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DOES HAPPINESS IMPACT ACADEMIC ACHIEVEMENT? GLIMPSES FROM UNDERGRADUATE STUDENTS IN AFFILIATED COLLEGES OF BANGALORE CENTRAL UNIVERSITY

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***ABSTRACT**--The present study examines the impact of happiness on academic achievement of undergraduate students. To measure happiness, PANAS scale of positive and negative emotions was used. A sample of 282 students (140 males and 142 females) were drawn from various colleges, affiliated to Bangalore Central University, using convenient sampling technique and the data was collected through self-administered questionnaires. It was found that amongst the variables of happiness, all the positive emotion variables had a significant relationship with academic achievement whereas as only few negative emotions variables were significantly related to academic achievement. Further, only two variables viz., proud and inspiration had a positive and significant relationship with academic achievement in case of both female and male students, while three more variables viz., interest, strong and determination had a positive and significant relationship with academic achievement in case of male students. This difference may be due to the influence of other personal factors such as positive relationships with peers and teachers, relationship with family members, home environment, surroundings, parental support, study habits and good health.*

***Key words**-- PANAS scale, Happiness, Positive and Negative Emotions, Academic Achievement*

I. INTRODUCTION

Academic achievement is one of the most important indicators to assess the progress in education. Research findings convey that academic achievement is affected not only by the structures of knowledge and information processing but is also related to the motivational factors such as beliefs, attitudes and values (Caprara et al., 2011; Artino et al., 2010). Happiness is one of the variables that are related to academic achievement. Previous research has revealed that the people who have a high sense of happiness are more active in academic performance (Sheykhi 2017; Chen and Lu 2009; Tuntiwarodom and Potipiti 2008).

Happiness is a mental state of well-being described by positive emotions ranging from contentment to profound delight (Ed Diener et al., 2012; Bahmani 2010; Post 2005). Happiness is a broad concept and has both cognitive and emotional components. Emotional component means balance between pleasant and unpleasant emotions. The cognitive component is life satisfaction and evaluating the meaning of life according to defined

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standards (Gilman and Huebner 2016; Lyubomirsky et al., 2005). According to leading happiness researcher Sonya Lyubomirsky, happiness is defined as "the experience of joy, contentment, or positive well-being, combined with a sense that one's life is good, meaningful, and worthwhile" (Pavot and Diener 1993).

Wilson (2017) opines that a happy individual is one who is youthful, vigorous, knowledgeable, productive, extroverted, hopeful, and religious and has high self-esteem. Generally happy persons have social, friendly personalities, bright and optimistic view about themselves, their competence and their future. Happy individuals are more vigorous and active, having less tendency towards anxiousness (Gilman and Huebner 2016; Dennis 2016). Studies have revealed that happy individuals are more creative (Pannells and Claxton 2008; Csikszentmihalyi 1997) and happiness promote career success (Walsh et al., 2018). Happiness components include positive emotions, life satisfaction and the absence of negative emotions. It was found that relationships with others, knowing the purpose of life, personal growth, considering others and nature, are the components of happiness (Fredrickson 2013; Noddings 2004). From the analysis of these statements, authors conclude that happiness is a relative term which is experienced rather than explained. It is a vague and complex concept as the state of happiness varies from individual to individual and from time to time with the same person.

Further, previous research has also revealed that the present young students exhibit decreasing interest in academics (Kesebir and Diener 2018; Gilman and Huebner 2016; Abdel-Khalek and Lester 2013). Exploring the link between happiness and academic performance will be of great help to promulgate significant academic intervention to maximize students' potentials in academic activities. Further, college regulations may be revisited and reshaped to enhance the quality of higher education.

II. REVIEW OF LITERATURE

This paper is based on a literature review using a comprehensive search tool like academic search complete, business source complete, ERIC as well as other relevant databases such as Pro Quest, Psyc INFO, and JSTOR. The search was limited to peer-reviewed and English language articles. The following key terms were used in the advanced search engines: Happiness, Academic performance, Higher education, Positive emotions, Negative emotions etc. These terms were used independently, as well as in combination with each other.

The overview of the related literature on Happiness and Academic achievement is enunciated below:

- The king of Bhutan first formulated the concept of Gross National Happiness Index to measure the happiness of the citizens of Bhutan, which was used by the government to formulate various policies and plans for the enhancement of social and economic wellbeing of the country (http://worldhappiness.report/ed/2018).
- Diener and Seligman (2012) reported that the academic performance of students at college level is often associated with the kind of teaching, learner centric curriculum, and the learning environment created by the college authorities. The other aspects like the student's wellbeing, health, family income and wellbeing of the whole family etc are ignored by the policy makers.
- Bahmani (2010) found that students with higher socio-economic status expressed a markedly higher-level satisfaction with life and achieved a higher-grade point average.
- Lyubomirsky et al. (2015) opined that happy individuals are successful across multiple life domains – like academic performance, work performance, health and interpersonal relationships.

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- Dennis (2016) argued that knowing the emotions of the students are more important than knowing their achievements on paper. Her study suggests that happy students are better in problem solving, reasoning, collaborating with friends and are self-motivated, but students with high grades, if they are not happy are prone to be more stressed out, unable to cope up with setbacks and eventually display tendencies of giving up.
- According to Dennis (2016) the factors associated with positive emotions were interest (feeling of curiosity or fascination that demands and captures the attention of a person), enthusiastic (a sense of excitement, accompanied by motivation and engagement), proud (a sense of approval of oneself and pleasure in an achievement, skill, or personal attribute) and inspiration (feeling engaged, uplifted, and motivated by something you witnessed).
- Gilman and Huebner (2016) reported that the happiness level of school students decreased from sixth grade. The decline in the happiness level among girl students was dramatic – the decline was attributed to peer problems and stress at college level. Most desired factors for increasing happiness was more money, more leisure time and to have a boyfriend.
- Noddings (2004) opined that happiness and education are closely connected. Though the goal of education is to encourage students for lifelong learning, its focus in most cases is on grades and degrees rather than ongoing learning. This creates tension among the students. For the students to be happy and perform better in academics it was pointed out by Seligman (2002) and Post (2005) that teachers who are happy are more willing and able to give and accept the changes, able to teach and assist the students to be happy which helps them to perform better.

III. RESEARCH GAP

Studies on happiness had flourished around the world. Different impacts of happiness in different aspects of life had been well documented. In India the study of happiness remained scarce especially in academic setting. In addition, most of the previous studies focused mainly on grade point average (GPA) as a measure of academic performance. As happiness is vulnerable to life experiences, linking happiness with GPA may not yield a comprehensive and more meaningful result. To fill this gap in the literature, the present study is undertaken, wherein the author used a single examination score of college students rather than the overall academic performance, to measure the impact of happiness on academic achievement.

IV. CONCEPTUAL MODEL

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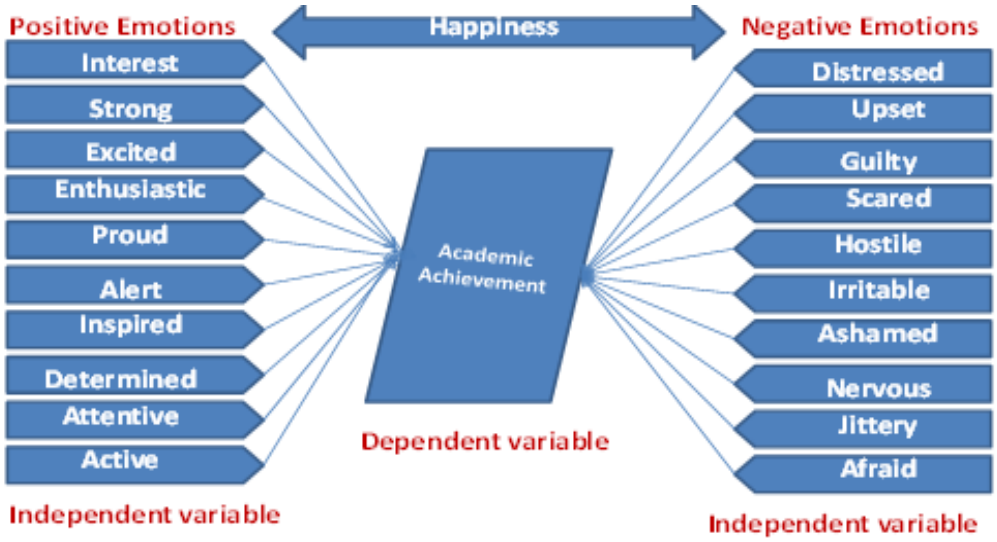

Figure 1: Conceptual Model showing the relationship between Happiness and Academic Achievement

The broad research model proposes to link Happiness and Academic Achievement wherein Academic Achievement is the dependent variable and Happiness, which comprises of both Positive Emotions and Negative Emotions (PANAS Scale), constitute the independent variable.

V. STATEMENT OF THE PROBLEM

According to a study conducted by Harvard Graduate School of Education (HGSE) it was found that happiness of students is positively correlated to their academic achievement. In India, the students are more stressed than happy. The emphasis is more on grades and marks with least priority given to the happiness index of the students and they are driven hard to succeed. This has resulted in increased student dropout rates and increased stress level amongst the student community leading to depression. With this theoretical background, the present study has been undertaken to address questions like whether student happiness can be correlated with academic achievement? Whether there is any influence of happiness on academic achievement? Based on the above context the following objectives have been set for the study:

VI. OBJECTIVE OF THE STUDY

1. To examine the relationship between Positive Emotions and Academic Achievement.
2. To study the relationship between Negative Emotions and Academic Achievement.
3. To analyse the influence of Positive Emotions on Academic Achievement.
4. To measure the influence of Negative Emotions on Academic Achievement.

VII. HYPOTHESES

H01: There is no relationship between Positive Emotions and Academic achievement

H1: There is a relationship between Positive Emotions and Academic achievement

H02: There is no relationship between Negative Emotions and Academic achievement

H2: There is a relationship between Negative Emotions and Academic achievement

H03: There is no influence of positive Emotions on Academic achievement

H3: There is an influence of Positive Emotions on Academic achievement

H04: There is no influence of Negative Emotions on Academic achievement

H4: There is an influence of negative Emotions on Academic achievement

VIII. CONFIRMATORY FACTOR ANALYSIS

Confirmatory factor analysis uses construct validity to prove that the instrument is valid and reliable. A pilot study was conducted with 50 samples taken from the existing population, to check the reliability of the tests and to measure the time needed to complete the survey.

IX. CONSTRUCT VALIDITY

construct validity includes the following: convergent validity, discriminant validity, face validity and nomological validity.

1. Convergent Validity: Convergent validity includes three indicators: significance of factor loading, reliability analysis, composite reliability and average variance extracted (AVE). (Refer table No.1)

- **Significance of Factor Loading:** The value of factor loadings (λ), should be statistically significant and larger than minimum threshold of 0.70. (Fornell and Larcker, 1981, Hurley et al., 1997).
- Reliability **Analysis:** Cronbach's Alpha coefficient is a value for reliability having values from zero to one. Its higher value indicates greater reliability. Generally, scholars use 0.7 as a minimum level (Wong 2013; Nunnally and Bernstein 1994).
- **Composite reliability:** Composite reliabilities should be greater than 0.80 (Fornell and Larcker, 1981, Hurley et al., 1997).
- **Average Variance Extracted:** Average variance extracted for all the measurement items should be higher than minimum threshold of 0.50 (Fornell and Larcker, 1981, Hurley et al., 1997).

2. Discriminant Validity: The study uses the Fornell and Larcker (1981) typology to assess the discriminant validity. This approach suggests that "average variance extracted (AVE) for each construct should be larger than squared correlation between the same constructs and any other constructs" (Refer table No.2)

3. *Face Validity:* The opinions expressed by experts were obtained to measure the face validity of the questionnaire. After analyzing the results, researcher found that the items included in the study were suitable for inclusion in the scale.

4. Nomological Validity (Non-Logical Validity): Cronbach and Meehl (1955) defined nomological validity as the set of relationships between constructs and between consequent measures. The relationships between constructs should be reflected in the relationships between measures or observations. In the present study, the correlation matrix of all the possible linkages among the constructs found as per the law of nature. Hence, nomological validity ensured.

Table 1: Convergent Validity Test

Constructs	Measurement items	Standard Loading	Cronbach Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
Positive Emotions	Interested	0.87	0.8212	0.91	0.74
	Strong	0.84	0.8342	0.84	0.67
	Excited	0.77	0.8308	0.91	0.74
	Enthusiastic	0.87	0.8172	0.91	0.74
	Proud	0.88	0.8386	0.84	0.69
	Alert	0.81	0.8234	0.78	0.74
	Inspired	0.77	0.8278	0.85	0.69
	Determined	0.87	0.8208	0.78	0.68
	Attentive	0.78	0.8273	0.94	0.69
	Active	0.81	0.8250	0.96	0.67
Negative Emotions	Distressed	0.81	0.8243	0.92	0.64
	Upset	0.83	0.8368	0.81	0.69
	Guilty	0.78	0.8335	0.72	0.74
	Scared	0.83	0.8196	0.90	0.69
	Hostile	0.86	0.8396	0.74	0.61
	Irritable	0.83	0.8260	0.90	0.67
	Ashamed	0.87	0.8300	0.98	0.74
	Nervous	0.77	0.8235	0.84	0.69
	Jittery	0.87	0.8293	0.78	0.68
	Afraid	0.88	0.8264	0.91	0.74

- In this study researcher used Cronbach's alpha to measure the reliability of statements. The Cronbach alpha values for the twenty constructs exceed the recommended value of 0.70, which demonstrates that the instrument is reliable.
- In the present study, the loading items (λ) lie between 0.73-0.91, composite reliabilities ranges from 0.80-0.95 and values of AVE come between 0.61-0.74. The results indicate that measurement model meets the criteria of convergent validity.

Table 2: AVE and square of correlations between constructs

Constructs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	0.86																			
2	0.55	0.81																		
3	0.62	0.42	0.86																	
4	0.64	0.51	0.42	0.86																
5	0.56	0.51	0.43	0.42	0.83															
6	0.53	0.42	0.46	0.31	0.49	0.86														
7	0.44	0.51	0.41	0.43	0.41	0.52	0.83													
8	0.66	0.49	0.41	0.49	0.41	0.42	0.43	0.82												
9	0.42	0.51	0.44	0.44	0.42	0.49	0.42	0.51	0.83											
10	0.53	0.52	0.43	0.52	0.51	0.51	0.50	0.43	0.52	0.81										
11	0.62	0.50	0.46	0.52	0.51	0.46	0.52	0.46	0.50	0.55	0.80									
12	0.61	0.52	0.44	0.51	0.51	0.41	0.52	0.46	0.52	0.56	0.55	0.83								
13	0.41	0.51	0.44	0.51	0.51	0.48	0.51	0.52	0.51	0.49	0.51	0.49	0.86							
14	0.41	0.51	0.44	0.51	0.51	0.48	0.51	0.52	0.51	0.49	0.51	0.49	0.59	0.83						
15	0.44	0.51	0.41	0.43	0.41	0.52	0.53	0.42	0.46	0.31	0.49	0.51	0.43	0.42	0.78					
16	0.53	0.52	0.43	0.52	0.51	0.51	0.50	0.43	0.52	0.56	0.51	0.43	0.42	0.62	0.42	0.81				
17	0.41	0.51	0.44	0.51	0.51	0.48	0.51	0.52	0.51	0.49	0.51	0.49	0.59	0.51	0.48	0.51	0.86			
18	0.53	0.52	0.43	0.52	0.51	0.51	0.50	0.43	0.52	0.51	0.51	0.50	0.43	0.52	0.51	0.42	0.41	0.83		
19	0.41	0.51	0.44	0.51	0.51	0.48	0.51	0.52	0.51	0.49	0.51	0.49	0.59	0.50	0.46	0.52	0.51	0.46	0.82	
20	0.51	0.43	0.42	0.44	0.51	0.41	0.43	0.41	0.52	0.51	0.51	0.50	0.43	0.52	0.41	0.52	0.46	0.52	0.56	0.86

The study uses the Fornell and Larcker (1981) typology to assess the discriminant validity. This approach suggests that "average variance extracted (AVE) for each construct should be larger than squared correlation between the same constructs and any other constructs".

Table 2 suggests that square root of average variance extracted is greater than correlation of constructions (square root of AVE > correlation of constructs), hence discriminant validity is established, so both convergent and discriminant validity lead to better constructs validity to proceed for further analysis.

Table 3: CFA Results for Model Fitness

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Fit index	Scores	Standardized cut-off value
Absolute Fit Measures		
$\chi 2$/df	2.858	$\leq 2^a$; $\leq 5^b$
GFI	0.860	$\geq 0.90^a$; ≥ 0.80
RMSEA	0.053	$< 0.08^a$; < 0.10
Incremental Fit Measures		
NFI	0.780	$\geq 0.90^a$
AGFI	0.843	$\geq 0.90^a$; $\geq 0.80^b$
CFI	0.844	$\geq 0.90^a$
Parsimonious Fit Measures		
PGFI	0.768	The higher, the better
PNFI	0.734	The higher, the better

Notes:

Acceptability Criterion: [a]acceptable; [b]marginal

(GFI = goodness-of-fit index; RMSEA = root mean square error of approximation; NFI = normed fit index; AGFI = adjusted goodness-of-fit index; CFI = comparative fit index; PGFI =parsimony goodness-of-fit index; PNFI = parsimony normed fit index)

To measure the goodness of fit of the measurement model, author used seven goodness-of-fit (GoF) measures namely GFI, RMSEA, NFI, AGFI, CFI, PGFI and PNFI and the results are as follows:

X. RESULTS

(1) Absolute fit measures: *X2/df* = 2.858, GFI = 0.860, RMSEA = 0.053.

(2) Incremental fit measures: NFI = 0.780, AGFI = 0.843, CFI = 0.844.

(3) Parsimonious fit measures: PGFI = 0.768, PNFI = 0.734.

Table 3- presents the overall fit indices of the CFA model with scores and recommended cut-off value, suggesting that all values meet satisfactory levels of fit indices, confirming that model is fit and hence is suitable for testing the proposed hypotheses.

XI. RESEARCH METHODOLOGY

The PANAS Scale (PANAS SF version) or Positive and Negative Affect Schedule (PANAS) as developed in 1988 by three American psychologists: David Watson, Lee Anna Clark and Auke Tellegen, has been used to measure the happiness of the students. The data was collected from 282 undergraduate students belonging to the 5th semester studying in affiliated colleges of Bangalore Central University over a period of four months. Convenience sampling technique was followed to collect the data. The data so collected was tabulated and correlation and regression analysis has been used to measure the happiness and its impact on the academic achievement of the students.

XII. ANALYSIS AND DATA INTERPRETATION

The major findings of the study are summarized below:

Objective-1: Relationship between Positive Emotions and Academic achievement

Table 4: Relationship between Positive Emotions and Academic achievement

V.No	Variables	Female Students		Male Students	
		'r' value	'p' value	'r' value	'p' value
1	Interest	0.0221*	0.0260	0.0721*	0.0460
2	Strong	0.0291*	0.0169	0.0791*	0.0469
3	Excitement	0.0208*	0.0106	0.0108*	0.0106
4	Enthusiasm	0.0287*	0.0098	0.0187*	0.0174
5	Proud	0.0757*	0.0407	0.0741*	0.0437
6	Alertness	0.0112*	0.0349	0.0118*	0.0246
7	Inspired	0.0791*	0.0209	0.0751*	0.0409
8	Determination	0.0291*	0.0068	0.0791*	0.0468
9	Attentive	0.0130*	0.0056	0.0130*	0.0056
10	Activeness	0.0149*	0.0316	0.0149*	0.0046

Source: Primary data * significant at 5% level n=330

For finding out the nature of the relationship between positive emotions and academic achievement, the zero order correlation coefficients were computed and the results are populated below:

- All the variables of positive emotions have positive and significant relationship with academic achievement in case of both female and male students.
- In case of female students, only two variables viz., proud (0.0757*) and inspired (0.0791*) have strong positive relationship with academic achievement. whereas, in case of male students, interest (0.0721*), strong (0.0791*), proud (0.0741*), inspired (0.0751*) and determination (0.0791*) have strong positive relationship with academic achievement.
- Further, in case of female students, interest (r = 0.0221*), strong (r = 0.0291*), excitement (r = 0.0208*), enthusiasm (0.0287*), alertness (0.0112*), determination (0.0291*), attentiveness (0.0130*) and activeness (0.0149*) have weak positive relationship with academic achievement. on the other hand, in case of male students, excitement (0.0108*), enthusiasm (0.0187*), alertness (0.0118*), attentive (0.0130*) and activeness (0.0149*) have weak positive relationship with academic achievement.
- It is apparent from the findings that there is a significant relationship between positive emotions and academic achievement. This shows that the hypothesis **H1** is supported by results.

Objective-2: Relationship between Negative Emotions and Academic Achievement

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Table 5: Relationship between Negative Emotions and Academic Achievement

V.No	Variables	Female Students		Male Students	
		'r' value	'p' value	'r' value	'p' value
1	Distressed	-0.0373^{NS}	0.0592	-0.0472*	0.0392
2	Upset	-0.0332^{NS}	0.0531	-0.0434*	0.0431
3	Guilty	-0.0304^{NS}	0.0554	-0.0101*	0.0054
4	Scared	-0.0369*	0.0204	-0.0369^{NS}	0.0504
5	Hostile	-0.0376^{NS}	0.0294	-0.0276*	0.0204
6	Irritable	-0.0534 ^{NS}	0.0553	-0.0032*	0.0053
7	Ashamed	-0.0899*	0.0103	-0.0599^{NS}	0.0503
8	Nervous	-0.0116 *	0.0033	-0.0516 ^{NS}	0.0533
9	Jittery	-0.0854*	0.0121	-0.0656^{NS}	0.0521
10	Afraid	-0.0533*	0.0334	-0.0634^{NS}	0.0534

Source: Primary data * significant at 5% level n=330

- In case of female students, scared (-0.0369*), ashamed (-0.0899*), nervous (r = -0.0116^{ns}). jittery (-0.0854*) and afraid (0.0533*) have negative but significant relationship with academic achievement. whereas, in case of male students, distressed (-0.0472*), upset (-0.0434*), guilty (-0.0101*), hostile (-0.0276*), irritable (-0.0532*) showed negative but significant relationship with academic achievement.
- Further, in case of female students, the results revealed that five variables viz., distressed (-0.0373^{ns}), upset (-0.0332^{ns}), guilty (-0.0304^{ns}) and hostile (-0.0376^{ns}), irritable (-0.0634^{ns}) showed negative but non-significant relationship with academic achievement. whereas, in case of male students, scared (-0.0369^{ns}), ashamed (-0.0599*), nervous (r = -0.0516^{ns}). jittery (-0.0656*) and afraid (0.0533*) have negative but non-significant relationship with academic achievement.
- As few variables of negative emotions have significant relationship with academic achievement, the hypothesis **H2** is partially supported by results.

Objective-3: To analyse the influence of Positive Emotions on Academic Achievement

Table 6: Influence of Positive Emotions on Academic Achievement

Variables	Female Students				Male students			
	Coefficients	Standard Error	't' value	'P' value	Coefficients	Standard Error	't' value	'P' value
Interest	0.298	0.511	0.583^{NS}	0.0560	0.369	0.486	0.759	0.0448
Strong	0.086	0.520	0.165 ^{NS}	0.0869	0.031	0.544	0.058	0.0436
Excitement	0.217	0.575	0.377 ^{NS}	0.0706	0.593	0.472	1.256^{NS}	0.0510

Enthusiasm	0.111	0.604	0.184 NS	0.8540	0.905	0.554	1.634 NS	0.1030
Proud	0.086	0.543	0.158 *	0.0474	0.087	0.527	0.166	0.0468
Alertness	0.324	0.485	0.668 NS	0.5040	0.112	0.532	0.210NS	0.8332
Inspired	0.385	0.464	0.830*	0.0407	0.031	0.568	0.055	0.0456
Determination	1.247	0.535	2.330 NS	0.0504	0.787	0.506	1.553	0.0213
Attentive	0.369	0.486	0.759NS	0.0548	0.473	0.580	0.815NS	0.0516
Activeness	1.247	0.535	2.330 NS	0.0504	0.499	0.516	0.967 NS	0.3341

Constant (a) =67.41 F - Value = 0.655* R^2 Value =0.192* Constant (a) =56.41 F - Value = 0.854* R^2 Value =0.362*

***Significant at 5% Level NS: Non-Significant**

To measure the impact of positive emotions on academic achievement, regression analysis was carried out and the results are as follows:

- In case of female students, the findings revealed that more than 19 percent of variation in the level of academic performance was explained by all the ten variables of positive emotions included in the study. The R^2 value with respect to ten variables was 0.192 followed by the F value 0.655 and both values were significant at 5 percent level of probability.
- From the regression analysis, it was found that only two variables (viz., proud and inspired) out of the ten select variables were significant in predicting the variation in the level of academic performance and the remaining eight variables viz., interest, strong, exited, enthusiastic, alert, determination, attentive, and active were found to be non-significant.
- In case of male students, the findings revealed that more than 36 percent of variation in the level of academic performance was explained by all the ten variables of positive emotions included in the study. The R^2 value with respect to ten variables was 0.362 followed by the F value 0.854 and both values were significant at 5 percent level of probability.
- From the regression analysis, it was found that five variables (viz., interest, strong proud, inspired and determination) out of the ten select variables were significant in predicting the variation in the level of academic performance and the remaining five variables viz., exited, enthusiastic, alert, attentive, and active were found to be non-significant.
- It is apparent from the findings that there is a significant influence of few variables of positive emotions on academic performance. This shows that the hypothesis **H3** is partially supported by results.

Objective-4: To analyse the influence of Negative Emotions on Academic Achievement

Table 7: Influence of Negative Emotions on Academic Achievement

Variables	Female Students				Male students			
	Coefficients	Standard Error	't' value	'P' value	Coefficients	Standard Error	't' value	'P' value
Distressed	-0.0860	0.5430	0.1580 NS	0.0574	-0.5870	0.5270	0.1660*	0.0468
Upset	-0.3240	0.4850	0.6680 NS	0.5040	-0.5120	0.5320	0.2100*	0.8332
Guilty	-0.3850	0.4640	0.8300*	0.0507	-0.5310	0.5680	0.0550*	0.0456
Scared	-0.5470	0.5350	2.3300 *	0.0504	-0.7870	0.5060	1.5530	0.0513
Hostile	-0.3690	0.4860	0.7590NS	0.0548	-0.4730	0.5800	0.8150*	0.0516
Irritable	-0.2470	0.5350	2.3300 NS	0.0504	-0.4990	0.5160	0.96708	0.3341
Ashamed	-0.5980	0.5110	0.5830*	0.0460	-0.3690	0.4860	0.7590NS	0.0548
Nervous	-0.5860	0.5200	0.1650 *	0.0469	-0.0310	0.5440	0.0580NS	0.0536
Jittery	-0.5170	0.5750	0.3770 *	0.0406	-0.5930	0.4720	1.2560NS	0.0510
Afraid	-0.5110	0.6040	0.1840 *	0.0440	-0.9050	0.5540	1.6340 NS	0.1030

Constant (a) =86.21 F - Value = 0.588* R^2 Value =0.498* Constant (a) =72.41 F - Value = 0.456* R^2 Value =0.262*

***Significant at 5% Level NS: Non-Significant**

To measure the impact of negative emotions on academic achievement, regression analysis was carried out and the results are as follows:

- In case of female students, the findings revealed that more than 49 percent of variation in the level of academic performance was explained by all the ten variables of negative emotions included in the study. The R^2 value with respect to ten variables was 0.298 followed by the F value 0.558 and both values were significant at 5 percent level of probability.
- From the regression analysis, it was found that only five variables (viz., scared, ashamed, nervous, jittery and afraid) out of the ten select variables were significant in predicting the variation in the level of academic performance and the remaining five variables viz., distressed, upset, guilty, hostile and irritable were found to be non-significant.
- In case of male students, the findings revealed that more than 26 percent of variation in the level of academic performance was explained by all the ten variables of negative emotions included in the study. The R^2 value with respect to ten variables was 0.262 followed by the F value 0.456 and both values were significant at 5 percent level of probability.
- From the regression analysis, it was found that five variables (viz., distressed, upset, guilty, hostile and irritable) out of the ten select variables were significant in predicting the variation in the level of academic

performance and the remaining five variables viz., scared, ashamed, nervous, jittery and afraid were found to be non-significant.

- It is apparent from the findings that only few variables of negative emotions have significant influence with academic performance. This shows that the hypothesis **H4** is partially supported by results.

XIII. DISCUSSION

In this section, the possible implications of the findings are discussed:

This study examined the relationship between positive/negative emotions and academic achievement. The result revealed that two variables viz., proud and inspiration to have a positive and significant relationship with academic achievement in case of both female and male students. Further, three variables viz., interest, strong and determination have a positive and significant relationship with academic achievement in case of male students. This difference may be due to the influence of other personal factors such as positive relationships with peers and teachers, relationship with family members, home environment, surroundings, parental support, study habits and good health. This is also in line with the operational definition of happiness as proposed by earlier scholars (Gilman and Huebner 2016; Bahmani 2010).

Further, the total impact of positive emotions on academic achievement is nineteen percent in case of female students. Whereas, in case of male students the total impact of positive emotions on academic achievement is thirty six percent. This indicates that the male students, who considered their goals more important, are more likely to reach their destination. While female students with less happiness, feel more conflicts in their aims. Recently, number of studies revealed that one of the factors that cause students to feel happy is their perceptions about themselves. When a student finds their inner core and is aware of their strength, they can overcome the problems and develop the circumstances of life by relying on their abilities. These findings are consistent with the previous research findings (Kesebir and Diener 2018; Wilson 2017).

In case of female students, variables of negative emotions viz., scared, ashamed, nervous, jittery and afraid have negative and significant impact on academic achievement. This may be due the fact that girl students are scared of discrimination and to report sexual harassment incidences to the head of the institution; they feel ashamed because they belong to disrupted family, if teacher/parents/relatives scolds them in front of their friends, if they cannot pay fees due to poverty. Further, fear of love failure, fear of test and exams, unfulfilled desires found to be higher among girl students than that of male students. The findings are consistent with those of Wilson (2017), and Pavot and Diener (1993).

In case of male students, the impact of distress, upset, guilty, hostile and irritable on academic achievement found to be negative and significant. This study resulted that boys are more stressful than girls. There can be many reasons for this, it may be their parent's expectation from them or it may be boy's high goal and target for their bright and successful career. In case of male students, irritability is associated with increased likelihood of engaging in risky behaviours, including compulsive use of alcohol and illicit drugs etc. Boys are more hostile towards college than girls and they have less belief in god. These results agree with the findings of Lyubomirsky et al. (2015) and Pavot and Diener (1993).

The male students reported higher level of self-esteem and happiness as compared to female students possibly due to the traditional gender and social roles in the patriarchal society in which boys are given more importance and privileges as compared to girls and discourages higher education for girls. The results of the research are aligned with the findings of Ed Diener et al., (2012) and Bahmani (2010).

XIV. PRACTICAL IMPLICATIONS

It is a fact that bringing up happy and healthy children is the goal of parents and educators. Therefore, it has become need of the hour that parents' guide their children to make best use of opportunities that are available in the college. Further, if an educational institution wants to enhance quality levels of mental health and happiness of the students, it necessary to guide students to set meaningful goals and reduce the fear of failure. If this is done, students can learn the use of new educational strategies and try to increase their level of happiness and academic performance.

The present study has suggested that certain personal variables that educational stakeholders need to address in order to design student friendly learning model and also improve the quality of educational outcomes at undergraduate level. As pride and inspiration are two variables positive and significant relationship with academic achievement in case of both female and male students, it has been suggested that educators take care in not hurting student sentiments by following practices like praise in public and seizure in private, drawing attention to the protégé's strength rather than weakness, use of persuasion instead of coercion and enabling the students to discover their hidden potentials themselves.

XV. METHODOLOGICAL IMPLICATIONS

As this is a cross-sectional study, causal inference cannot be made. Experimental and longitudinal studies would be supportive in establishing causal relationships and for understanding the moderating role of socio demographics in happiness and mental health relationship respectively.

The present study had sampled undergraduate students from Bangalore Central University only. The future studies ought to include students from colleges of other states to justify the cross–sectional validity of the present findings. Future research should also examine certain personal variables that have potential in enhancing happiness such as relationship among peers, teachers and family, good health, home environment, surroundings, study habits. Further there could be inclusions of various mediators and moderators to the present model to make it more comprehensive.

The results highlight the avenues the educators and other stakeholders need to focus in order to enhance student happiness. The development of strategies for effective identification and fulfilment of student happiness, by parents and educators, would go a long way in ensuring academic excellence, holistic development and life satisfaction amongst the student community.

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