University Entrance Examination stressors in High School Students: An Empirical Study

DR. GEETA SIDHARTH
Associate Professor, Department of Commerce
Gargi College, University of Delhi
Delhi (India)

Abstract:

India's NEP 2020 requires undergraduate admissions to be through the Common University Test (CUET). Consequently, at the end of 2021, the high school students were exposed to high stake highly competitive CUET. This study analyzed responses of 304 class 12th Indian students aspiring for university admissions to seek its stress implications and identify the stressors involved. It applies a mixed method sequential approach to understand the effect of CUET on their perceived stress level and identify different stressors associated with it. Descriptive, EFA, Correlations, t-test, ANOVA and regression analysis reveal 50% of the students being highly stressed, female students are more stressed and psychological stressors are the highest contributory factors (41.2%) followed by the procedural stressors (19.3%). The study is assumed to be highly useful in understanding the students' perspective in relation to stress induced by CUET, and providing insights for better stress management of the university aspiring students.

Keywords: *Stressors, CUET, High School Students, University Entrance Examination, EFA*

1. Introduction

Examinations constitute a significant source of stress in adolescent's lives, more so at the crucial stage of university entrance examination, which are high stake, highly competitive and highly stressful for the high school students aspiring for college admissions (Fujino, Iida, Yajima, & Mori, 1999; Peleg and Klingman, 2002; Schachter, 2007; Yildirim, 2008). Student examinees are key stakeholders in these large-scale public examination systems (Michaelides, 2014). Studies have shown that stress can impact students academically, socially, physically, and emotionally (Centre, 2010, Kavakci et. al., 2014). Exposed to such effects for a long time might lead to inferiority complexes, diseases, suicidal tendencies, highly aggresive behaviour, and many more undesirable consequences that are highly harmful for the wellbeing of individual students, their friends and families, and society in general, defying the whole purpose of education (Chu, 2013; Jarvis et al., 2020; Liu and Helwig, 2020). Though, being in the role of student itself is an enduring life strain or stressor creating a chronic long-term pressure of performance (Wills and Shiffman,1985), a physical/emotional imbalance may be caused by any situation such as projects, competition, financial worries, future employment prospects, or any other academic, personal, financial, and security issues (Pereira, 1997; Ross, Neibling and Heckert, 1999). This paper attempts to investigate the stress impact of one such intimidating situation recently induced by change in the education system in India where lakhs of high school students have been suddenly exposed to a university entrance examination for their college admissions. It attempts to identify the specific stressors related to the examination and assesses the impact of these stressors on the overall perceived stress level of the students.

2. The Indian Scenario in context of CUET 2022

Indian students have been required to focus tremendously on class 12th performance for getting admission in their preferred college or university till 2021. At the end of year 202l, the students of senior high school (class 12th) are mandated to face a highly competitive 'Common University

Entrance Test (CUET) UG 2022' to secure admission in their dream course, college and university under the New Education Policy (NEP) 2020. More than 14.90 Lakhs students have registered themselves for appearing in CUET 2022 for admissions in more than 90 central and other universities with 54,555 unique combinations of subjects to be tested in 13 languages in two phases between July 15 and August 20, 2022 at more than 500 cities in India and 13 cities outside the country by the National Testing Agency (Biswas, 2022; Singh, 2022; Vanamali, 2022). Implementing NEP 2020 is definitely the need of the hour to rectify the present Indian education system marred with many shortcomings and to harmonize it with the international standards. At the same time the common sentiment visible online as well as offline in blogs, news articles, twitter and instagram, discussions, open houses, webinars, and seminars points out towards high stress among the students who have to appear in this examination for the first time in the history of school and university education in India, added by the fact that the first batch of students exposed to this examination might not have been fully aware or prepared for this highly competitive situation due to the late information towards the end of their final term (Gopinath, 2022). Entrance examination as such is not a new concept for high school students in India. However, the fraction of students exposed to these examinations used to be limited to only those who aspire for professional courses, such as medical, engineering or management as their choice of further study. Opening all streams for entrance tests and all aspiring students to appear in the CUET for their admissions in public universities is a historic reform under NEP 2020. The whole process is online and a maximum of nine tests, in different combinations of language, domain specific and general test, are to be attempted in morning and evening slots ranging 45-225 minutes. CUET is a MCQ based time-sensitive test, as one point is awarded for a correct answer, a wrong answer is negatively marked, no credit is given for a skipped answer, requiring speed, accuracy and a certain level of preparation by the student. CUET scores will serve as the minimum marks obtained by the candidates to qualify for the UG admissions (NTA, 2022). On the basis of these scores, the merit list is to be prepared by participating Universities/ organizations followed by their individual counseling before admissions.

Prima facie, CUET 2022 provides an opportunity to the students to get an equal chance in securing a seat in their desired course and college. At the same time, it might be a classic case of creating a new stressor instead of curing stress of students or parents because the future of a student is dependent on this single score. The uncertainty caused by entrance exams is always overwhelming for students causing stress (Fujino, Iida, Yajima & Mori, 1999). Going through the process of getting admission into a university is highly competitive in itself all over the world and students experience extreme levels of mental and academic stress particularly in intense academic environments. This stress heightens when students prepare for the college entrance exam in their senior year of high school (Akyunus et. al. (2020); Jarvis et. al, 2020; Mamun, Safiq, Hosen, & Al Mamun, 2021). Majority of CUET 2022 participants got to know about the mandate at the end of 2021. These students have joined the regular physical/hybrid mode classes only in the latter half of year 2021 itself after the disastrous impact of COVID 19 and online classes and assessments for around two long years. Covid 19 itself was a kind of stressful situation for most of the students. Prior to CUET, the regular college admissions were held on 'Merit Basis' on their class 12th results and the students need not to take another examination for this. In addition, preparation for competitive examinations requires a thorough study of the topics. There is a restriction on choice in language and domain specific tests as well, as these were also not known to students at the time of their enrolment in class 11th and though a participant may take a maximum of 9 tests, in reality he/she might end up taking only 5 or 6 in the 2022 test. This situational change could have been a cause of worries and stress in the students. Moreover, post board exams, a good lot of students intend to give other competitive entrance exams such as NEET, JEE or CA entrances. CUET in such a case is an additional burden for these students. India has its own specific issues as far as education is concerned including income disparity, lack of resources, inequality in education, internet connectivity issues, inadequate infrastructure etc. because of which all the participants do not get equal chance in preparations of these examinations. The whole process of CUET 2022 is online only. Given the ground realities of remote areas, this could again be a

cause of stress in students.

In nutshell, CUET might have created totally new aspects or fields of stressors, an inquiry into which in itself is worthwhile. Given that CUET is here to stay as a part of the higher education system, it would become an integral part of student life. More than 60% of Indian students already face moderate to high stress due to academic and other pressures in this crucial phase of their lives (Deb, Strodl and Sun, 2015, Meher & Meher, 2021) and CUET might have induced an additional unexplored source of stress upon them. The uniqueness of this situation makes it imperative to explore the impact of this examination on the stress levels of the students and find out different stressors related to CUET 2022. This study is an attempt in this direction by examining the responses of 304 senior (class 12th) high school students in Delhi and NCR aspiring for university undergraduate admissions in 2022. This study identifies the CUET specific stressors among the students which might be focused upon in future for making the student more relaxed while preparing for the exam. It also examines their awareness about the CUET 2022 and investigates the impact of their personal differences in terms of gender, stream of study (science/commerce/humanities), type of school (private/government), and category (reserved/unreserved) on their perceived stress relating to the entrance test. The results of this research might be specifically helpful to the educationalists, parents, educational institutions, psychologists, and authorities in building future counseling and policies to better manage the specific stressors and reduce the stress levels of the students in schools. This might be helpful to students in preparing well for the test and securing their wishful future.

3. Review of Research

Stress in students has been an area of interest to educationalists, psychologists, and researchers equally. For a systematic review of research on university entrance examination related stress and stressors in students, acclaimed databases of peer reviewed research such as SCOPUS, Web of Science, PubMed, Researchgate, and Google Scholar have been searched. More than 135 studies were suggested by the search engines on the topic. Filtering for recent works, duplicities, and relevance to the topic resulted in very few studies relating to the university entrance examination related stressors among high school students. Mann, Tiwari and Mishra (2021) investigated the sources of stress in 400 medical and engineering competitive entrance examination aspirants in Delhi attending coaching. The researchers found 48% academic, 39% parental, 8% personal, and 5% environmental stressors in the subjects. Akyunus et. al. (2020) investigated the factors associated with test anxiety related to the university entrance exam in Turkey and found that a lower GPA score, higher neuroticism, female gender and higher levels of perceived paternal acceptance and paternal control were responsible for higher levels of test anxiety. Liu and Helwig (2020) studied the Chinese students' perceptions of the Chinese College Entrance Examination (Gaokao), perceptions of the purpose of education, intrinsic and extrinsic motivation, sources of support and pressure, and issues of fairness and social inequality. Students reported psychological conflict regarding their views on the aims of education and the extrinsic pressure deriving from the examination. Family background, resources, and quality of teaching were perceived aggravating inequality. Urban parents provided better academic and interpersonal support whereas mental health was rated lower in rural students during their senior year of high school. Singh et. al. (2017) examined the educational impact of single high stake national level entrance examination for admission in medical courses in India and proposed that such examinations change the students' learning priorities from competency development to examination orientation. The researchers suggested using a combination of assessments for selection decisions. Arce-Medina and Flores-Allier (2012) investigated the impact of a specially designed support course on the stress of students preparing for college entrance examination and found that gender affects the stress experienced by the students during the admission process. Yildirim (2008) examined the family variables associated with the anxiety in students aiming for Student Selection Examination in Turkey. Mother's level of education, frequency of quarrels in the family, family projecting familial issues onto the student, family not trusting the student, family pressuring the students to study, and family not allowing the student to partake in social activities significantly influenced students' levels of test

anxiety. On the other hand, the number of persons in the family, father's level of education, family income, and family's level of religiosity did not have a significant impact on students' levels of test anxiety.

Hamaideh's study (2011) aimed to identify stressors and reactions to stressors among university students, and to examine the correlations between student stressors and study variables. Results revealed that the highest groups of stressors experienced by students were the 'self-imposed' stressors followed by 'pressures'. Cognitive responses were found to be the highest responses to stressors experienced by students. Negative correlations were found with student's perception of health, and father's and mother's level of education. Yildirim, Ergene, & Munir (2007) also studied the prevalence of depressive symptoms among senior high school students preparing for the national university entrance examination in Turkey in relation with demographic and other variables such as gender, family size, family income, study time, academic grade etc. The analysis indicated heightened exam-related stress, social expectations, worries about future success linked to uncertainty about securing a university placement and personal, familial and demographic factors for depressive symptoms.

The research review shows that despite the high possibility of affecting the participants' stress, there has not been much work on entrance specific aspect of the university entrance examination as stressors, more so in India. Most research is dangling towards the impact of stress or causes and symptoms of stress in general among high school students. CUET is implemented for the first time for Indian high school students and the researcher has not found any study on the specific aspects of the entrance examination acting as stressors for the students. Due to the uniqueness of the situation, it is anticipated that CUET specific stressors would be significant predictors of perceived levels of stress in the students in the final year of their school. As this research might be a first study exploring these stressors, it's a novelty in itself and its findings are anticipated to be helpful for schools, parents, and policymaking and may guide the future studies.

4. Research Methodology
4.1 Research Question
Primary aim of this study is to explore the stress impact of CUET 2022 and its specific stressors in the high school students aspiring for university admissions in India. The specific research questions it enquires include:
1. What is the perceived level of stress induced by the CUET amongst the high school students?
2. What are the specific stressors causing CUET related perceived stress in the high school students?
3. How does the perceived stress relate to the specific stressors, awareness level, and demographic variables?
4. How do the specific stressors impact on the perceived stress induced by CUET in high school students?

4.2 Model
To determine the impact of stressors and other variables, the model tested by this study has been:
$Y = \beta_0 + \beta_1 X_1 + \varepsilon$
Where,
Y = Perceived Stress induced by CUET
X_1 = Specific Stressors

4.3 Research Design
Due to the partial exploratory nature of the topic, this research is conducted applying a sequential cross-sectional design using a mixed method of qualitative and quantitative techniques. In absence of any prior research on stressors induced by CUET and the circumstances surrounding the implementation of the examination, a preliminary round of semi structured in person and telephonic interviews was conducted with 8 high school final year students and 5 teachers to understand in depth

how worrisome the students are and identifying the related sources of stress among the students. On the basis of the themes identified, a check list of the possible stressors was compiled which later on became a part of the questionnaire prepared to measure overall stress of the students and the related stressors induced by the sudden information about the mandate of the test. Face validity of the questionnaire was checked and confirmed by three experts and fellow members from the department of psychology and commerce.

4.4 Measures

Data collection was done through an eighteen item self-structured questionnaire survey. The final questionnaire consists seven questions on demographics, i.e. Gender, Stream of study, Type of school, and Category. Two questions on the awareness level of students about NEP and CUET, and eight questions on specific stressors identified in the preliminary interviews were asked on a 5-point Likert type scale to gauge the understanding of the stressors. In addition to this, the questionnaire also included an open-ended question on stressor to encourage students to express their opinion about any specific aspect that is not covered by the questionnaire. To capture the overall stress level induced by the CUET, students were asked to rate their preferences on a single item scale ranging from one to five where 1 is indicating Not at all stressed, 2 Somewhat stressed, 3 Moderately stressed, 4 Very stressed, and 5 represents Extremely stressed. Instead of adapting standard questionnaires, which are usually lengthy, burdensome for participants, and might not serve the purpose in peculiar situations like CUET implementation (Elo, Leppänen, & Jahkola, 2003), a single item questionnaire is preferred following the footsteps of other researchers empirically demonstrating that single item measurements of stress are reliable and valid (Gardner et al., 1998; Littman et. al. 2006; Nagy 2002) and have high correlations with multiple-item scales (Wanous et al. 1997). Such scales have been used by multiple researchers (Bredal et. al., 2021; Gogol et al., 2014; Littman et. al. 2006; Perterson et.al., 2021) in the field of stress studies.

4.5 Sample

For administering the questionnaire, students from different private and government schools in Delhi and NCR were requested through emails and messages. A self-selection sampling procedure was followed for data collection where an online survey of the students was conducted through a google form link with instructions which was duly filled and submitted by 304 class 12th students voluntarily. Such sampling procedures have been followed by many recent studies in stress (Giannopoulou et al., 2021). The final sample comprised 193 (63.5%) girls and 111 (36.5%) boys from 263 (86.5%) students from private schools and 42 (13.5%) from government schools. 69 (22.7%) of these were from reserved categories such as Scheduled Caste, Scheduled Tribes, Other Backward Classes and so on, and 235 (77.3%) students were from the general category. Stream-wise, 84 (27.6%) students belonged to humanities, 156 (51.3%) students were studying commerce and 64 (21.1%) students were from science stream.

4.6 Statistical Analysis

The responses were analyzed using SPSS software for validity and reliability of the stressor questionnaire. The reliability coefficient of the stressor questionnaire was found to be reasonably good .834 using Cronbach's alpha. Face validity of the questionnaire was supported by the validity measured by comparing obtained values of correlation coefficients for all individual stressor's items (with total score) with the critical value of correlation of .113 (df = 302, p<0.05). All correlations were found to be greater than .113, showing the validity of the questions. Descriptive statistics, Exploratory Factor Analysis, Correlations, t-test, one way ANOVA, and Stepwise Multiple regression techniques have been used in the analysis for exploring the factors, relationships, and impacts. The analysis has been primarily done at 95% level of confidence. SPSS software for Windows has been used for the analysis.

5. Results

Descriptive analysis primarily consisted of frequencies, mean, standard error of mean, and standard

deviations. The cross tabulation of frequencies is presented in Table 1.

Table 1: Prevalence (%) of perceived level of stress in students

Variable	Sub groups	Not at all stressed (Count and % within level)	Somewhat stressed (Count and % within level)	Moderately stressed (Count and % within level)	Very stressed (Count and % within level)	Extremely stressed (Count and % within level)
	Total	34 (11.2)	28 (9.2)	82 (27)	60 (19.7)	100 (32.9)
Gender	Female	16 (47.1)	16 (57.1)	55 (67.1)	38 (63.3)	68 (68)
	Male	18 (52.9)	12 (42.9)	27 (32.9)	22 (36.7)	32 (32)
Type of School	Private	28 (82.4)	23 (82.1)	72 (88.8)	50 (83.3)	90 (90)
	Govt.	6 (17.6)	5 (17.9)	10 (12.2)	10 (16.7)	10 (10)
Stream	Humanities	10 (29.4)	10 (35.7)	17 (20.7)	16 (26.7)	31 (31)
	Commerce	15 (44.1)	9 (32.1)	45 (54.9)	33 (55)	54 (54)
	Science	9 (26.5)	9 (32.1)	20 (24.4)	11 (18.3)	15 (15)
Category	Reserved	5 (14.7)	7 (25)	19 (23.2)	11 (18.3)	27 (27)
	Unreserved	29 (85.3)	21 (75)	63 (76.8)	49 (81.7)	73 (73)

Source: Author's compilation from the SPSS output

Table 2 presents the results of the univariate analysis for perceived level of stress, awareness level and individual stressors. The students have a moderate level of awareness about the CUET 2022 and are high on CUET induced stress levels. Cross Checking with the frequencies indicates that around half of the students (52.6%) are highly stressed about the entrance exam. Taking individual stressors, except for perceived effect on performance and limited time to prepare, the students are moderately stressed on these stressors. The students seem highly stressed about availability of time for preparation and its possible impact on the CUET performance.

Table 2: Results of Descriptive Analysis (N = 304)

Variable	Mean	Standard Error of Mean	Standard Deviation
Awareness about CUET 2022	3.55	.071	1.239
Perceived level of stress	3.54	.076	1.329
Stressor 1: Lack of Knowledge about CUET 2022	2.89	.078	1.355
Stressor 2: Inability to understand the procedure	2.79	.078	1.355
Stressor 3: Lack of computer literacy	2.26	.079	1.379
Stressor 4: Lack of personal contact	2.60	.078	1.363
Stressor 5: Limited time to prepare	3.42	.082	1.426
Stressor 6: Unwillingness to face another exam	2.98	.081	1.420
Stressor 7: Not prepared for change in admission process	2.90	.082	1.422
Stressor 8: Perceived Effect on performance	4.17	.054	.945

Source: Author's compilation from the SPSS output

Initial qualitative analysis resulted in eight broad stressors. Assuming that grouping of these stressors will provide a more useful analysis for better predictions and insights, the Exploratory Factor Analysis technique of scale reduction was applied to the data. The Scree Plot is presented in figure 1 and the key results of the factor analysis are summarized in table 3.

Table 3: Summary of Results of Factor Analysis

Variable	Rotated Component Matrix			Communalities	Total Variance Explained								
	Component				Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Stressor Component	1	2	3		Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1. Lack of Knowledge	0.720	0.296	.606		3.738	46.721	46.721	3.738	46.721	46.721	2.892	36.153	36.153
2. Inability to understand the procedure	0.773	0.286	.680		1.104	13.798	60.518	1.104	13.798	60.518	1.949	24.365	60.518
3. Lack of computer literacy	0.753	-0.043	.568		0.735	9.187	69.705						
4. Lack of personal contact	0.733	0.158	.563		0.711	8.890	78.595						
5. Limited time to prepare	0.501	0.549	.553		0.523	6.536	85.131						
6. Unwillingness to face another exam	0.429	0.627	.578		0.475	5.941	91.072						
7. Not prepared for change in admission process	0.461	0.636	.617		0.439	5.485	96.557						
8. Perceived Effect on performance	-0.155	0.808	.677		0.275	3.443	100.000						

Extraction Method: Principal Component Analysis

Source: Author's compilation from the SPSS output

The Principal Component Analysis has been used to extract the prime components. The KMO measured 0.852 against the recommended value of .6 showing the adequacy of the sample whereas the

Barlett's test of Sphericity measured a significant Chi-square ($\chi2$) value of 819.702 (p<.01). All diagonal values of the Anti-Image Correlation Matrix have been greater than .5 showing the factorability of the items. All communalities have also been higher than .3 further supporting the analysis. Out of eight, seven items had correlation coefficient of .3 with at least one other item, again supporting the factorability of the items. Varimax with the Kaiser Normalization Rotation method has been applied for the analysis. No item has been eliminated as all the items were meeting the principal criteria of principal factor load of .4 and above. The leveling off of eigenvalues is visible at the fourth item in the scree plot. Using the results of the Rotated Component Matrix as shown in table 3, first four stressors (Lack of Knowledge; Inability to understand the procedure; Lack of computer literacy; and Lack of personal contact) have been grouped as "Procedural Stressors" as these all were logically belonging to the procedural aspects of the entrance examination, explaining 78.595 % variation together. Remaining four stressors (Limited time to prepare; Unwillingness to face another exam; Not prepared for change in admission process; and Perceived Effect on performance) were grouped together and named as "Psychological Stressors" as apparently these are more related to psychological factors of stress, explaining approximately 21.405 % of the variance. Clearly, the first two components, i.e. Lack of Knowledge and Inability to understand the procedure are contributing approximately 60% of the variance with the Initial eigenvalues greater than 1. Cronbach's alpha was computed to check the internal consistency of each scale and found to be moderate .791 and .727 for Procedural Stressors and Psychological stressors respectively. Overall, the Exploratory Factor Analysis identified two very distinct factors amongst the stressors representing two different aspects of the CUET. Next, the Pearson's r correlations have been computed between the extracted variables and perceived stress induced by CUET as well as other key variables to the associations, results of which are presented in Table 4.

Table 4: Correlations amongst the key variables

Variables	Gender	Type of School	Category	Awareness level about CUET 2022	Perceived level of stress
Awareness level about CUET 2022		-.222**			
Perceived level of stress	-.113*				
Factor 1: Procedural Stressors					.193**
Factor 2: Psychological Stressors		-.114*			.412**
Stressor1: Lack of Knowledge about CUET 2022				-.132*	.259**
Stressor 2: Inability to understand the procedure					.216**
Stressor 3: Lack of computer literacy	-.122*		-.184**		.131*

Stressor 4: Lack of personal contact						.242**
Stressor 5: Limited time to prepare					.178**	.284**
Stressor 6: Unwillingness to face another exam						.393**
Stressor 7: Not prepared for change in admission process						.363**
Stressor 8: Effect on performance	-.128*					.290**

Source: Author's compilation from the SPSS output
** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

Gender is found significantly correlated with perceived level of stress induced by CUET, and stress resulting from lack of computer literacy and the effect of stress on performance. The stream of study is not found significantly related with any of the stressors or the extracted factors hence not shown in the table. Type of school is significantly related to the awareness level and psychological stressors. Category of student is correlated with lack of computer literacy stressor and awareness level is significantly associated with stressor lack of knowledge and limited time to prepare. Lastly, the r is significant for all individual stressors as well as both extracted stressors in EFA. Attempting t-test (for gender, type of school and category) and ANOVA (for stream) to find significant differences between groups of students resulted in no significant outcome, except for Gender. Female students are found statistically more stressed (t = 1.970, df = 302, two-tailed $p< .05$) with Eta² value higher than .8 as visible in the results presented in Table 5.

Table 5: Comparison of means according to Gender

Variables	Female (N = 193)		Male (N = 111)		t - value	Eta² (Hedges' g)
	Mean	SD	Mean	SD		
Level of Stress	3.65	1.266	3.34	1.417	1.970*	1.326

Source: Author's compilation from the SPSS output
* Significant at 95% level of confidence ($p< .05$)

Stepwise Multiple Regression has been applied to test the model proposed and find out the impact of the principal factors extracted, i.e. Procedural Stressors and Psychological Stressors as independent variables on the dependent variable i.e. perceived stress induced by CUET in high school students. Table 6 and Table 7 present the key results of the regression analysis.

Table 6: Model Summary of Stepwise Selection of Variables in the Regression Model (N = 304)

Steps	Multiple R	R²	Adjusted R²	S. E.	R² change	F change	Sig. F	Variable in
1	.412	0.169	0.167	1.214	.169	61.630	.001	Psychological Stressors
2	.455	0.207	0.201	1.188	.037	14.084	.001	Procedural Stressors

Source: Author's compilation from the SPSS output
Dependent variable: Perceived Stress induced by CUET
Predictors: (Constant), Psychological Stressors, Procedural Stressors

As shown in Table 6, the regression model is able to explain 20.7% variation (R^2 = .207, p<.001) in the perceived stress levels of the students (multiple R =.455, p<.001) caused by two variables, i.e. Psychological Stressors and Procedural Stressors.

Table 7: Associated Statistics for the Determinants of Perceived Stress (N = 304)

Independent variables	B	Standardized Beta	S. E.	t-value	Sig. t	F of the regression	Tolerance
(Constant)	3.539	-	.068	51.943	.001	39.192	.001
Psychological Stressors	.547	.412	.068	8.019	.001		
Procedural Stressors	.256	.193	.068	3.753	.001		

Source: Author's compilation from the SPSS output
Dependent variable: Stress induced by CUET

Based on the results of the multiple regression analysis, the equation (F = 39.192, p<.001) for predicting the dependent variable is drawn as:

Perceived Stress induced by CUET = 3.539 + .547 (Psychological Stressors) + .256 (Procedural Stressors)

Overall, if Psychological Stressors are increased by one-unit, perceived CUET induced stress is increased by .547 units in the same direction significantly (p<.001). Similarly, if procedural stressors are increasing by one unit, perceived CUET induced stress is increasing by .256 units. The standardized beta shows the pure effect of psychological stressors to be 41.2% (t = 8.019, p<.001) and of procedural stressors to be 19.3% (t = 3.753, p<.001), removing the effect of other variables in the equation.

6. Discussion
Descriptive analysis highlighted certain important points relating to students' reactions to CUET with respect to stress and stressors involved. Apparently, the students have been moderately aware and highly stressed about the CUET 2022. The results are in consonance with other studies where the researchers found almost half of the students highly stressed about university entrance tests (Kavakci et. al., 2014; Yildirim, Ergene, & Munir, 2007). Initial interviewing also revealed that the students are

highly worried that this stress will negatively affect their performance in the entrance examination, substantiated with their high scores on the stressor Perceived effect on performance. Similar findings have also been reported by other researchers (Mann et al. 2021, Reddy et. al. 2018, Verma and Gupta, 1990). This is followed by the insufficiency of time available for preparation for the examination which had been the point of concern for some educationists too (Gopinath, 2022).

The study was undertaken to identify the specific stressors related to CUET and identified two such specific CUET related stressors among the first group of students facing the examination through EFA technique, named as the procedural and psychological stressors. Researchers studying student stress usually focus on general stressors in routine situations such as career and future, sensitivity, and confidence, family, economic problems and lack of facilities, self-schedule, social problems; health and physical matters, self and self– image etc. (Cherian and Cherian, 1998) or sometimes study it in bifurcation such as academic, parental, personal, or environmental stress (Deb et. al. 2015; Mann et. al. 2021). The procedural and psychological stressors located in this study reflect two very important dimensions of the entrance examination related stress in students, that were not investigated in any of even entrance examination related stress studies. First, for CUET the procedural aspects of the examination are creating a stressful situation for the students that can't be ignored by the planners of these examinations. Secondly, the psychological impact of the CUET is also highly stressful and should be firmly taken into account while devising methods to relax these aspirants. Handling these aspects rightly is important as the studies have shown that anxiety is high in students who may not perform at full potential if the situation is stressful to them (Raina, 1983).

Results of the study emphasize that female students are more stressed about the entrance exam. The finding is in confirmation with other research studies where the female students perceived more stress in comparison to male students (Alam and Halder, 2018; Deb et. al, 2015; Singh and Upadhyay, 2008). Private school students are found to be more aware about the examination compared with their government school counterparts and are also more stressful on psychological factors. For government school students, 'ignorance is bliss' seems more apt as they are lower in awareness as well as not related with any of the stressors. The attempt to examine if the category of student (reserved/unreserved) is making any difference in stress resulted in no evidence supporting it. Similar results relating to caste have been found by Meher and Meher (2021) too. However, on individual stressors, it's found that the reserved category students are more stressed about the lack of computer skills. Usually, these students belong to socio-economically disadvantaged groups (SEDGs), hence might be lacking the required infrastructure or funding to support their IT skills education. The New Education Policy of India also recognizes that such groups are still facing disparities in education, especially at the secondary level (NEP, 2020). Interestingly, those who are aware about CUET 2022 are also worried about not having complete knowledge about the exam and limited time for its preparation. These results are not surprising though keeping in mind the late dispersal of information about the examination and circumstances prevailing prior to the examination. The challenges of Covid 19 period have already drawn upon the mental health of senior high school students considerably (Giannopoulou et. al. (2020) and announcement of the CUET immediately might have caught them underprepared. The correlation of overall perceived stress induced by CUET is stronger with psychological factors than procedural factors but both the relationships are significantly associated with overall perceived level of stress.

The present study has explained the contribution of specific stressors to the perceived stress levels. Awareness and demographic variables under study i.e. stream, type of school, gender, category and awareness levels have not been found having significant impact on the perceived level of stress in the multiple regression analysis. The results are in conformity with the results of Meher and Meher (2021) where the researchers have not found an impact of gender or caste on psychological stress in general during the Covid era. Examining the impact of stressors reveals that 20.7% stress is contributed by these two stressors in CUET induced stress in senior high school students, with 41.2% contribution by

the psychological stressors such as limited time for preparation, not willing to face another exam, not prepared for the change in admission process, or perceived impact of the stress on CUET scores suggesting counseling and other techniques to be adapted at schools to break the psychological barriers and relax these students. Combination of assessment methods such as weightage to academic performance in school and some sort of cognitive, non-cognitive and aptitude assessment suggested by some researchers (Singh et. al., 2017) might also help in releasing some of this stress. The entrance test, though required under NEP 2020, is mandated to these stakeholders without any prior counseling and proper orientation too in most of the cases as was vigilant in the interviews with the students in the preliminary phase. The psychological stressor might be the result of the unpreparedness of the students. These are self-imposed in nature and studies have found that self-imposed stressors are the most experienced by the students (Hamaideh, 2011). The results further reveal that the procedural aspects should also be improved to ease the stress level in the students as they are also contributing a good 19.3% to the overall perceived stress level. The study has successfully highlighted that the CUET procedure can also be a source of entrance examination related stress and might be improved in the light of the finding. More guidance sessions/workshops at school and university levels by experts, easiness of procedures, betterment of IT skills/help in/to students, and some well-designed human support system may help the students in future examinations to keep them low on stress.

7. Conclusion

This study has been undertaken to examine the impact of the first single national level university entrance examination CUET 2022 on the perceived stress of the senior (class 12th) high school students. A mixed method sequential approach followed wherein at first eight CUET related stressors have been identified through exploration and then tested with quantitative techniques for extraction, relationships and causation. The factor analysis extracted two broad stress factors out of these eight, termed as Psychological stressors and Procedural stressors on the basis of the categories they logically belong to. Results show that most of the students are moderately stressed about the exam, and the primary cause of their stress is psychological followed by the procedure related stressors. Gender, category, stream, school and awareness level have also been examined for possible associations wherein the female students have been found more stressed about the examination. The findings of the study provide important insights about how the CUET is affecting these senior high school students in terms of stress and how this stress can be kept under control. Female students need more emphasis while counseling, procedural aspects of the examination can be improved and psychological counseling sessions might be strategized towards making the students ready for the examination in future. Moreover, as suggested by some researchers and educationists, mixed assessment methods for university admissions might also keep the stress levels under check. The findings and suggestions are important for the educational institutions, teachers, parents and psychologists dealing with this examination in some or other manner. Long term planning, time management, effective focused counseling, stress management, and thoughtful sympathetic support can help in reducing the stress in students. In particular, it shows the area where improvements might be made by the NTA or the Ministry of education in the procedural aspects of the entrance examination. The university examinations have become the symbols of stress in students instead of a rightful assessment tool. It is anticipated that the results of this study might help in changing this image of the university entrance examinations.

The study has been conducted under certain limitations. First, the sample consists only of students from the Delhi NCR area. University aspirants are spread all over India (and abroad too) and are from different socioeconomic and educational backgrounds that are not fully tapped by this study. Further justification of results is required by including a wider sample. Moreover, a resistance to the inclusion is registered during the data collection from the school, be it a private or government, due to which the sample size was limited to 304 only. Larger representative samples might have provided better generalizations. CUET has just made a start and its cognitive, academic, socioeconomic, and structural impact in different areas might be the subject of future studies in addition to the limitations of this

study.

References

1. Akyunus M., Canbolat F., Altinoğlu-Dikmeer I., & Koca-Atabey M. 2020. Perceived Paternal Attitudes Predict Test Anxiety Beyond the Effect of Neuroticism: A Study in the Context of The University Entrance Examination in Turkey. Psychology in Russia: State of the Art. 13(3). 3-15. Retrieved from www.scopus.com

2. Alam K. and Halder U. K. 2018. Academic Stress and Academic Performance among Higher Secondary Students: A Gender Analysis. International Journal of Creative Research Thoughts. 6(1). 687-692. https://www.researchgate.net/publication/327237596_Academic_Stress_and_Academic_Performance_among_Higher_Secondary_Students_A_Gender_Analysis

3. Arce-Medina E. and Flores-Allier I. P. 2012. Stress Impact on Applicants Trying to Gain Entrance to Public Universities. Procedia - Social and Bahavioral Sciences. 69. 1938-1944. https://www.researchgate.net/publication/235655976_Stress_Impact_on_Applicants_Trying_to_Gain_Entrance_to_Public_Universities

4. Biswas A. 2022. Is it Revolution 2022 with new entrance test? The New Indian Express. https://www.newindianexpress.com/opinions/2022/may/05/is-it-revolution-2022-with-new-entrance-test-2449895.html

5. Bredal I.S., Grimholt T. K., Bonsaksen T. and Skigstad L. 2021. Psychological Responses and Associated Factors During the Initial Lockdown Due to The Corona Disease Epidemic (COVID-19) Among Norwegian Citizens. Journal of Mental Health. July 26. 1-8. https://pubmed.ncbi.nlm.nih.gov/34309479/

6. Centre K. C. 2010. Stress and Stress Management. London: Press books.

7. Cherian V. and Cherian L. 1998. University Students Adjustment Problems. Psychological Reports. 82. 1135-1138. https://pubmed.ncbi.nlm.nih.gov/9709521/

8. Chu Y. 2013. High School Students' Perceptions: Self-Esteem and Entrance Examinations. International Journal of Assessment and Evaluation. 19(1). 61-75. https://www.researchgate.net/publication/281721525_High_school_students%27_perceptions_Self-esteem_and_entrance_examinations

9. Deb S., Strodl E. and 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. https://www.researchgate.net/publication/289193341_Academic_Stress_Parental_Pressure_Anxiety_and_Mental_Health_among_Indian_High_School_Students

10. Elo A. L., Leppanen A. and Jahkola A. 2003. Validity of a single-item measure of stress symptoms. Scandinavian Journal of Work, Environment & Health. 29(6). 444-51. https://www.researchgate.net/publication/8927590_Validity_of_a_Single-Item_Measure_of_Stress_Symptoms

11. Fujino F., Iida M., Yajima M. & Mori Y. 1999. Study Of Stress and Crisis at Entrance to University: Analysis Through Self Esteem, Burn-Out and Type A Scale. Kitakanto Medical Journal. 49(4). 255-259. doi:10.2974/kmj.49.255

12. Gardner D. G., Cummings L. L., Dunham R. B. & Pierce J. L. 1998. Single-Item Versus Multiple Item Measurement Scales: An Empirical Comparison. Educational Psychology. 58 (6). 898–915.

13. Giannopoulou I., Efstathiou V., Triantafyllou G., Korkoliakou P. and Douzenis A. 2021. Adding Stress to the Stressed: Senior High School Students' Mental Health Amidst The COVID-19

Nationwide Lockdown In Greece. Psychiatry Research. 295 doi: 10.1016/j.psychres.2020.113560

14. Gogol K., Brunner M., Goetz T. and Martin R. 2014. "My Questionnaire Is Too Long!" The Assessment of Motivational-Affective Constructs with Three Item and Single Item Measures. Contemporary Educational Psychology. 39(3). https://www.researchgate.net/publication/262191185_My_Questionnaire_is_Too_Long_The _Assessments_of_Motivational-Affective_Constructs_with_Three-Item_and_Single-Item_Measures

15. Gopinath M. 2022. CUET Must Be More Than Just a Selection System. The Hindustan Times. July 23, 2022. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5868218/

16. Hamaideh S. H. 2011. Stressors And Reactions to Stressors Among University Students. International Journal of Social Psychiatry. 11(1). 69-80. https://www.researchgate.net/profile/Shaher-Hamaideh/publication/325667293_Stressors_and_reactions_to_stressors_among_university_students/links/5fe3119ea6fdccdcb8f401bf/Stressors-and-reactions-to-stressors-among-university-students.pdf

17. Jarvis J. A., Corbett A. W., Thorpe J. D. & Dufur M. J. 2020. Too Much of a Good Thing: Social Capital and Academic Stress in South Korea. Social Sciences. 9(11). 1-14. https://www.mdpi.com/2076-0760/9/11/187/htm

18. Kavakci O, Semiz M., Kartal A., Dikici A. and Kugu N. 2014. Test Anxiety Prevalance and Related Variables in the Students Who Are Going to take the University Entrance Examination. The Journal of Psychiatry and Neurological Sciences. 27. 301-307. https://arsiv.dusunenadamdergisi.org/ing/DergiPdf/DUSUNEN_ADAM_DERGISI_741eb86 1f06445db88dccacd28a3c763.pdf

19. Littman A. J., White E., Satia J.A. and Bowen D.J. 2006. Reliability and Validity of 2 Single-Item Measures of Psychosocial Stress. Epidemiology. 17(4). 398-403. https://pubmed.ncbi.nlm.nih.gov/16641618/

20. Liu G. X. Y. & Helwig C. C. 2020. Autonomy, Social Inequality, And Support in Chinese Urban and Rural Adolescents' Reasoning About the Chinese College Entrance Examination (Gaokao). Journal of Adolescent Research. https://journals.sagepub.com/doi/abs/10.1177/0743558420914082

21. Mamun M. A., Safiq M. B., Hosen I. and Al Mamun, F. 2021. Burnout, Does the University Entrance Test Failing Attribute? A Bangladeshi Exploratory Study. PLoS ONE. 16(10). https://pubmed.ncbi.nlm.nih.gov/34610010/

22. Mann V, Tiwari G. N. and Mishra L. 2021. Study of Stress and Coping Strategies in Competitive Entrance Exams Aspirants Attending Medical and Engineering Coaching Institutes in Delhi. IT in Industry. 9 (2). 789 - 802. https://it-in-industry.org/index.php/itii/article/view/413

23. Meher V. and Meher L. 2021. Psychological Stress Among Higher Secondary School Students During the Covid Era in Relation to Gender, Caste, And Locality. International Journal of Theory and Application in Elementary and Secondary School Education. 3(2). 22-38. https://www.researchgate.net/publication/355803267_Psychological_Stress_among_Higher_ Secondary_School_Students_during_Covid_Era_in_relation_to_Gender_Caste_and_Locality

24. Michaelides M. P. 2014. Validity Considerations Ensuing from Examinees' Perceptions About High-Stakes National Examinations in Cyprus. Assessment in Education: Principles, Policy and Practice. 21(4). 427 - 441. https://www.tandfonline.com/doi/abs/10.1080/0969594X.2014.916655

25. Nagy M.S. 2002. Using a Single-Item Approach to Measure Facet Job Satisfaction. Journal of Occupational and Organizational Psychology. 75. 77-86. https://www.scirp.org/(S(czeh2tfqyw2orz553k1w0r45))/reference/ReferencesPapers.aspx?Re ferenceID=2327178

26. NTA. 2022. National Testing Agency. https://nta.ac.in/

27. NEP. 2020. Ministry of Education Government of India. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf

28. Peleg-Popko O. and Klingman A. 2002. Family Environment, Discrepancies Between Perceived Actual and Desirable Environment, And Children's Test and Trait Anxiety. British Journal of Guidance & Counselling, 30(4), 451–466. https://doi.org/10.1080/0306988021000025646

29. Pereira A. M. 1997. Helping Students Cope: Peer Counselling in Higher Education (Doctoral dissertation). Retrieved from https://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.363281.

30. Peterson E., Rosenberg B. M., Hough C. M. and Kaiser R. H. 2021. Behavioral Mediators of Stress Related Mood Symptoms in Adolescence & Young Adulthood. Journal of Affective Disorders. 294 (12). DOI:10.1016/j.jad.2021.06.079

31. Raina, M. K., 1983, Biochemical consequences of examination stress. Indian Educational Review, 18(2), 17-39.

32. Reddy K. J., Menon K. R. and Thattil A. 2018. Academic Stress and its Sources Among University Students. Biomed Pharmacology Journal. 11 (1). https://biomedpharmajournal.org/vol11no1/academic-stress-and-its-sources-among-university-students/

33. Ross S. E. B., Neibling C. and Heckert T. M. 1999. Sources of Stress among College Students. College Student Journal. 33(2). 312-317

34. Schachter R. 2007. Enhancing Performance on The Scholastic Aptitude Test for Test-Anxious High School Students. Biofeedback. 35(3). 105-109. https://www.aapb.org/files/publications/biofeedback/2007/biof07_enhancing_performance.pdf

35. Singh K. 2022. CUET Colleges And List of Participating Universities 2022. Safalta. Retrieved on Aug. 26. https://www.safalta.com/blog/cuet-colleges-universities

36. Singh A. and Upadhyay A. 2008. Age and Sex Differences in Academic Stress among College Students. Social Science International. 24(1). 78-88.

37. Singh T., Modi J. N., Kumar V., Dhaliwal U., Gupta P. and Sood R. 2017. Admission To Undergraduate and Postgraduate Medical Courses: Looking Beyond Single Entrance Examinations. Indian Pediatrics. 54(3). 231-238. https://www.indianpediatrics.net/mar2017/231.pdf

38. Vanamali K.V. 2022. What is Common University Test (CUET)? Business Standard. Retrieved on April 4, 2022. https://www.business-standard.com/podcast/education/what-is-common-university-entrance-test-cuet-122040400001_1.html

39. Verma S. and Gupta J. 1990. Some Aspects of High Academic Stress and Symptoms. Journal of Personality and Clinical Studies. 6. 7-12.

40. Wanous J. P., Reichers A. E. and Hudy M. J. 1997. Overall, Job Satisfaction: How Good Are Single-Item Measures? Journal of Applied Psychology. 82(2). 247-252.

41. Wills T. A. and Shiffman S. 1985. Coping And Substance Use: A Conceptual Framework. In S. Shiffman, & T. A. Wills (Eds.), Coping and Substance Use. San Diego: Academic Press

42. Yildirim I., Ergene T. and Munir K. 2007. High Rates of Depressive Symptoms Among Senior High School Students Preparing for National University Entrance Examination In Turkey. Int J School Disaffect. 4(2). 35–44. https://publons.com/wos-op/publon/16281950/ https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4288470/

43. Yildirim I. 2008. Family Variables Influencing Test Anxiety of Students Preparing for The University Entrance Examination. Egitim Arastirmalari - Eurasian Journal of Educational Research. 31. 171-186. Retrieved from www.scopus.com

Appendix

Figure 1: Scree Plot
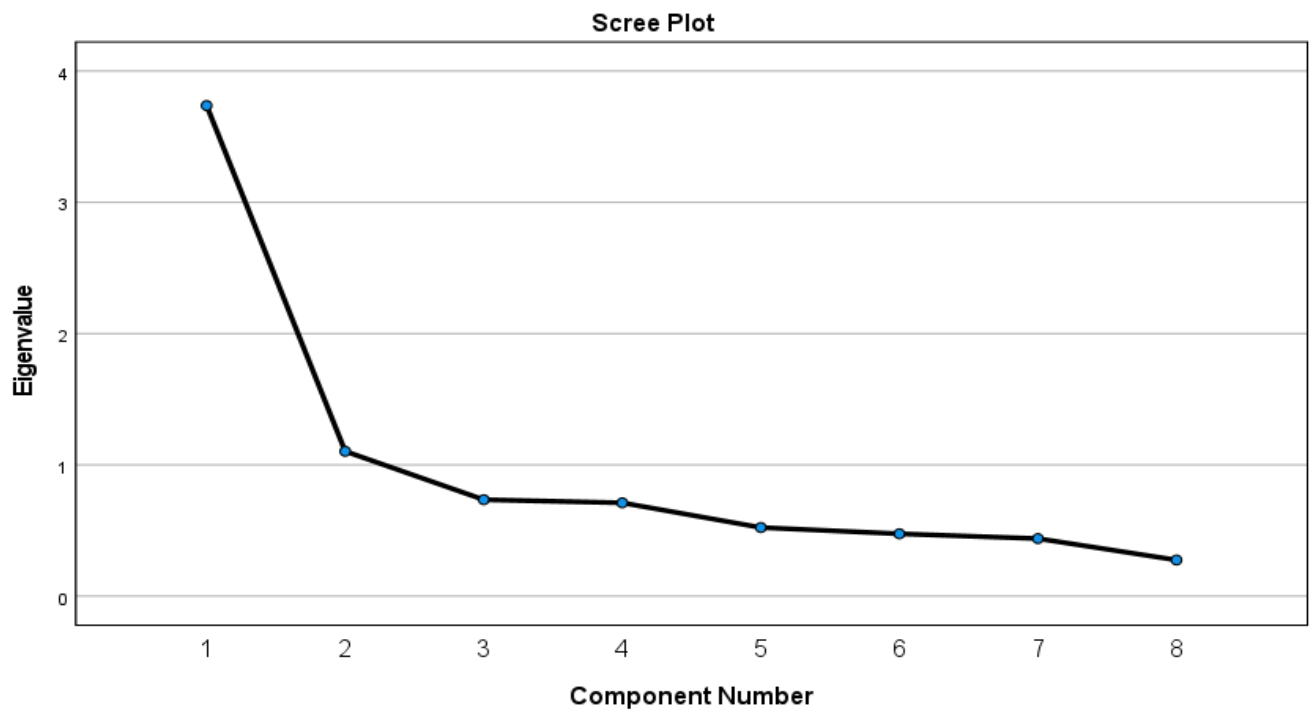
Source: SPSS output
Position: Page 15