Indian Journal of Psychology and Education
Jan, 2022, Vol. 12, No.1, pp 101-108

The Stress Experience: The Role of Attribution and Self-Efficacy

Sohinee Ganguly*

Abstract

Stress levels of students in premier engineering institutes in India is now prominent. Harming oneself, owing to the inability to deal with academic stress, is in the news frequently. The objective of the study was to understand the impact of attribution and self-efficacy on stress of undergraduate engineering students in India. Attribution and self-efficacy are two important areas of research in psychology with far reaching roots. Responses from 604 students across undergraduate years were compared to get an insight into the factors affecting their stress levels. Academic self-efficacy was found to be important for the older students. A developmental perspective emerged as an overarching theme.

Key Words: Attribution, Self-Efficacy, Stress, Undergraduate, Development

Education is a bridge to a better life in many societies today. As a result, it has led to an increase in the pressure to excel in school and college students. India has a large college going population (Census, 2011) that is expected to only increase as is reports of stress in students. The damaging impact of stress on individuals has been reported in several meta-analyses (Segerstrom& Miller, 2006; Montgomery & Rupp, 2005). The many pronged impact of stress affects all segments of the population world wide and has affected school and college students' academic performance too (Chemers, Hu and Garcia, 2001; Elias, Ping and Abdullah, 2011; Aafreen, Priya&Gayathri, 2018; Pascoe, Hetrick& Parker, 2019). Much importance is placed on academic performance right from school days in most Indian families (Deb, Strodl& Sun, 2015). This scenario is characterized by high aspiration levels of parents which lead to tremendous strain among children (Deb, Strodl& Sun, 2015). Owing to experiences of severe stress student suicides are often reported in newspapers. High stress levels exist among students indicated by an increase in the suicide rate by 26% from 2006 to 2010 for students (Mukherjee, 2011).

Two motivational constructs that affect academic performance, perhaps as much as stress, are self-efficacy (Honicke& Broadbent, 2016) and attribution (de Boer, Donker, & van der Werf, 2014). They have been researched extensively and separately (Bandura, 1986, 1991, as cited in Bandura 1995). Self-efficacy was defined as "peoples judgments of their capabilities to organize and execute courses of action required to attain designated types of performance" (Bandura, 1986, as cited in Lent, Brown & Hackett, 1994, p. 83). "Self-efficacy is not a passive, static trait, but rather is seen as a dynamic set of self beliefs that are specific to particular performance domains and that interact complexly with other persons behaviour and contextual factors" (Lent, Brown & Hackett, 1994, p. 83). According to Bandura (1997) efficacy beliefs influences the competency of an individual. He further reported that a person might have the ability to perform a particular skill but the performance might change from one situation to another. Bandura explained that this difference in performance was caused due to the variation in self-efficacy. He proposed that what anyone believes to be able to do with what he has determines the level of perceived self-efficacy. Babdura's (1997) work showed that when a person doubts his/her capability, the performance gets affected unfavourably. A student can complete a task if he/she believes that the task can be done (Bandura, 1997). Bandura (1997, p. 79) reported self-efficacy beliefs develop from four sources: enactive mastery experience (indicators of capability), vicarious experience ("the attainment of others who are similar to one self are judged to be diagnostic of one's own capabilities"), verbal persuasion (when society and/or significant others express faith in one's capabilities) and physiological and affective states (i.e., mood). According to Bandura (1997) the first of these sources, i.e., enactive mastery experience influences self-efficacy the most. Bandura (1997) found even when respondents were very skilled in a particular task they would not perform well if they did not believe that they were capable of using that skill. He also found successful performance lead to increased personal efficacy beliefs. However, when one experienced repeated failure or failure at the beginning of any task, self-efficacy was found to decrease. Bandura (1997) further explained that self-efficacy may not always increase with improvement in performance, and, vice versa. He reported that performance affected self-efficacy beliefs based on the meaning that was derived of it.

Self-efficacy in several research studies has been conceptualized for a specific subject like, mechanics self-efficacy (Jeng& Shih, 2008), computer self-efficacy (Smith, 2002), and mathematics self-efficacy (Boruchovitch, 2004). Just as self-efficacy has been studied in specific areas of academics, it has also been studied under the umbrella term of academic self-efficacy (Sharma &Nasa, 2014).

Academic Self-Efficacy (ASE)

"Perceived academic self-efficacy is the personal judgment of one's capabilities to organize and execute courses of action to attain designated types of educational performances" (Bandura, 1977; Schunk, 1989, as cited in Bandura 1995, p. 203). In a meta-analysis by Multon, Brown and Lent (1991) on the relationship of self-efficacy beliefs with academic

*Thapar School of Liberal Arts & Sciences, E-mail: sohinee.ganguly@thapar,edu

performance and persistence, 14% variance in academic performance was reported to be caused by self-efficacy. In another more recent meta-analysis of psycho-social and study skill factors and academic performance by Robbins et al. (2004) academic self-efficacy was found to be the best predictor of academic performance. This finding holds true for engineering students as well (Lent, Brown, & Larkin, 1987 & Hackett, Betz, Casas & Rocha-Singh, 1992). The role of self-efficacy in academic performance has been documented with school as well as college students (Triantoro, 2013). In studies with children, self-efficacy was found to be positively related to aspiration and intellectual achievement (Bouffard-Bouchard, 1990, as cited in Bandura, 1997). Better performance in mathematics problems were found in children with greater self-efficacy beliefs when mathematical ability was controlled for (Collins, 1982, as cited in Bandura, 1997). In a study with middle school students Blake et al. (2006) found academic self-efficacy to be significantly and positively related to academic performance. But they also found that as students progressed through school their self-efficacy levels reduced. Bodys-Cupack et al (2016) in their study with undergraduate nursing students in Poland, found high levels of self-efficacy in students was related to low stress levels.

Time Management (TM)

Related to self-efficacy is the self-regulatory aspect of time management. Bandura (1986, 1991, as cited in Bandura, 1995) further elaborated that self-efficacy helps people predict their future events and work towards controlling them. This indicated that time management was a part of self-efficacy which was supported by the work of Britton and Tesser (1991). Britton and Tesser (1991) reported self-efficacy as a factor in their time management scale. They also reported that the self-efficacy factor revealed whether an individual felt he/she was in control of his/her time.

Time management encompasses "behaviours that aim at achieving an effective use of time while performing certain goal directed activities" Claessens et al. (2007). They also point out the absence of a single definition of time management, as several researchers have highlighted different aspects of the term. However, the different definitions can be grouped into some broad categories that highlight some common characteristics. Some researchers have focused on time management as a technique to use time effectively (Orpen, 1994; Slaven&Totterdell, 1993; Woolfolk & Woolfolk, 1986, as cited in Claessens et al., 2007). Some other researchers define time management as a means to maximise productivity (Britton &Tesser, 1991; Griffiths, 2003; Eilam&Aharon, 2003, as cited in Claessens et al., 2007), means of planning (Koolhaas et al., 1992; Kaufman-Scarborough & Lindquist, 1999; as cited in Claessens et al., 2007) or alleviating stress (Lay &Schouwenburg, 1993, as cited in Claessens et al., 2007).

Attribution

The nature of human beings is to be curious about why something happens (Malle, 2011). Be it an event or behaviour. To address and understand that, came into being the attribution theories with the pioneering work of Fritz Heider. Every person makes attributions multiple times daily quite automatically and naturally (Malle, 2011). In the process one ascribes reasons to why something happened or did not (Malle, 2011). Hence, it is very important what one assumes the cause of a particular event or behaviour to be as it has an impact on the resultant emotions (Lazarus, 1984; Scherer, 1994, 1997; Weiner, 1986; Reeve, 2009), self-efficacy (Collins, 1982; Silver, Mitchell, & Gist, 1989, as cited in Bandura, 1997), performance (Ojo and Wale, 2011), relationships (Bruce Orvis, Harold Kelley, and Deborah Butler, 1976), perhaps every dimension of life. Impact of attribution on students academic performance has been documented too (Jeng and Shih, 2008; Cheng and Chiou, 2010; Sutantoputri and Watt, 2012). In an attempt to understand the impact of attribution on psychological distress, Mclean, Strongman and Neha (2007) reported lower levels of psychological distress in those participants who made internal unstable attributions.

Perceived Stress (PS)

Stress has been defined as "a state of psychological arousal that results when external demands tax or exceed a person's adaptive abilities" (Lazarus, 1966; Lazarus &Folkman, 1984, as cited in Zajacova, Lynch &Espenshade, 2005, p. 679). Studies show high levels of strain (subjective stress) lead to lowered academic performance (Hackett et al., 1992) and similarly students with better academic performance feel less stressed (Chemers, Hu & Garcia, 2001). Stress has also been related to poor health (Yaribeygi et al., 2017), adjustment (Strain, 2018), academic self-efficacy (Zajacova, Lynch &Espanshade, 2005).

In today's society there is a demand for engineers. This places a lot of value on engineering degrees. The government engineering colleges and institutes are the most prestigious, and making it to one of them is a ticket to 'the better life'. The current study focused on undergraduate engineering students in India, as enrolment to elite engineering institutes of the country require high scores on a very competitive exam. Students usually begin preparing for the exam in high school Sethumadhavan (2017). Almost all the students enrol in coaching classes and some even in residential coaching programs for a year or two and even take an extra year after high school. Thus the high school years are high pressure years for students in the science stream attempting to pursue engineering or medicine. There is a single minded focus on academic performance and exclusion of everything else Sethumadhavan (2017). These

observations convey the emphasis on performing well in academics, which is prominent in the minds of students. Hence, it would be helpful to understand the factors that predict the academic performance.

In this paper we wanted to understand how previous grades (past performance), attribution, time management and academic self-efficacy of students have an impact on their stress levels.

Research Questions Explored

Can self-efficacy affect perceived stress of undergraduate engineering students?

The importance and impact of the umbrella term self-efficacy is well known (Bandura, 1995). The pioneering contribution of Bandura explained the factors affecting self-efficacy of individuals. However, in this paper we want to look into a less delved direction of how self-efficacy might impact stress levels of students. So, we have the research question to get a broader understanding. In the present work academic self-efficacy and time management are together conceptualised as self-efficacy. Both these variables should protect against stress.

Can attribution affect perceived stress of undergraduate engineering students?

Attributions have been known to influence performance (Mkumbo& Amani, 2012) and self-efficacy (Hsieh &Schallert, 2008) of students just as stress does (Mehfooz&Haider, 2017) . This research question is to understand the relationship between attribution and stress of students as both independently are strong predictors to well-being of students.

Can past performance affect perceived stress undergraduate engineering students?

That stress affects performance negatively is well documented (Saipanish, 2003). This research question is to understand if the relationship performance can have an impact on stress levels. Hence, we want to assess if a high or low performance in previous examinations increase or reduce the stress experienced by students.

Do different factors affect perceived stress of first year undergraduate students and 3-4-5th year undergraduates?

This research question attempts to understand if different factors play a role in the stress levels experienced by first years and older students. We want to compare the first year students with the third, fourth and fifth years to get a developmental perspective.

Study 1: Predicting stress of first year students

Measures

Personal information: Information on age, gender, 4/5 year program and year of study was requested.

Attribution: The 24 item, five point Likert achievement subscale, of the Multidimensional-Multiattributional Causality by Lefcourt et al., (1979) was used for the study. The subscale measured ability, effort, context and luck attributions. There were 6 stable internal items on abilities and skills, 6 unstable internal items on effort and motivation, 6 stable external items on contextual characteristics and 6 unstable external items on fortuitous events. Possible score ranged from 0 to 96 of this Likert scale with higher scores indicating greater specific attributions. The Cronbach alpha was 0.796.

AcademicSelf-Efficacy: The 29 item, five point Likert scale on College Academic Self-Efficacy, developed by Owen and Froman (1988, as cited in Lampert, 2007) was used for the study. 4 items (22, 23, 24, and 25 - pertaining to simple math computation, computer use, mastering math course contents and talking to a professor privately to know him/her) of the original 33 item measure were eliminated as they were not applicable to the present study participants as the participants appear for a stringent science entrance examination to enrol in the engineering institute of the study and use computers routinely. Also, the exploratory studies with the participants revealed lack of motivation on part of the participants to want to know professors at a personal level and interact outside the classroom. Item 14 of the original measure (running for student government office) has been re-worded to make it relevant for the present sample as the participants of the study do participate in similar activities which are termed differently in their institute. The Cronbach alpha was 0.918.

Time Management: The 14 item, five point Likert scale on Time Management Scale by Trueman and Hartley (1995) was used. The possible score ranged from 14 to 70. The measure was a modified version of the 18 item Time Management Questionnaire by Britton and Tesser (1991). A high score indicated better time management. The Cronbach alpha was 0.791.

Perceived Stress: The 14 item, five point Likert scale on Perceived Stress by Cohen, Kamarck and Mermelstein's (1983) was used. The possible score ranged from 0 to 56 with higher scores indicating greater perceived stress. The Cronbach alpha was 0.750.

Past Performance: Participants self-reported grades of previous semester

Sample: Three hundred and seventy two first year undergraduate engineering students participated. Convenience sampling was used. Eighty six percent (N=319; Mean Age=18.47 years; SD=0.78 years) were males and 14% (N=53; Mean Age=18.25 years; SD=0.62 years) females.

Procedure: The measures were presented to the participants as counterbalanced sets of booklet with a cover page carrying a brief introduction about the research. Students were contacted in classrooms and hostels.

Analysis: Descriptive statistics, correlation and multiple regression was used to analyse the findings. SPSS (version 16) was used for the analysis.

Results

Correlation

Perceived stress had significant relationship with context (r = 0.177, p<0.01) and luck (r = 0.149, p<0.01) attributions, time management (r = -0.206, p<0.01) and academic self-efficacy (r = -0.212, p<0.01).

Academic self-efficacy had significant relationship with time management (r = 0.433, p<0.01), context attribution (r = -0.197, p<0.01). Time management had significant relationship with luck attribution (r = -0.116, p<0.05).

Regression: Predicting Perceived Stress of First Year Students

Using multiple regression, perceived stress was predicted in Step 1 from past performance. In Step 2, attribution (ability, effort, context and luck) was added. The regression coefficient for context attribution was significant. Finally, in Step 3, time management and academic self-efficacy were added. The regression coefficients for time management (B = -0.160, SE = 0.049, t = -3.235, p<0.01) and academic self-efficacy (B = -1.640, SE = 0.627, t = -2.617, p<0.01) were significant with $R^2 = 0.128$, F (9, 312) = 5.068, p<0.01. Research Question 1 was accepted.

Table 1: Descriptive Statistics for First Year Students

Variables	N	Min	Max	Mean	SD
PP		358	3.44	9.82	7.45
AA		372	0	23	12.38
EA		372	0	24	15.95
CA		372	0	24	11.96
LA		372	0	24	11.75
TM		360	0	56	36.44
ASE		362	0	4.69	2.98

Note: PP: Past Performance; AA: Ability Attribution; EA: Effort Attribution; CA: Context Attribution; LA: Luck Attribution; TM: Time Management; ASE: Academic Self-Efficacy; PS: Perceived Stress

Study 2: Predicting stress of 3-4-5th year students

Sample: Two hundred and thirty two undergraduate engineering students participated. 33.19% participants were third year students, 36.20% fourth year and 30.17% fifth year students across all departments. 94.8% participants were male and 5.17% females. The mean age was 20.77 years (SD = 1.13). 41.8% were enrolled in the four year undergraduate program and 25.9% in the five year integrated masters program. 12.9% participants' family income was less than two lakh, 28.5% participants' family income was between two and five lakh per annum, 27% above eight lakh, 17.5% between five and eight lakh. 57.4% attended English schools and 28.9% regional.

Measures, procedure and analysis: As Study 1

Results

Correlations

Perceived stress had significant relationship with ability (r = 0.213, p<0.01), context (r = 0.326, p<0.01) and luck (r = 0.293, p<0.01) attributions, academic self-efficacy (r = -0.443, p<0.01) and time management (r = -0.235, p < 0.01).Academic self-efficacy had significant relationship with time management (r = 0.377, p<0.01), ability (r = -0.191, p<0.01), context (r = -0.383, p<0.01) and luck (r = -0.231, p<0.01) attributions. Time management had significant relationship with context (r = -0.177, p<0.01) attributions.

Predicting Perceived Stress

Table 2: Descriptive Statistics for Third, Fourth and Fifth Year Students

Variables	N	Min	Max	Mean	SD
PP	230	3.8	9.87	7.9	1.09
AA	232	0	23	11.53	4.13
EA	232	0	24	16.84	3.9
CA	232	0	22	12.53	4.36
LA	232	0	24	11.77	4.44
TM	232	17	68	37.01	8.49
ASE	232	1.55	5	3.55	0.63
PS	232	2	52	25.4	8.55

Using multiple regression, perceived stress was predicted in **Step 1** from past performance. The regression coefficient for past performance was significant. In **Step 2,** attribution (ability, effort, context and luck) was added. Finally, in **Step 3,** time management and academic self-efficacy were added. The regression coefficients in Step 3 for academic self-efficacy (B = -5.336, SE = 0.999, t = -5.343, $p<0.01$) was significant with an $R^2 = 0.300$, F (11, 208) = 8.101, $p<0.01$. Research Question 1 was partially accepted.

Table 3: Predicting Perceived Stress of First Year and Third, Fourth and Fifth Year Students

	Predicting PS: First Years					Predicting PS: Third, Fourth and Fifth Y			
	B	SE	Beta	t	Sig.	B	SE	Beta	t
Const.	37.092	3.254		11.400	.000	41.956	5.647		7.429
PP	-.171	.303	-.033	-.566	.572	-.146	.523	-.019	-.280
AA	-.086	.104	-.051	-.830	.407	.077	.135	.037	.574
EA	-.039	.084	-.026	-.466	.641	-.006	.144	-.002	-.040
CA	.169	.107	.108	1.579	.115	.201	.146	.101	1.378
LA	.059	.106	.036	.556	.579	.229	.135	.118	1.691
TM	-.160	.049	-.192	-3.235	.001	-.071	.066	-.070	-1.071
ASE	-1.640	.627	-.164	-.164	.009	-5.336	.999	-.396	-5.343

Note: First Year: N = 322; $R^2 = 0.128$; Adjusted $R^2 = 0.102$; F= 5.068*; df (Regression, Residual) = 9, 312, Third, Fourth and Fifth Year: N = 220; $R^2 = 0.300$; Adjusted $R^2 = 0.263$; F= 8.101*; df (Regression, Residual) = 11, 208

Discussion and Conclusion

Perceived stress was predicted from past performance, attribution (ability, effort, context, luck) and self-efficacy (academic self-efficacy and time management). Research questions 1 and 4 were partially accepted.

Academic self-efficacy and time management predicted perceived stress negatively and academic self-efficacy was a better predictor of perceived stress. The negative relationship of academic self-efficacy and perceived stress indicated that when students believed in their capability to do their academic work they were less stressed. Moreover, the negative relationship between time management and perceived stress indicated that when students were more organised and managed their time, their perceived stress levels were low. Misra and Michelle (2000) found the factor 'perceived control of time' to be a significant predictor of student stress. Macanet al. (1990) found lower somatic tension among students who perceived themselves as having greater control over their time. In Macan's (1994) process model of time management, it was found that time management was positively related to goal settings and negatively to somatic tension (an indicant of stress).

Related to time management and academic self-efficacy is efficient study habits. Feather and Bond (1983) found a negative relationship between efficient study habits and psychological distress. Hackett, Betz, Casas and Rocha-Singh (1992) found

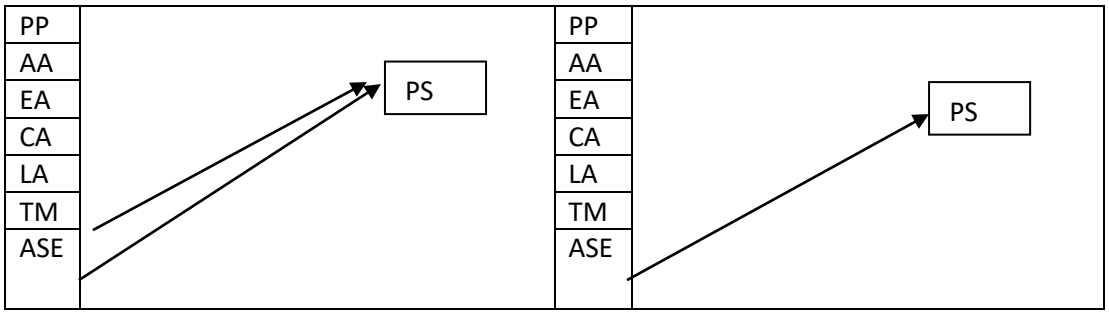

Figure 1: Comparing predictors of PS of First Year and Third, Fourth, Fifth Year Students

that high levels of academic self-efficacy were related to low stress levels. The present results were consistent with these study findings.

Further, academic self-efficacy indicated an inverse relationship with perceived stress for both the groups of students, and for the first years, time management also had an inverse relationship with perceived stress. Hackett, Betz, Casas and Rocha-Singh (1992) reported low stress levels significantly predicted high academic self-efficacy. However, in the present study, self-efficacy was used to predict stress. As the model was conceptualised based on the idea that when students believed in their capability, they would feel less stressed as opposed to more stressed if they did not believe in their capability. It was found that when students believed in their academic capability, they were less stressed.

In an exploratory study, with the same sample, the students were asked to report the factors that affect their academic performance. It was found that the seniors emphasised academic self-efficacy (Author 2013). The findings of the exploratory study, support the findings from the regression analysis. the students reported that they would "work harder and be more sincere" This need was reflected in the regression analysis of the present study.

The fourth research question, do different factors affect perceived stress of first year undergraduate students and 3-4-5th year undergraduates? was accepted. First year students, who become a part of the undergraduate education gave importance to both time management and academic self-efficacy. However, the third, fourth and fifth years were found to emphasise academic self-efficacy alone. This finding may be indicative of a developmental curve in the late adolescents. As the students matured they found belief in themselves and their academic ability to be more important than being organised and systematic. Thus, academic self-efficacy is seen to emerge as more instrumental in dealing with the stress experienced. Hence, stress management programs for students could focus on self-efficacy interventions to help them.

References

Bandura, A. (Ed.). (1995). *Self-Efficacy in Changing Societies*. Cambridge University Press.

Bandura, A. (1997). *Self-Efficacy: The Exercise of Control*. New York NY: W. H. Freeman & Co.

Blake, S., Lesser, L., Alatorre, S., Cortina, J. L., & Mendez, A. (2006). *Exploring the relationship between academic self-efficacy and middle school student's performance on a high stakes mathematics test*. Teacher Education_ Inservice/Professional Development, 2, 655-656. Retrieved from http://pmena.org/2006/cd/TEACHER%20EDUCATION%20-INSERVICE/TEACHER%20EDUCATION%20-INSERVICE-0010.pdf

Bodys-Cupak, I., Majda, A., Zalewska-Puchała, J., &Kamińska, A. (2016). The impact of a sense of self-efficacy on the level of stress and the ways of coping with difficult situations in Polish nursing students. *Nurse Education Today*, 45, 102-107.

Britton, B. K., &Tesser, A. (1991). Effects of time-management practices on college grades. Journal of *Educational Psychology*, 83(3), 405–410. doi: 10.1037/0022-0663.83.3.405

Boruchovitch, E. (2004). A study of causal attributions for success and failure in mathematics among Brazilian students. *Interamerican Journal of Psychology*, 38(1), 53-60. Retrieved from http://www.redalyc.org/articulo.oa?id=28438107

Census, Ministry of Home Affairs, Government of India. (2001). *Education level and age groups*. Retrieved from http://www.censusindia.gov.in/Census_Data_2001/Census_Data_Online/Social_and_cultural/Educational_level_and_Age_groups.aspx

Chemers, M. M., Hu, L. T., & Garcia, B. F. (2001). Academic self-efficacy and first year college student performance and adjustment. *Journal of Educational Psychology*, 93(1), 55-64. doi: 10.1037/0022-0663.93.1.55

Cheng, P. Y., &Chiou, W. B. (2010). Achievement, Attributions, Self-efficacy, and Goal Setting by accounting undergraduates 1, 2. *Psychological reports*, 106(1), 54-64. doi: 10.2466/pr0.106.1.54-64

Claessens, J. C. B., Wendelien, v. E., Rutte, C. G., & Roe, R. A. (2007). A review of the time management literature. *Personnel Review*, 36(2), 255-276. http://dx.doi.org/10.1108/00483480710726136

Cohen, S., Kamarck, T., &Mermelstein, R. (1983). A global measure of perceived stress. *Journal of health and Social Behavior*, 385-396. Retrieved from http://www.jstor.org/stable/2136404

de Boer, H., Donker, A. S., & van der Werf, M. P. (2014). Effects of the attributes of educational interventions on students' academic performance: A meta-analysis. *Review of Educational Research*, 84(4), 509-545.

Deb, S., Strodl, E., & Sun, J. (2015). Academic stress, parental pressure, anxiety and mental health among Indian high school students. *International Journal of Psychology and Behavioral Sciences*, 5(1), 26-34.

Elias, H., Ping, W. S., & Abdullah, M. C. (2011). Stress and academic achievement among undergraduate students in Universiti Putra Malaysia.*Procedia-Social and Behavioral Sciences*, 29, 646-655. http://dx.doi.org/10.1016/j.sbspro.2011.11.288

Feather, N. T., & Bond, M. J. (1983). Time structure and purposeful activity among employed and unemployed university graduates. *Journal of Occupational Psychology*, 56(3), 241-254. doi: 10.1111/j.2044-8325.1983.tb00131.x

Author (2013)

Hackett, G., Betz, N. E., Casas, J. M., & Rocha-Singh, I. (1992). Gender, ethnicity, and social cognitive factors predicting the academic

achievement of students in engineering. *Journal of Counseling Psychology*, 39(4), 527-538. doi:http://dx.doi.org/10.1037/0022-0167.39.4.527

Honicke, T., & Broadbent, J. (2016). The influence of academic self-efficacy on academic performance: A systematic review. *Educational Research Review*, 17, 63-84.

Hsieh, P. P., &Schallert, D.L. (2008). Implications from self-efficacy and attribution theories for an understanding of undergraduates' motivation in a foreign language course. *Contemporary Educational Psychology*, 33(4), 513–532. http://dx.doi.org/10.1016/j.cedpsych.2008.01.003

Jeng, Y. C., & Shih, H. H. (2008). *A study of the relationship among self-efficacy, attribution, goal setting, and mechanics achievement in department of mechanical engineering students on Taiwan*. Proceedings of World Academy of Science: Engineering & Technology, 47, 532-538. Retrieved from http://www.waset.org/journals/waset/v21/v21-93.pdf

Lampert, J. N. (2007). *The relationship of self-efficacy and self-concept to academic performance in a college sample: Testing competing models and Measures* (Unpublished dissertation). Pacific University, Oregon, United States. Retrieved from http://commons.pacificu.edu/cgi/viewcontent.cgi?article=1140&context=spp.

Lazarus, R. S. (1984). On the primacy of cognition. *American Psychologist*, 39, 124-129.

Lent, R. W., Brown, S. D., & Larkin, K. C. (1987). Comparison of three theoretically derived variables in predicting career and academic behavior: Self-efficacy, interest congruence, and consequence thinking. *Journal of Counseling Psychology*, 34(3), 293-298. doi: 10.1037/0022-0167.34.3.293

Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, 45(1), 79-122. http://dx.doi.org/10.1006/jvbe.1994.1027

Lefcourt, H. M., Von Baeyer, C. L., Ware, E. E., & Cox, D. J. (1979). The multidimensional-multiattributional causality scale: The development of a goal specific locus of control scale. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*, 11(4), 286-304. doi: 10.1037/h0081598

Macan, T.H. (1994). Time management: test of a process model. *Journal of Applied Psychology*, 79(3), 381-391. doi: 10.1037/0021-9010.79.3.381

Macan, T. H., Shahani, C., Dipboy, R. L., & Phillips, A. P. (1990). College students' time management: correlation with academic performance and stress. *Journal of Educational Psychology*, 82(4), 760-768. http://dx.doi.org/10.1037/0022-0663.82.4.760

MaajidaAafreen, M., Vishnu Priya, V., &Gayathri, R. (2018). Effect of stress on academic performance of students in different streams. *Drug Invention Today*, 10(9).

Malle, B. F. (2011). Attribution theories: How people make sense of behavior. *Theories in Social Psychology*, 23, 72-95.

McIean, J. A., Strongman, K. T., &Neha, T. N. (2007). Psychological distress, causal attributions, and coping. *New Zealand Journal of Psychology*, 36(2), 85-92. Retrieved from http://www.psychology.org.nz/cms_show_download.php?id=111

Misra, R. & Michelle, M. (2000). College students' academic stress and its relation to their anxiety, time management, and leisure satisfaction. *American Journal of Health Studies*, 16(1), 41-51. Retrieved from http://www.biomedsearch.com/article/College-students-academic-stress-its/65640245.html

Mkumbo, K. A. K., & Amani, J. (2012). Perceived university students' attributions of their academic success and failure. *Asian Social Science*, 8(7), 247-255. doi: 10.5539/ass.v8n7p247

Montgomery, C., & Rupp, A. A. (2005). A meta-analysis for exploring the diverse causes and effects of stress in teachers. *Canadian Journal of Education/Revue canadienne de l'éducation*, 458-486.

Mukherjee, A. (2011, November 2). *Student suicides soar 26% in 5 years, education system blamed*. The Times of India. Retrieved from http://articles.timesofindia.indiatimes.com/2011-11-02/india/30349474_1_student-suicides-education-system-higher-education

Multon, K. D., Brown, S. D., & Lent, R. W. (1991). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. *Journal of Counseling Psychology*, 38(1), 30-38. doi: 10.1037/0022-0167.38.1.30

Pascoe, M. C., Hetrick, S. E., & Parker, A. G. (2019). The impact of stress on students in secondary school and higher education. *International Journal of Adolescence and Youth*, 1-9.

Reeve, J. (2009). *Understanding motivation and emotion. Hoboken*, NJ: John Wiley & Sons, Inc.

Robbins, S. B., Lauver, K., Le, H., Davis, D., Langley, R., &Carlstrom, A. (2004). Do psychosocial and study skill factors predict college outcomes? A meta-analysis. *Psychological Bulletin*, 130(2), 261-288. doi: 10.1037/0033-2909.130.2.261

Saipanish, R. (2003). Stress among medical students in a Thai medical school. *Medical Teacher*, 25(5), 502-506. doi:10.1080/0142159031000136 71

Segerstrom, S. C., & Miller, G. E. (2004). Psychological stress and the human immune system: a meta-analytic study of 30 years of inquiry. *Psychological Bulletin*, 130(4), 601.

Scherer, K. R. (1994). An emotion's occurrence depends on the relevance of an event to the organism's goal/need hierarchy. In P. Ekman & R. J. Davidson (Eds), The nature of emotion: Fundamental questions (pp. 227-231). New York: Oxford University Press.

Scherer, K. R. (1997). Profiles of emotion-antecedent appraisal: Testing theoretical predictions across cultures. *Cognition and Emotion*, 11, 113-150.

T P Sethumadhavan, (2017). *Coaching causes stress among students preparing for entrance exams: UNESCO study*. Retrieved from: https://english.mathrubhumi.com/education/articles/coaching-causes-stress-among-students-preparing-for-entrance-exams-unesco-study-1.2364552

Smith, S. M. (2002). The role of Social Cognitive Career Theory in information technology based academic performance. *Information Technology, Learning, and Performance Journal*, 20(2), 1-10. Retrieved from http://www.osra.org/itlpj/smithfall2002.pdf

Strain, J. J. (2018). The psychobiology of stress, depression, adjustment disorders and resilience. The World *Journal of Biological Psychiatry*, 19(sup1), S14-S20.

Sutantoputri, N. W., & Watt, H. M. (2012). Attribution and motivation: A cultural study among Indonesian university students. *International Journal of Higher Education*, 1(2), 118. doi: 10.5430/ijhe.v1n2p118

Triantoro, Safaria. (2013). Effects of Self-Efficacy on Students' Academic Performance. *Journal of Educational, Health and Community Psychology*. 2. 19-25.

Trueman, M., & Hartley, J., (1995). Measuring time-management skills: cross-cultural observations on Britton and Tesser's Time Management Scale. ERIC Document Reproduction Service No. 417 667.

Weiner, B. (1986). *An attributional theory of motivation and emotion*. New York: Springer-Verlag.

Yaribeygi, H., Panahi, Y., Sahraei, H., Johnston, T. P., &Sahebkar, A. (2017). *The impact of stress on body function: A review*. EXCLI journal, 16, 1057.

Zajacova, A., Lynch, S. M., &Espenshade, T. J. (2005). Self-efficacy, stress, and academic success in college. *Research in Higher Education*, 46(6), 677-706. doi: 10.1007/s11162-004-4139-z

Received on 18-10-2021
Revised on 22-11-2021
Accepted on 25-11-2021