire exam	.644	.463
KK15	I love to learn new knowledge about academic in school	.635	.457
KK17	I am happy to be around in my school academic environment	.627	.421
KK16	I love to buy books related to academic	.645	.421

Code	Factor/Item	Factor Loading	Communalities
------	-------------	----------------	---------------

KK24	I can easily socialize with others	.685	.558
KK25	I can easily socialize with my friends although of different gender	.725	.562
KK26	I can easily talk with others although I never had met them	.862	.746
KK28	I can easily socialize with others although I had never met them	.806	.655

Table 4 shows that the first rotated factor, the academic self-concept, has significant factor loadings ranging between 0.598 to 0.747 on the same (KK10, KK11, KK12, KK14, KK15, KK16, KK17) and the reliability analysis for academic self-concept revealed an internal consistency coefficient of Cronbach $\alpha = .807$. The students' scores on this factor reflect their reaction on the belief of their academic achievement and performance in school.

The second rotated factor (physical self-concept) includes 6 items (KK1, KK2, KK3, KK4, KK5, KK6) with factor loading ranging between 0.548 to 0.704 and the Cronbach alpha reliability $\alpha = .750$. The students' scores on this factor revealed their physical appearance on how the students' view with positive or negative body image. The students with positive self-body image feel comfortable with their bodies whereas students with negative self body-mage were not satisfied or feel uncomfortable with their bodies.

The third rotated factor (social self-concept) comprises four items (KK24, KK25, KK26, KK28) with factor loading ranging between 0.685 to 0.862 and the Cronbach alpha reliability $\alpha = .789$. This factor can be described as the student's belief of his or her standing among peers.

TABLE VI
SOLUTION AND STATISTIC FROM PRINCIPLE COMPONENT ANALYSIS ACCORDING TO SCALE OF ACCESEMENT OF STUDNTS SELF-CONCEPT AND REALIABILTY OF ITEM FOR EACH SCALE

Factors	No. of Items	Factor Loading	Total of Variance Explained	Reliability Coefficient
Academic Self-concept	7	0.598 – 0.747	19.244	.807
Physical Self Concept	6	0.548 – 0.704	35.471	.750
Social Self-Concept	4	0.685 - .0862	49.991	.789

V. DISCUSSION

This study examined the factors influencing students' perception on self-concept. Three factors were detected as the influencing factors in student self-concept which were identified as academic self-concept, physical self-concept and social self-concept.

Factor 1 is the largest factor explaining 19.24% of the total rest variance, is loaded on seven items from the students' perception on academic self-concept. The factors reflects the

students with positive academic self-concept feels that with proper effort, he or she can do well in his or her studies whereas student with negative self-concept doubt that they will be able to deal adequately with their academic pursuits.

Factor 2 is loaded on by 6 items and accounts for 16.23% of total test variance. An examination of these items indicates that this factor reflects the sample's positive physical self-concept. The students with positive physical self-concept feel very comfortable with their body image and accept their self-body image as it is.

Factor 3 accounts for 14.52% of the total test variance and is loaded with four items. These items measure the social relationships or social self-concept. From the nature of the loading it is clear that this group has positive social relationship. For example, the items which load the highest on this factor indicate that the subjects find it easy to talk to others and socialize with others although they never met before.

Furthermore, the reliability test for three sub-scales of self-concept were above 0.7, exceeding the cut-off point of reliability recommended by (Nunally and Bernstein 1994) [10]. The results of reliability score for the self-concept used in this study was almost similar to reliability score $\alpha = 8.55$ obtained from Jamaludin (2009) [11].

VI. CONCLUSION

This study examined students' perception of self-concept and the findings suggest that there are three influencing factors in general self-concept involving academic self-concept, physical self-concept and social self-concept. The analysis of results on the whole shows that the CoPs instrument has high Cronbach alpha coefficient value based on three factors. Besides having high Cronbach alpha values, exploratory factor analysis shows significant factor loading above the cutoff point 0.5. With these results, it is proven that the self-concept instrument is suitable for use since it demonstrates high level of reliability and validity.

These finding are beneficial to understand and determine the students' general self-concept, physical self-concept and social self-concept. Furthermore, this study will aid teachers, educators, and administrators to adequately prepare the students so that they would be able to have more positive self-concept.

ACKNOWLEDGMENT

The authors are very grateful for the extensive support and guidance of Professor Dr. Saedah Siraj, Dean of the Faculty of Education, University of Malaya, Kuala Lumpur. Z. Ishak, J. Shahrir and F.P. Chew thank University Malaya Research Grant (UMRG), University of Malaya, Kuala Lumpur for the financial and sponsor support.

REFERENCES

- [1] R.H. Miyatomo, E.A. Nishinuma, S.T. Nahulu, L.B. Andrade and D.A. Goebert, "Variation in self-esteem among adolescents in an Asian/Pacific-Islander sample," *Personality and Individual differences*, vol. 29, pp 13-25, 2000.
- [2] M.Kalliopuska, "Self-esteem and empathy as related to participation in the arts or sports activities," *The self-concept: European perspectives on its development, aspect, and applications*, Berlin, pp 121-132, 1990
- [3] C. Rogers, *Client-centered therapy*, New York: Houghton Mifflin, 1951, pp 498-500.
- [4] B. Lihanna, "Self Image of Malaysian adolescents" in 1998 *Ann Arbor, MI: UMI Microform 9910845, University of Chicago* pp 130-131
- [5] B. Lihanna and Z. Ishak, *A statistical snapshot of the 18 years old Malaysian adolescent*, Malaysia: Institut Social Malaysia, 2007, pp 65-69.
- [6] H. W. Marsh, B.M. Byrne, and A.S. Yeung, "Causal ordering of academic self-concept and achievement: reanalysis of a pioneering study and revised recommendations," *Educational Psychologist*, vol.34, pp 154-157 1999.
- [7] J.F. Hair, W.C. Black, B. J. Babin R. E. Anderson R. I. Tatham, *Multivariate data analysis*, 6th ed. 2006, ch1.
- [8] J.F. Hair, W. C. Black, B.J. Babin R. E. Anderson R. I. Tatham, *Multivariate data analysis*, 6th ed. 2006, ch3
- [9] J.F. Hair, W .C. Black, B. J. Babin R. E. Anderson R. I. Tatham, *Multivariate data analysis*, 6th ed. 2006, ch.4
- [10] J.C. Nunally and I.H. Bernstein, *Psychometric Theory*, 3rd ed. 1994 ch.3
- [11] H. Jamaludin, H. Ahmad, Y. Rosdi, and K. A. Saifuddin, "The reliability and validity of Tennessee self-Concept Scale instrument on residents of drug rehabilitation center," *European Journal of Social Science*, Vol.10, No.3, 2009. pp349-363