Relationship Of Academic, Physical And Social Self-Concepts Of Students With Their Academic Achievement

Asma-Tuz-Zahra, UIER, PMAS Arid Agriculture University, Pakistan
Dr. Lt. Col (R) Manzoor H. Arif, UIER, PMAS Arid Agriculture University, Pakistan
Muhammad Imran Yousuf, PMAS Arid Agriculture University, Pakistan

ABSTRACT

This study investigated relationship between self-concept and academic achievement of bachelor degree students. Female students at bacholar were considered the target population. A sample of 1500 students was selected by using two stage cluster sampling technique. An amended form of Self-Descriptive Questionnaire developed by Marsh (1985) was used as tool of research. Factor analysis was employed to explore the pattern of inter-item correlations of the questionnaire. Kendall's-Tau-b technique of corrrelation was applied to correlate responses obtained on academic, physical and social self concepts related items with the academic achievement scores of students Physical self-concept and social self-concepts were found unrelated to academic achievement. However, a significant but weak correlation was found between academic self-concept and academic achievement.

Keywords: Self concept; Academic achievement; Academic self concept; Physical self concepts; Social self concepts

INTRODUCTION

The self-concept is the information that we have about ourselves—what we think we are like. Self-concept is person's perceptions of himself formed through experience and interpretations of the environment. Self-concept generally refers to the composite of ideas, feelings, and attitudes people have about themselves. Our self- perceptions vary from situation to situation and from one phase of our lives to another (Woolfolk, 1998). These perceptions are influenced by a number of factors such as evaluations of significant others, reinforcements, and attributions of behavior (Shavelson *et al.*, 1976). It further refers to the set of perceptions or reference points what the subject has about him: the set of characteristics, attributes, qualities and deficiencies, capacities and limits, values and relationships that subject knows to be descriptive about its own and which he perceives as data concerning his identity (Sanchez and Roda**,** 2007).

The multifaceted and hierarchical model of self-concept suggested that general self-concept has four domains: the academic self-concept, social self-concept, emotional self-concept and physical self-concept (Shavelson *et al.,* 1976). The academic self-concept can be divided further into second order specific subject self-concepts like English, History, Mathematics, and Science etc. which can explain learner achievement in each subject. Social self-concept can be divided into peer self-concept and significant others self-concept. Emotional self-concept refers to specific emotional states such as anxiety, love, happiness, depression, and anger. The physical self-concept comprises physical ability and physical appearance self-concepts. The overall sense of self thus appears to be divided into at least three separate, but slightly related, self-concepts i.e. academics, emotional, and nonacademic.

According to Ormrod (2000), there are three factors, which definitely do influence the degree to students from positive or negative self-concept:

- Their own prior behaviors and performance
- The behaviors of other individuals toward them
- The expectations that others hold for their future performance

Each one offers insights as to how teachers, can enhance their students' self-concept.
Researchers have been concerned with analyzing of relationships, both associative and predictive between self-concept and academic performance. Purkey (1970) for example, observed that there is a persistent and significant relationship between the self-concept and academic achievement and that change in one seems to be associated with change in the other.

Ahmed (1986), Gordon (1997), Haque and Sarwat (1998), Sabir (1999), and Shafique (2002) concluded that academic self-concept and academic achievement were strongly correlated. Findings of studies conducted on relationship between physical self-concept, social self-concept and academic achievement were conflicting. Mboya (1999) concluded that there was no significant correlation between physical appearance and academic achievement. Yu *et al.* (2006) revealed in their study that physical activity level was quite an independent entity that was not related to academic achievement. Dambudzo (2005) however, concluded that sports and academic achievement appear to have a mutual influence on each other. Trusty et al. (1996) came to the conclusion that there is a negative relationship between social self-concept and academic achievement. Muijs (1997) concluded that academic self-concept and academic achievement were best predictors of one another. Despite the abundance of studies, however, no conclusive picture emerges about the extent of relationship between various self-concepts and academic achievement.

It was intended to study the relationship between self-concept and academic achievement in order to rescue those students who may be victims of their own negative beliefs about themselves. The study is significant because the results may generate useful knowledge and understanding of the relationship between the female students' self-concept and academic achievement. The results of the study are likely to assist educators to improve students' academic achievement and self-concept, if there appears to be some association between the two in country like Pakistan where success rate in university exams, particularly in women colleges, is considerably low. The study results, therefore, are likely to be significant for students, teachers, parents and society at large in order to promote higher education among females.

OBJECTIVES OF THE STUDY

The objectives of the study were

- To explore by measurement the areas of physical, social and academic self-concept of students,
- To obtain a measure of academic achievement,
- To explore the pattern of inter-item correlations of the questionnaire.
- To relate the areas of physical, social and academic self-concept of students to their academic achievement,

Delimitations

The study was delimited to

- female students of bachelor degree level
- public sector institutions at Rawalpindi and Islamabad cities of Pakistan
- academic session 2006-07

METHODOLOGY

Sample

Using two-stage cluster sampling technique, the sample of the study consisted of 1,500 students. At the first

stage, ten colleges were randomly selected from Rawalpindi city and five from Islamabad city. During the second stage of sample selection, 1,500 students were randomly chosen from the selected colleges, with 100 students from each college.

Instrument

Self-Description Questionnaire III (SDQ III) based upon Shavelson Model of self-concept (1976) and constructed by Marsh (1985) was available by due permission of its author. It was modified to 4-point scale instead of 8-point scale and reduced to 60 items out of 136 items, keeping in view the position of Pakistani institutions and its social structure as well as experts' opinions. To check the validity of the instrument, comments and opinions were obtained from the experts as well as from the students. The opinions from both sides were positive who judged that the questionnaire appeared to measure three dimensions of self-concept. The reliability coefficient was 0.89.

Procedure

The colleges were visited and data were collected from students in their respective classrooms with the permission of college authorities. Before administering the instrument, all students were briefed about the purpose of the study and procedure of completing the instrument. Marks obtained by students in their previous exam were also acquired from college records as an indicator of their academic achievement.

Data Analysis

The purpose of the study was to relate the areas of physical, social and academic self-concept of students to their academic achievement, and also to explore the pattern of inter-item correlations of the questionnaire. Factor analysis was conducted to explore the pattern of these correlations and to investigate if they are being caused by a small number of underlying factors. Principal components analysis was used, with varimax rotation. Through factor analysis, the factors which are identified must explain most of the variance in the data. In this study, a limit of 70% was set as the minimum to be explained. As six sub-areas were being explored and, thus, six factors might have been expected.

First analysis: an analysis of all 60 items of the questionnaire showed no factor structure at all. In fact, it took 29 factors to account for 70% of the variance.

Second analysis: An analysis of the students' responses to the first 20 items concerning academic self-concept required 11 factors to explain 70% of the variance.

Third analysis: analyzing the responses to item nos. 21-40 concerning physical self-concept, required 9 factors tended to explain 70% of the variance.

Fourth analysis: analyzing the responses to item nos. 41-60 about social self-concept, required 11 factors to explain 70% of the variance.

Even setting the target lower (say, at 60% of the variance) did not offer any clear structure of factors. Thus, it could be stated, with certainty, that the 60 questions did not offer any clear factor structure. The next stage was to look at each of the six sets of 10 items separately to see if there was any clear structure.

Using Kendall's Tau-b technique, to correlate the responses of each of the 60 questions with the academic achievement scores, the outcomes of the study are shown in table 2. Due to very large sample, any value above 0.039 was significant at $p < 0.05$ while any value above 0.055 is significant at $p < 0.01$. However, the correlation values were very low.

RESULTS AND DISCUSSION

Table 1: Factor Analyses for Six Sub-areas

Areas of Self-concept	Sub-areas	Number of items	Factors to explain 70% of variance
Academic	Verbal	10	6
	Academic	10	5
Physical	Physical Ability	10	5
	Physical Appearance	10	5
Social	Same-sex peer relationships	10	6
	Parent relationships	10	6

It is clear that each sub-area is measuring five or six variables. Thus, even if each sub-area had one underlying variable, the items were *not* measuring the variable but measuring *many* variables. Indeed, the questionnaire was really measuring 60 different things and each item was to be analyzed on its own.

Table 2: Item Responses and Academic Achievement correlation

Q.#	Items	r	Q.#	Items	r
Verbal response patterns			**Physical appearance response patterns**		
1	Have trouble to write expression	-0.06	31	Have a physically attractive body	-0.03
2	Can write effectively	0.01	32	I am ugly	-0.02
3	Have a poor vocabulary	0.00	33	Have a good body build	-0.01
4	An avid reader	0.03	34	Look a lot what would like to change	0.09
5	Not well on verbal reasoning tests	-0.09	35	Body weight is about right	-0.05
6	Relative verbal skills are quite good	0.05	36	Dislike the way I look.	-0.01
7	Several readings to understand	-0.06	37	Have nice facial features	-0.01
8	Good at expressing myself	-0.06	38	Wish to be more physically attractive	-0.05
9	Trouble in learning to read	-0.07	39	Friends better looking than me	0.03
10	Have a good reading comprehension.	0.04	40	I am good looking	-0.05
Academic response patterns			**Peer relationships response patterns**		
11	Enjoy doing academic subjects work	0.01	41	Have few friends of my age	0.05
12	Hate studying many academic subjects	-0.01	42	Comfortable talking to girls of my age	0.00
13	Like most academic subjects	0.02	43	Don't get along well with age mates	-0.02
14	Trouble with most academic subjects.	-0.10	44	Make friends easily of my age	-0.03
15	Good at most academic subjects.	0.08	45	Other members of my age find me boring	0.05
16	Low academic subjects' interest	-0.01	46	Share activities with members of my age	0.00
17	Quick academic subjects' learning	0.08	47	Not many girls of my age like me	0.01
18	Hate most academic subjects	-0.03	48	Popular with other members of my age	-0.02
19	Get good academic marks	0.14	49	Age fellows have more friends than me	0.01
20	Could never achieve academic honors	-0.15	50	Have lots of friends of my age	-0.06
Physical Ability response patterns			**Parent relationships response patterns**		
21	A good athlete.	-0.03	51	Hardly saw things same way as parents	0.02
22	Poorly coordinated physical activities	0.02	52	Will bring up children like my parents	-0.07
23	Good endurance and stamina in sports	-0.03	53	Still unresolved conflicts with parents	0.02
24	Hate sports and physical activities.	0.03	54	Parents disappointed for done by me	0.02
25	Have high energy level in sports	-0.05	55	Values are similar to those of my parents	0.04
26	Not good for physical activity	0.03	56	Parents have never much respect for me	0.01
27	Like to exercise vigorously at sports	-0.04	57	Parents treated fairly in youth time	0.00
28	Poor at most sports/physical activities	0.01	58	Difficult for me to talk to my parents.	0.00
29	Enjoy sports and physical activities.	-0.07	59	Parents understand me	-0.05
30	A sedentary type	-0.04	60	Like my parents.	-0.02

It is obvious from table 2 that three items show marked patterns of responses in one direction (2,9,10) in that is difficult not to be positive in response, while a further three questions (1,3,5) show response patterns very different from normal distributions. In these, it is clear that there is a clear divide between those who feel they can express themselves and those who have difficulty. It points to the need to identify those who feel they have difficulty to explore ways by which they can be encouraged and supported. Looking into academic response patterns, the seven out of ten questions, the views of respondents are strongly at one end (questions 11, 13, 15,16,17,18 and 19). This is almost inevitable in that the students have elected to take these courses (no doubt with guidance and encouragement from others) and they are not likely to admit now that things have gone disastrously wrong. Question 12 gives a fairly 'flat' distribution reflecting the natural demand of studying. The responses to question 14 are also to be expected while question 20 shows polarization with a sizeable number choosing either one extreme position or the other. This shows that there are two very broad categories of students in the sample, those who feel that hard work could lead to high honors while there are those who appreciate that no amount of hard work will ever get them there, all very realistic.

In fact, only three items showed a correlation value of 0.10 or above.

Item 14 *I have trouble with most academic subjects*
This shows that those who said they had little trouble in fact tended to perform better.
Item 19 *I get good marks in most academic subjects*
This shows that those who said they got good marks in fact tended to perform better.
Item 20 *I could never achieve academic honors, even if I worked harder.*
This shows that those who said they could never achieve academic honors were those who tended to get lower marks.

Perceptions of verbal skills and most academic skills did not correlate even as high as 0.10. It is not surprising that all aspects of perceptions of physical ability, physical appearance, same-sex peer relationships, and parent relationships show no correlations as high as 0.10. This finding is consistent with the findings of Oraif (2007) in her study of confidence. The data analysis here confirms what most teachers would know of their students: *those who do best are comparatively sure that they are doing well*. Looking in more detail at the areas of verbal self-concept and academic self-concept, many of the item response patterns correlate significantly with academic performance although the correlation values were very small.

The results of this investigation provide evidence that the 60 items did not offer any clear factor structure that measured different things. Self-concept in relation to physical (physical ability, physical appearance) and social (same-sex peer relations, parent relations) was unrelated to academic achievement. But self-concept in relation to academic (verbal ability, academic ability) was related to academic achievement, although the relationship was not strong. For further researchers, it is recommended that a revised survey could be undertaken where different age groups and both genders could be taken as population. The chi-square statistic technique then could offer a powerful tool to make comparison which might throw up useful insights.

AUTHOR INFORMATION

Asma-Tuz-Zahra, is currently Ph.D. Education scholar at UIER, PMAS Arid Agriculture University, Pakistan. Also working as Academic coordinator in an educational system in Pakistan.

Dr. Col (R) Manzoor H. Arif, is working as Associate Professor of Education at University Institute of Education and Research, PMAS Arid Agriculture University, Rawalpindi, Pakistan. He is also a regular visiting faculty member in Foundation University, Rawalpindi, Pakistan and PAF College of Education, Chaklala, Pakistan.

Muhammad Imran Yousuf is working as Assistant Professor in Division of Continuing Education, Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi, Pakistan.. He did his M.Phil. in Teacher Education from Allama Iqbal Open University, Pakistan and Ph.D. in Education from University Institute of Education and Research, UAAR, Pakistan.

REFERENCES

1. Ahmad, I. 1986. Initial Development and Validation of Academic Self-Concept. Published Report. National Institute of Psychology, Quaid-e-Azam University, Islamabad, Pakistan.
2. Dambudzo, I. I. 2005. The Relationship between Learner Self-Concept and Achievement in Secondary Schools in Zimbabwe. (Unpublished Ph.D Thesis), University of South Africa, Zimbabwe.
3. Gordon, D. 1997. The Relationship among the Constructs of Academic Self-Concept, Academic Achievement, Persistence, Self-Attribution, Study Habits, and Perceived School Environment. http://docs.lib.purdue.edu/ dissertations/ AAI9818955/.
4. Haque, A. and K. Sarwat. 1998. Age, gender, and achievement effects on academic self-concept of high school children. *Pakistan Journal of Psychological Research*, 13: 35-42
5. Marsh, H. W. and R. Shavelson. 1985. Self-concept: It's Multifaceted, Hierarchical Structure. *Educational Psychologist***,** 20: 107-125
6. Mboya, M. M. 1999. Multiple Dimensions of Adolescents, Self-Concept: Relation with Age, Gender and Scholastic Measures. *School Psychology International*. 20: 388-398
7. Muijs. R.D. 1997. Predictors of Academic Achievement and Academic Self-Concept; a Longitudinal Perspective. Catholic University of Leuven, Belgium
8. Oraif, F. 2007. An Exploration of Confidence Related to Formal Learning in Saudi Arabia, Un-published PhD Thesis, University of Glasgow, Glasgow.
9. Ormrod, J. E. 2000. *Educational Psychology: Developing Learners*. Prentice-Hall, Inc, New Jersey, USA. pp. 80-83.
10. Purkey, W. W. 1970. *Self-concept and Academic Achievement*. Englewood Cliffs, Printice-Hall. New Jersey, USA.
11. Sabir, F. 1999. Academic Self-concept and Achievement among University Students as Related to their Psychological Adjustment. (Unpublished M.Phil Thesis). National Institute of Psychology, Quaid-e-Azam University, Islamabad, Pakistan.
12. Sanchez, F. J. P., and M. D. S. Roda. 2007. Relationship between Self-concept and Academic Achievement in Primary Students. Almeria, Spain. P. 97
13. Shafique, A. 2002. Relationship Between Academic Self-concept and Academic Achievement among School Children, National Institute of Psychology, Quaid-e-Azam University, Islamabad., Pakistan.
14. Shavelson, R. J., J. J. Hubner, and G. C. Stanton. 1976. Validation of Construct Interpretations. *Review of Educational Research.* 46, 407-441
15. Trusty, J., R. E. Watts and G. House. 1996. Relationship between self-concept and achievement for African American preadolescents. *J. Humanistic Education and Development*. 35, 29-39
16. Woolfolk, A. E. 1998. *Educational Psychology*. Allyn & Bacon, USA. pp. 74-75
17. Yu, C. C. W., S. Chan., F. Cheng, and R. Y. T. Sung. 2006. Are Physical Activity and Academic Performance Compatible? http:// taylorandfrancis.metapress. com/ content/n6056u00025401t1/.