Academic self-concept and academic outcome of the graduate students: The mediating role of socioeconomic status and gender

Sandeep Kumar Gujare[1]
Gyanesh Kumar Tiwari[2]

Abstract:

The present study aimed to inquire into the nature and extent of impacts exerted by academic self-concept, socioeconomic status and gender on the academic achievement of the undergraduate students. Four hundred and ninety five undergraduate students comprising 17 to 26 years of male (M =19.92, SD = 1.94) and 14 to 24 years of female (M =18.63, SD = 1.46) belonging to low (M =18.97, SD = 1.59), middle (M =19.37, SD = 1.97) and high (M =19.19, SD = 1.72) socioeconomic status (SES) took part in the study. Their academic self-concept and its four constituents were measured with the help of Self Description Questionnaire III [1] and marks of the last academic examination were taken as their academic achievement. The results of the study showed that the male and female students belonging to high SES significantly differed in their scores of academic self-concept and academic achievement. Likewise, there was statistically significant difference in academic self-concept and academic achievement of male and female students belonging to middle SES. The male and female students affiliated with low SES differed significantly only on their scores on academic self-concept. The participants belonging to low, middle and high SES also significantly differed in their scores on academic self-concept and academic achievement. The high SES female students differed significantly in their academic achievement with the female students belonging to low SES. In addition, participant with high SES scored significantly higher on academic achievement as compared to low SES participants. The scores on mathematics, verbal, academic general and problem solving components of academic self-concept and overall academic self-concept exhibited positive correlations with their scores on academic achievement. The results of the study have been discussed in the light of recent theories of academic self-concept and academic achievement. The conclusions of the study have important implications for researchers, educational policy makers and government. Future directions of research have also been discussed.

Keywords: *Academic Self-Concept, Academic Achievement, Gender, Socioeconomic Status*

I. INTRODUCTION

Different periods of human civilizations have been characterized by different educational goals that fluctuated from higher emphasis on cognitive to major concerns with social and affective outcomes. The self-concept construct has been potential scientific importance for interpreting achievement outcomes. Many studies associate self-concept with some or other sorts of academic outcomes. In some studies, it has been used as an outcome whereas in the other it has been reported as a moderator variable helping explain achievement outcomes. In both the cases, it is assumed to play a critical role [2, 3, 4, 5].

It has been reported that self-concept is both associative and predictive in nature which forms the basis of the relationship between self-concept and academic performance [6]. Four patterns or causal models of relationship between self-concept and academic performance exist. According to the theory of social comparison, academic performance determines self-concept and academic experiences of success or failure which, in turn, affect the student's self-concept including the role of evaluation by significant others [7]. According to the second model, levels of self-concept determine the degree of academic performance [8]. The third model of causal relationship postulates that self-concept and academic performance influence and determine each other [3] whereas the fourth model posits the existence of personal, environmental, academic and non-academic variables that may be the cause of both self-concept and academic performance. For example, academic self-esteem [8], Positive and negative body image [9, 10, 11, 12], emotional intelligence [13], mental health [14], chronic illness [15] and self-forgiveness [16] significantly impact the performance and functioning of the individuals.

Self-concept is a person's perception of himself which are formed through his experiences with his environment and are influenced by environmental reinforcements and significant others. Self-concept construct is potentially important and useful in explaining and predicting how one act. One's perceptions of himself are thought to influence the ways in which he acts, and his acts, in turn, influence the ways in which he/she perceives himself/herself. Thus, self-concept may be described as organized, multifaceted, hierarchical, stable, developmental, evaluative and differentiable in nature

[1] Research Scholar, Department of Psychology, School of Humanities & Social Sciences, Doctor Harisingh Gour Vishwavidyalaya, Sagar, 470003, M. P., India, Email: sandy24may@gmail.com
[2] Assistant Professor, Department of Psychology, School of Humanities & Social Sciences, Doctor Harisingh Gour Vishwavidyalaya, Sagar, 470003, M. P., India, Email: gyaneshpsychology@gmail.com

which consists of academic self-concept and non-academic self-concept [5]. It has been argued that the organization of self-concept is not hierarchical rather it is a distributed network of multiple self-aspects [17]. The changes in self-evaluation on any of these domains can, in turn, affect the perception of other associated aspects [17, 4].

In their studies, the researchers have [18] reported the substantial correlations between different areas of self-concept and academic ability and performance measures. A researcher explained the relationship between achievement and self-concept in a novel way with his internal/external frame of reference model which is assumed to be originated from self-perception theory [19] and provides a ground to explain the relationship between dimensions of self-concept and academic outcomes [20]. Further, the researchers argued that math and verbal self-concepts are influenced by internal and external comparisons. The internal/external frame of reference speculates that people engage in two kinds of comparisons to inform their self-concept [19, 21]. In the external process, people compare their ability within a domain to the abilities of others, which allows them to make a relative judgment of their abilities. In the internal process, people compare their ability in one domain against their ability in a different domain. It is this internal comparison that causes one to believe one is stronger in one domain and not the other and describe oneself either as a "math person" or a "verbal person" [22].

Self-concept provides the way through which the individuals perceive their strengths, weaknesses, abilities, attitudes, and values and is assumed as the most important constructs of psychology [23]. Self-concept serves as an important factor that influences economic success, long-term health and well-being leading to feel positive about oneself, benefits of feeling on choice, planning, persistence and subsequent accomplishments [24, 25]. Self-concept is also conceived as an important mediating factor that facilitates the attainment of other desirable learning, psychological and behavioral outcomes [26].

Thus, the study of self-concept has important implications for academic outcomes and academic motivation of the students. Recent meta-analytic studies have demonstrated clearly that academic self-concept and academic achievement are associated to each other. A researcher has carried out meta-analysis of 39 longitudinal studies in which academic self-concept reported to be correlated significantly with achievement [27]. Further, the review of researchers for academic self-concept studies provide support for a reciprocal effect model that maintains that academic self-concept and academic achievement mutually reinforce each other and the interaction results in improvement in the both [28]. The above discussion demonstrates that academic self-concept has significant implications for academic success of the students which vary with age, gender, socioeconomic status and culture. As Indian society and culture are characterized by uniqueness and long heritage, the academic self-concept of the students may be different to those of other countries having different socio-cultural milieu. The present study aimed to inquire into the nature and extent of the impacts exerted by academic self-concept, gender and socioeconomic status on the academic achievement of the undergraduate students.

II. OBJECTIVES

Following were the objectives of the study:

1. To develop an understanding of the gender and socioeconomic status differences in the various components of academic self-concept and academic achievement of the students,

2. To study the impacts of the various components of the academic self-concepts, gender and socioeconomic status on the academic achievement of the participants.

III. HYPOTHESES

Following hypotheses have been framed to be tested through the data of the present study:

1. The male participants would exhibit higher mean academic self-concept scores as compared to their female counterparts.

2. The mean academic achievement score of the male participants would be higher as compared to the mean academic achievement score of the female participants.

3. There would be positive correlations among the scores of various components of academic self-concept and the scores of academic achievement of the male and female participants irrespective of their socioeconomic status.

IV. METHODS AND PROCEDURE

A. Sample

The present study employed a correlational design. The stratified sampling procedure was used to select the sample from science, arts and commerce departments of Dr. H. S. Gour University, Sagar, M. P and Government (Autonomous) Girls P. G. College of Excellence, Sagar, M. P. Four hundred and ninety five regular undergraduate students served as the participants in the study. The age of males ranged from 17 to 26 years (M =19.92, SD = 1.94, N = 229) whereas the age of females spanned from 14 to 24 years (M =18.63, SD = 1.46, N = 266) who belonged to low (M =18.97, SD = 1.59, N = 90), middle (M =19.37, SD = 1.97, N = 218) and high (M =19.19, SD = 1.72, N = 187) socioeconomic status (SES). The participants with no known history of physical and mental illnesses were allowed to take part in the study.

B. Tools

Following psychometric tools were employed in the study:

1. **Self Description Questionnaire III (SDQ III):** The Hindi translation of the SDQ III [1], designed to measure multiple dimensions of self-concept for college students and adults (16-25 years of age), was used to measure academic self-concept of the participants. The scale was translated by three researchers from English to Hindi and retranslated from Hindi to English. The SDQ III comprises a multidimensional structure that has its origin in the theoretical model of self-concept [5]. It comprises 136 items and designed to measure self-concepts related to four academic areas mathematics, verbal, general-academic, problem solving, eight non-academic areas physical abilities, physical appearance, same sex relationships, opposite sex relationships, parent relations,

spiritual values/religion, honesty/trustworthiness, emotional stability and general esteem. Only the scores of four components of academic self-concept were used in this study.

2. **Socioeconomic Status Scale:** Socioeconomic Status scale standardised on Indian population was used to assess the socioeconomic status of the participants [29]. This scale consists of 22 items with multiple choice answers. It categorized the individuals and families into six categories such as Upper High >76, High 61-7), Upper Middle 46-60, Lower Middle 31-45, Poor 16-30 and Very Poor or Below Poverty Line <15. The scores on Socioeconomic Status Scale from 44 and below, 45 to 60 and 61 and above represented the low, middle and high socioeconomic status, respectively. It has been widely used in behavioural sciences research.

3. **Academic Outcome:** The marks secured by the students in the examination of last academic examination were treated as the indicator of their academic outcome.

C. Procedure

As the planning of the study was over, the sample was selected which were divided into twenty five groups of twenty participants each for the convenience of administering the tools. The consent was sought from the heads of the concerned departments and the participants to participate in the study. An integrated strategy was charted out and a thorough study of the questionnaires and other details including precautions and instructions were read and understood before the start of the data collection. The researchers read the instructions aloud along with the pace of the participants to control the time of presentation of each item of the scales. As per the formulated plan of the study, the various scales were administered and the scoring was carried out as per the guidelines depicted in the manuals. The raw scores so obtained were arranged as per the design of the study. With the completion of data collection, the same were treated with the mean, standard deviation (SD), Pearson Product Moment of correlation and regression analysis help of SPSS (Statistical Package for the Social Sciences), a software programme to analyse the data.

V. RESULTS

The results of the study showed that the mean academic self-concept scores of low (M = 196.83, SD = 21.94), middle (M = 195.76, SD = 24.25) and high (M = 192.68, SD = 23.88) SES females were higher as compared to the males of low (M = 155.06, SD = 20.79), middle (M = 148.93, SD = 20.89) and high (M = 154.86, SD = 19.75) SES participants. Overall, high (M = 177.91, SD = 28.97) SES participants demonstrated higher mean academic self-concept score as compared to the middle (M = 172.77, SD = 32.59) and low (M = 174.09, SD = 29.78) SES participants. The mean scores and their SDs of the various components of self-concept and academic achievement of male and female students belonging to low, middle and high socioeconomic status have been displayed in Table 1.

Table 1: Mean scores and SDs of mathematics, verbal, academic (general), problem solving components of academic self-concept and academic achievement of male and female participants with low, middle and high socioeconomic status

S. No.	Measures	Gender	Socioeconomic Status					
			High		Middle		Low	
			Mean	SD	Mean	SD	Mean	SD
1.	Academic Self-concept	Male	154.86	19.75	148.93	20.89	155.06	20.79
		Female	192.68	23.88	195.76	24.25	196.83	21.94
		Overall	177.91	28.97	172.77	32.59	174.09	29.78
	A. Mathematics	Male	48.11	9.06	46.11	9.41	46.63	8.51
		Female	45.74	7.04	46.09	7.914	45.59	7.79
		Overall	46.66	7.95	46.10	8.66	46.16	8.17
	B. Verbal	Male	49.16	8.67	47.78	8.06	50.82	8.68
		Female	49.09	7.71	49.72	8.42	50.17	8.92
		Overall	49.12	8.08	48.77	8.29	50.52	8.74
	C. Academic (General)	Male	50.270	7.49	47.65	8.86	49.67	7.75
		Female	48.25	7.41	49.51	7.43	49.15	5.96
		Overall	49.04	7.49	48.60	8.20	49.43	6.96
	D. Problem Solving	Male	51.43	7.47	48.81	8.90	51.06	7.90
		Female	49.61	8.49	50.43	8.44	51.93	7.59
		Overall	50.32	8.13	49.64	8.69	51.46	7.73
2.	Academic Achievement	Male	64.58	8.92	63.33	8.67	63.96	7.41
		Female	68.02	9.90	67.02	10.60	63.90	12.48
		Overall	66.67	9.65	65.21	9.85	63.93	9.98

The results of the study showed that the male and female students belonging to high SES significantly differed in their scores of academic self-concept (t = 10.51, df = 72, p = .000) and academic achievement (t = 2.39, df = 72, p = .020). Likewise, there was statistically significant difference in academic self-concept (t = 15.88, df = 106, p = .000) and academic achievement (t = 2.83, df = 106, p = .006) scores of male and female belonging to middle SES. The male and female affiliated with low SES differed significantly only on their scores on academic self-concept (t = -8.379, df = 40, p = .000). The participants belonging to low (academic self-concept-t = -8.379, df = 40, p = .000; academic achievement-t = .18, df = 40, p = .860), middle (academic self-concept-t = 15.88, df = 106, p = .000; academic achievement-t = 2.83, df = 106, p = .006) and high (academic self-concept-t = 10.51, df = 72, p = .000; academic achievement-t = 2.39, df = 72, p = .020) SES also significantly differed in their scores on academic self-concept and academic achievement. Out of these, high SES female students showed statistically significant difference in their academic achievement (t = 2.12, df = 40, p = .040) with the female students belonging to low SES. In addition, participant with high SES scored significantly higher on academic achievement measure (t = 2.608, df = 89, p = .011) as compared to low SES participants.

Table 2: Coefficients of correlation among the scores of mathematics, verbal, academic (general), problem solving components of academic self concept and academic achievement of male and female participants with high, middle and low socioeconomic status

			Socioeconomic Status					
			High		Middle		Low	
S. No.	Measures	Gender	r	p	r	p	r	p
1.	Academic Self-concept & Academic Achievement	Male	.175	.138	.100	.304	.236	.102
		Female	.053	.755	.055	.565	.155	.334
		Overall	.181	.013	.085	.211	.004	.971
2.	Mathematics & Academic Achievement	Male	.194	.100	.043	.657	.135	.354
		Female	.020	.837	.074	.438	.017	.918
		Overall	.043	.560	.058	.397	.047	.657
3.	Verbal & Academic Achievement	Male	.131	.270	.119	.223	.321	.024
		Female	.086	.365	.011	.912	.022	.893
		Overall	.100	.171	.033	.623	.115	.280
4.	Academic (General) & Academic Achievement	Male	.079	.508	.074	.449	.155	.288
		Female	.000	.998	.023	.808	.114	.477
		Overall	.005	.947	.024	.720	.014	.896
5.	Problem Solving & Academic Achievement	Male	.161	.175	.016	.868	.088	.546
		Female	.088	.353	.058	.546	.315	.045
		Overall	.091	.217	.020	.765	.138	.196

		Socioeconomic Status														
		High					Middle					Low				
Predictors	Gender	R	R2	R2Δ	F	p	R	R2	R2Δ	F	p	R	R2	R2Δ	F	p
Academic Self-concept	Male	.081	.007	.007	.47	.496	.303	.092	.092	10.62	.002	.133	.018	.018	.86	.362
	Female	.053	.003	.003	.32	.575	.055	.003	.003	.33	.565	.155	.024	.024	.96	.334
	Overall	.181	.033	.033	6.29	.013	.085	.007	.007	1.57	.211	.004	.000	.000	.01	.971
Mathematics	Male	.118	.014	.014	1.01	.319	.171	.029	.029	3.17	.078	.042	.002	.002	.08	.774
	Female	.020	.000	.000	.04	.837	.074	.006	.006	.61	.438	.017	.000	.000	.01	.918
	Overall	.043	.002	.002	.34	.560	.058	.003	.003	.72	.397	.047	.002	.002	.20	.657
Verbal	Male	.047	.002	.002	.16	.693	.278	.077	.077	8.77	.004	.062	.004	.004	.18	.671
	Female	.086	.007	.007	.83	.365	.011	.000	.000	.01	.912	.022	.000	.000	.02	.893
	Overall	.100	.010	.010	1.89	.171	.033	.001	.001	.24	.623	.115	.013	.013	1.18	.280
Academic General	Male	.086	.007	.007	.53	.469	.280	.078	.078	8.94	.003	.216	.047	.047	2.31	.135
	Female	.000	.000	.000	.00	.998	.023	.001	.001	.06	.808	.114	.013	.013	.52	.477
	Overall	.005	.000	.000	.01	.947	.024	.001	.001	.13	.720	.014	.000	.000	.02	.896
Problem Solving	Male	.097	.009	.009	.67	.414	.245	.060	.060	6.69	.011	.272	.074	.074	3.77	.058
	Female	.088	.008	.008	.87	.353	.058	.003	.003	.37	.546	.315	.099	.099	4.30	.045
	Overall	.091	.008	.008	1.54	.217	.020	.000	.000	.09	.765	.138	.019	.019	1.70	.196

The scores of mathematics, verbal, academic general and problem solving components of academic self-concept, overall academic self-concept and academic achievement of male and female participants belonging to low, middle and high socioeconomic status were treated with Pearson Product Moment method of correlation. The analyses indicated that the scores on mathematics, verbal, academic general and problem solving components of academic self-concept and overall academic self-concept exhibited positive correlations with their scores on academic achievement.

The coefficient of correlation between the scores on the academic self-concept and academic achievement of the participants belonging to high socioeconomic status was statistically significant (r = .181, p = .013) whereas these scores did not show statistical significance in the case of the participants belonging to either low or middle socioeconomic status. Likewise, the scores of verbal component of academic self-concept and academic achievement of male participants with low socioeconomic status also indicated a significant positive correlation (r = .321, p = .024). Lastly, there was a significant positive correlation between the scores of problem solving component of academic self-concept and academic achievement of the female participants with low socioeconomic status (r = .315, p = .045). The rest of coefficients of correlation did not show statistical significance. The details of correlations have been presented in Table 2.

Table 3: Coefficients of regression of the scores of the predictors mathematics, verbal, academic (general), problem solving components of academic self-concept, gender and socioeconomic status on the criterion and academic achievement of male and female participants

The scores of mathematics, verbal, academic general and problem solving components of academic self-concept, overall academic self-concept and academic achievement of male and female participants belonging to low, middle and high socioeconomic status were also treated with regression analysis. The results showed that mathematics, verbal, academic general and problem solving components of academic self-concept and overall academic self-concept accounted for from 0 to 3.30%, 0 to 9.20% and 0 to 9.90% variance in the academic achievement scores of the male and female participants with high, middle and low socioeconomic status. The overall academic self-concept accounted for 3.30% variance in the academic achievement scores of the participants with high socioeconomic status (F (df 1, 185) = 6.29, p =.013). The verbal (F (df 1, 216) = 8.77, p =.004), academic general (F (df 1, 216) = 8.94, p =.003) and problem solving (F (df 1, 216) = 6.69, p =.001) components of academic self-concept and overall academic self-concept (F (df 1, 216) = 10.62, p =.002) accounted for 9.20%, 7.70%, 7.80% and 6.00% variance in the academic achievement scores of the male participants with middle socioeconomic status, respectively. In addition, the problem solving component of academic self-concept accounted for 9.90% variance in the academic achievement scores of the female participants with low socioeconomic status (F (df 1, 88) = 4.30, p =.045).

VI. DISCUSSION

The results of the present study demonstrated that self-concept has important role in determining and shaping the nature and extent of academic achievement of the male and female students with low, middle and high SES participants. The results evinced mixed trends which exhibited that the academic self-concept scores of low, middle and high SES

females were higher as compared to the males of low, middle and high. Overall, high SES participants demonstrated higher mean academic self-concept score as compared to the middle and low SES participants. The results also showed that the male and female students belonging to high SES significantly differed in their scores of academic self-concept and academic achievement. There was statistically significant difference in academic self-concept and academic achievement scores of male and female belonging to middle SES. The male and female affiliated with low SES differed significantly only on their scores on Academic Self-concept. The participants belonging to low, middle and high SES also significantly differed in their scores on academic self-concept and academic achievement. Out of these, high SES female students showed statistically significant difference in their academic achievement with the female students belonging to low SES. In addition, participant with high SES scored significantly higher on academic achievement as compared to low SES participants. Thus, the scores of the participants on mathematics, verbal, academic general and problem solving components of academic self-concept, overall academic self-concept and academic achievement were shaped by the socioeconomic status and gender of the participants.

The coefficient of correlation between the scores on the academic self-concept and academic achievement of the participants belong to high socioeconomic status was statistically significant whereas the these scores did not show statistical significance in the case of the participants belonging to either low or middle socioeconomic status. Likewise, the scores of verbal component of academic self-concept and academic achievement of male participants with low socioeconomic status also indicated a significant positive correlation. Lastly, there was a significant positive correlation between the scores of problem solving component of academic self-concept and academic achievement of the female participants with low socioeconomic status. The results of regression analysis showed that mathematics, verbal, academic general and problem solving components of academic self-concept and overall academic self-concept accounted for from 0 to 3.30%, 0 to 9.20% and 0 to 9.90% variance in the academic achievement scores of the male and female participants with high, middle and low socioeconomic status. The overall academic self-concept accounted for 3.30% variance in the academic achievement scores of the participants with high socioeconomic status. The verbal, academic general and problem solving components of academic self-concept and overall academic self-concept accounted for 9.20%, 7.70%, 7.80% and 6.00% variance in the academic achievement scores of the male participants with middle socioeconomic status, respectively. In addition, the problem solving component of academic self-concept accounted for 9.90% variance in the academic achievement scores of the female participants with low socioeconomic status.

The above results revealed that the all three hypotheses were partially approved by the data of the study which expected gender and socioeconomic differences in the various components of academic self-concept academic achievement the participants and positive correlations among the scores of these measures. Previous researchers have also shown that

academic self-concept is developed with age, social interactions, gender and many more personal and environmental factors. A researcher explained the relationship between achievement and self-concept with his internal/external frame of reference model which explained the relationship between dimensions of self-concept and academic outcomes [19, 20]. In addition, the researchers have argued that various components of self-concepts are influenced by internal and external comparisons [19, 21]. The internal/external frames of reference engage the individuals in multiple comparisons to inform about their self-concept. In the external process, people compare their ability within a domain to the abilities of others, which allows them to make a relative judgment of their abilities. In the internal process, people compare their ability in one domain against their ability in a different domain. It is this internal comparison that causes one to believe one is stronger in one domain and not the other [22].

Self-concept provides the way through which the individuals perceive their strengths, weaknesses, abilities, and attitudes [23]. Self-concept serves as an important factor that influences economic success, and long-term health and well-being leading to feel positive about oneself, benefits of feeling on choice, planning, persistence and subsequent accomplishments [24, 25]. Self-concept is also conceived as an important mediating factor that facilitates the attainment of other desirable learning, psychological, and behavioral outcomes [26]. These results evinced that academic self-concept has significant implications for academic outcomes.

VII. IMPLICATIONS AND FUTURE DIRECTIONS OF RESEARCH

The focus of the present study was to develop a comprehensive understanding about the nature and dynamics of the academic self concepts of the participants. It also aimed to partial pout the role of academic, gender and socioeconomic status in shaping the academic achievement of the participants. The results of the study have important theoretical and practical implications for researchers, academicians, policy makers, administrators and public at large. Its conclusions will help understand the role of academic self-concept that develops in interactions with a host of factors. It would also have important for government policy makers to chart out plans to enhance the overall achievement of the students. As the social and cultural factors determine the nature of academic self-concept, future study should involve qualitative and quantitative studies to uncover the true nature of the academic self-concept of the Indian students so that useful insights and understanding could be developed and academic outcomes and success of the students can be improved. The non-academic self-concept may also be incorporated into future studies to have a better understanding of academic success of the students [2, 4].

VIII. ACKNOWLEDGEMENTS

Conflicts of interest

The authors have no conflict of interest with anyone.

IX. REFERENCES

[1] Marsh, H. W. (1992). *Self Description Questionnaire (SDQ) III: A theoretical and empirical basis for the measurement of multiple dimensions of late adolescent self-concept. An interim test manual and research monograph.* Macarthur, New South Wales, Australia: University of Western Sydney, Faculty of Education.

[2] Gujare, S. K. & Tiwari, G. K. (2016). Mental health symptoms predict academic achievement of the female students. *The International Journal of Indian Psychology, Volume 4, Issue 1, No.76, 93*-111. DIP: 18.01.006/20160476.

[3] Marsh, H. W., & Craven, R. G. (2006). Reciprocal effects of self-concept and performance from a multidimensional perspective: Beyond s e d u c t i v e pleasure and unidimensional perspectives. *Perspectives on Psychological Science, 1,* 133-163.

[4] Ogle, R. R., Frazier, S. L., Nichols-Lopez, K. & Cappella, E. (2016). Non-academic self-concept among urban youth: Associations with academic success. *School Mental Health, 8(2)*, 278-291.

[5] Shavelson, R. J., Hubner, J. J., & Stanton, G. C. (1976). Validation of construct interpretations. *Review of Educational Research, 46,* 407-441.

[6] Marsh, H., & Seeshing, A. (1997). Causal effects of academic self-concept on academic achievement: structural equation of longitudinal data. *Journal of Educational Psychology, 89*(1), 41-54.

[7] Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behaviour. In S. Worchel & W. Austin (Eds.), *Psychology of intergroup relations.* Chicago: Nelson-Hall.

[8] Tiwari, G. K. (2011). Academic self-esteem, feedback and adolescents' academic achievement. *Anusilana, XXXVII,* 15-22.

[9] Jain, P., & Tiwari, G. K. (2016a). Body image satisfaction and Life Satisfaction in HIV/AIDS patients. *The International Journal of Indian Psychology, Volume 3, Issue 2, No.1,* 81-90. DIP: 18.01.011/ 20160302.

[10] Jain, P., & Tiwari, G. K. (2016b). Positive body image and general health: A Mixed Methods Study. *The International Journal of Indian Psychology, Volume 4, Issue 1,No. 76,* 33-51. DIP: 18.01.003/20160476.

[11] Tiwari, G. K., & Kumar, S. (2015). Psychology of body image: A review. *Shodh Prerak, 5 (1),* 1-9.

[12] Tiwari, G. K. (2014). Body image satisfaction enhances self-esteem. *Vaichariki, IV (4)*, 7-11.

[13] Tiwari, G. K. (2016a). Mediating role of emotional intelligence in academic achievement of the graduate students. *The International Journal of Indian Psychology, Volume 4, Issue 1, No.74*, 49-59. DIP: 18.01.026/20160401.

[14] Tiwari, G. K. (2016b). Yoga and mental health: An Underexplored relationship. *The I n t e r n a t i o n a l Journal of Indian Psychology, Volume 4, Issue 1, No. 76*, 19-31. DIP: 18.01.002/20160476.

[15] Tiwari, G. K. (2015). Chronic physical illness affects emotion regulation process: A case of HIV/AIDS. *The International Journal of Indian Psychology, 3*(1), 158-167.

[16] Mudgal, S., & Tiwari, G. K. (2015). Self-Forgiveness and Life Satisfaction in People Living with HIV/AIDS. *The International Journal of Indian Psychology, Volume 3, Issue 1*, No.10, 101-108. DIP: C03175V3I12015.

[17] McConnell, A. R. (2011). The Multiple Self-Aspects Frameworks: Self-Concept Representation and Its Implications. *Personality and Social Psychology Review, 15(I)*, 3-27.

[18] Marsh, H. W., Parker, J., & Barnes, J. (1985). Multidimensional adolescent self-concepts: Their relationship to age, sex and academic m e a s u r e s . *American Educational Research Journal, 22(3)*, 422-444.

[19] Marsh, H. W. (1986). Verbal and math self-concept: An internal/external frame of reference model. *American Educational Research Journal, 23*, 129-149.

[20] Skaalvik, E. M., & Rankin, R. J. (1995). A test of the internal/external frame of reference model at different levels of math and verbal self- perception. *American Educational Research Journal, 32,* 161-184.

[21] Marsh, H. W. (1988). Self-Description Questionnaire: A theoretical and empirical basis for the measurement of multiple dimensions of preadolescent self-concept: A test manual and research monograph. San Antonio, TX: The Psychological Corporation.

[22] Brunner, M., Lüdtke, O., & Trautwein, U. (2008). The internal/external frame of reference model revisited: Incorporating general cognitive ability and general academic self-concept. *Multivariate Behavioral Research, 43,* 137-172.

[23] Marsh, H. W., & Craven, R. G. (2006). Reciprocal effects of self-concept and performance from a multidimensional perspective: Beyond s e d u c t i v e pleasure and unidimensional perspectives. *Perspectives on Psychological Science, 1,* 133-163.

[24] Marsh, H. W., Craven, R. G., & McInerney, D. (Eds.). (2008). Self-Processes, Learning, and Enabling Human Potential: Dynamic New Approaches. International Advances in Self Research, Volume 3. Information Age Press: Greenwich, CT.

[25] Williams, J. D. (2003). Student engagement at school: A sense of belonging and participation. Paris, France: OECD.

[26] Craven, R. G., Marsh, H. W., & Burnett, P. C. (2003). Cracking the self-concept enhancement conundrum: A call and blueprint for the next generation of self-concept enhancement research. In H. W. Marsh, R. G. Craven, & D. M. McInerney (Eds.), International advances in self research (Vol. 1, pp. 91-126). Greenwich, CT: Information Age.

[27] Huang, C. (2011). Self-concept and academic achievement: a meta-analysis of longitudinal relations. *Journal of School Psychology, 49(5),* 505–528.

[28] Marsh H. W. and Martin, A. J. (2011). Academic Self-concept and Academic Achievement: Relations and Causal Ordering. *British Journal of Educational Psychology, 81, 59*-77.

[29] Aggarwal, O. P., Bhasin S. K., Sharma, A. K., Chhabra, P., Aggarwal, K., & Rajoura, O. P. (2005). A New Instrument (Scale) for Measuring the Socioeconomic Status of a Family: Preliminary Study. *Indian Journal of Community Medicine, 30(4)*, 211-214.