Construction and Standardization of an Academic Stress Scale for Secondary School Students

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ABSTRACT

Academic Stress is a sort of distress in response to school or educational circumstances that is perceived negatively. It makes one feel apprehensive over academic task. It is often a lot of pressure that comes along with pursuing a degree in one's education. In this paper an effort has been made to study about the construction and standardization of an academic stress scale. The researcher had selected 400 students as sample from eight Secondary Schools (a sample of 200 Secondary school students for try-out of the draft Academic Stress Scale as well as a sample of other 200 Secondary school students for estimating the reliability of the Academic Stress Scale). This study is based on primary and secondary data.

Keywords: Construction, Standardization, Academic Stress Scale, Secondary School students.

INTRODUCTION

Stress is one of the unavoidable components of normal life. It is a major factor which not only affects people's lives, but also has an impact on their mental and physical health. Stress refers to any adjustive demand which requires an adaptive response from individuals. It is not always harmful because it depends on how the individual perceives the stressful situation and his or her tolerance for stress (Dash, 2000). The term stress has been derived from the Latin word 'stringere'; which means 'to draw tight'and from the French word 'estrecier' refers 'to subject someone to force or compulsion'; and was first used as an English word to resemble distress, adversity, oppression, hardship and adversity in the 17th century A.D (Online Etymology Dictionary). Stress is the emotional response experienced when an environmental stimuli or event could endanger well-being, is perceived as exceeding a person's resources and can be defined by a stimulus-response relationship. This is based on the cognitive-relational theory of stress which emphasizes that the person-environment interaction is continuous and reciprocal in nature. The degree of stress experienced depends on how much of a stake a person has in the outcome of the event: if there is no relevance to the person and no threat, there will be no stress; if their stake is high, the encounter will pose a threat or challenge, triggering a stress reaction (Lazarus and Folkman, 1984).

Academic Stress is a sort of distress in response to school or educational circumstances that is perceived negatively. It makes one feel apprehensive over academic task. It is often a lot of pressure that comes along with pursuing a degree in one's education. Bandura (1986) said academic stress as a students' interaction between environmental stressors, the cognitive appraisal of the academic related stressors and coping with them and psychological and physiological response to the stressors. Academic stress is a sort of state of stress which relates to the approaching trait from the academic institution's environment (Kalita, 2024).

Academic stress refers to a negative emotional response to various pressures in the educational setting. Students experiencing academic stress often show symptoms such as anxiety, pressure, tension, a lack of motivation and attention in their academic activities. Academic stress may occur when academic demands exceed an individual's capacity to handle them. It reflects students' subjective perception of the imbalance between external demands and internal resources. Internal factors, such as mindset, personality, self-belief etc. and external factors, such as task pressure, parental expectations, social environment etc. are key contributors

to academic stress. Academic stress is part of a student's life that can influence how they respond or behave to academic demands. It arises from what are known as academic stressors, which leads to feelings of frustration, conflict, and internal pressure.

REVIEW OF RELATED LITERATURE

Research Studies on Construction and Standardization of Academic Stress Scale

The researcher consulted different Academic Stress Scales from National Psychological Corporation, Prasad Psycho and American Psychological Corporation:

Kim (1970) constructed and standardized the academic stress scale. It consists of 40 items. Each item has five alternatives varying from the response -No stress, Slight stress, Moderate stress, High stress and Extreme stress. Each response carries a score of '1', '2', '3', '4' and '5' respectively. The items were classified into five dimensions- Personal inadequacy, Fear of failure, Interpersonal difficulties with teachers, Teaching methods and inadequate study facilities.

Rajendran and Kaliappan (1990). Kim's Academic Stress Scale was adapted by Rajendran and Kaliappan to Indian conditions. It consists of 40 items. Each item had five alternatives varying from the response 'No stress' to 'Extreme stress'. Each response carries a score of '0', '1', '2', '3' and '4' respectively. The items are classified into five areas contained 8 items each, Personal inadequacy, Fear of failure, Interpersonal difficulties with teachers, Teacher-pupil relationship/Teaching methods and inadequate study facilities.

Sinha, Sharma and Nepal (2001) developed the scale for assessing academic stress. This scale was used to assess students' perceived stress. It consists of 40 items with Yes or No alternatives. Each item was given 1 point for "Yes", with a total score of 40, where 40 indicates maximum stress perceived and 0 lowest or no stress.

Akram, Khan and Sahiba (2013) constructed and standardized the Academic Stress Questionnaire. The questionnaire was used to measure and assess academic stress among adolescents (15-18years). It consists of 36 items. It is a five-point Likert scale ranging from No stress at all (0), Slight stress (1), A lot of stress (2) to Extreme stress (3). Cronbach's alpha of 36 items was found to be .829. The construct validity of ASQ ranges from 0.41 to 0.88.

Kamble (2014) constructed and standardized an academic stress scale. It measures the level of academic stress experienced by college and university students in the whole academic year due to various sources viz. Personal inadequacy, Interactions with peers and teachers, Fear of examination, Inadequate facilities at the college, Parents' expectations and Socio economic status. The scale consists of 66 multiple choice items, like five-point Likert-type scale with response options ranging from strongly agree to strongly disagree. A high score on scale denotes extremely high academic stress while low score shows very low academic stress. Reliability was measured through test-retest and split half reliability method which is 0.73 and 0.88 respectively.

Sheu et.al (2014) constructed and standardized the academic stress scale. This measure contains 10 items, rated using a 5-point (0-4) scale. The Cronbach's alpha of 10 items was found to be .081.

Bedewy and Gabriel (2015) constructed and standardized the Perception of Academic Stress Scale. It consists of 18 items with three main academic stressors: academic expectations, workload and examinations, and academic self-perceptions of students. The Cronbach's alpha of the scale was found to be 0.7. This scale takes 5 minutes to complete.

Research Studies on Academic stress

Akram (2010) conducted a study on the influence of academic stress and hardiness on achievement motivation and problem solving behavior. In the study four hundred students were selected on the basis of purposive random sampling. The tools administered to the above sample were: Scale for Assessing Academic Stress,

Hardiness Scale, Achievement Motivation Scale and Problem Solving Ability Test. The Scale for Assessing Academic Stress was developed by the researcher. It consists of 45 "Yes" and "No" types items. The test-retest reliability of SAAS over the period of one month is 0.88 and split half reliability is 0.75. The major findings of the study were: 1. Low and high academic stress did not differ on achievement motivation and problem solving behavior. 2. There was a significant effect of low and high hardiness on achievement motivation and problem solving behavior.

Kavitha (2014) explored the relationship of academic stress, self-efficacy and school environment with academic achievement. A sample consists of four hundred school students. The Academic Stress Scale developed by Sreenivas and Kumar (1999), which consists of 40 items divided, into five components. 1. Personal inadequacy 2. Fear of failure 3. Interpersonal difficulties with teachers 4. Teacher - Pupil relationship / Teaching methods 5. Inadequate study facilities. Each statement has five options with the response of "'No Stress" to "Extreme Stress". A response of 'No Stress' is given a score of o, a score of 1 is given to a response of 'Slight Stress' a score of 2 is given to a response of 'Moderate Stress' a response of 'High Stress' is given a score of 3 and a score of 4 is given to a response of 'Extreme Stress'. The reliability of the instrument was established by test - retest method and it is 0.84 and the validity is 0.92. The study revealed that academic stress had a significant influence on academic achievement. Low academic stress improved academic achievement and high academic stress decreased academic achievement of students.

Awasthi (2015) studied about the relationship of academic stress, examination anxiety, concentration and memory with yogic practices. A sample of sixty students of age group 17 to 24 years were selected randomly. The tools administered to the above sample were: Academic Stress Questionnaire, Academic Anxiety Scale, Students Examination Anxiety Test, d_2 Test and Memory Scale. It has been found that now-a-days college students are going through academic stress, examination anxiety, lack of concentration and memory. Filling up of questionnaire took only 2 to 3 minutes and it was collected back after being filled up. Scoring the maximum possible score for this test is 20. Each item of the test is scored as either +1 or 0. There are two types of items-positive or negative. All positive items which are endorsed by the subjects as 'Yes' and all negative items which are endorsed by the subjects as 'No' are given a score of +1. A score of 0 is awarded to all other answers. Thus high score on the test indicates high academic stress and low score on the test indicates low academic stress. The study revealed that yogic practices helped to reduce academic stress and examination anxiety among students. The study also found that yogic practices improved concentration but it did not increase memory.

Banu (2015) investigated academic stress and mental health. A sample of seven hundred seventeen University students was selected. The tools were: Academic Stress Scale, University Student Depression Inventory, Social Support Scale and Structured Questionnaire. The Academic Stress Scale (ASS) (Sam, 2001): This 6-item scale measures academic stress. Items refer to problems of concentrating during lectures and when settling down to study, problems understanding lectures and asking questions in class, and feeling strained or lacking control over studies. Respondents are asked to indicate on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), how often he/she thought or felt in that way. The instrument has a Cronbach's alpha of .83 (Sam, 2001). Scores were reversed to ensure the higher scores indicated a presence of academic stress. The Cranach's alpha of the scale based on Indian sample is .94. The research revealed that different factors responsible for academic stress like assignment and homework, time management problems, examination pressure, socio-economic status, financial issues, parents' expectations, relationship problems, lack of support. The study found that female students experienced more academic stress than male students. The study also found that Humanities students experienced more academic stress compared to science and management students.

Pasricha (2015) conducted a study on the relationship of study habits, personality and achievement with academic stress and self-efficacy. Academic stress is an internal state of an individual evaluated as potentially harmful, uncontrollable for coping stress caused partially or fully by academic factors such as examinations, competitions, teaching process, teacher's behaviour, classroom condition, general academic and co-curricular activities. Scale for Assessing Academic Stress (SAAS): The Scale developed by Sinha, Sharma and Nepal (2001) has been used to measure Academic stress among adolescents. It consists of 40 items. The SAAS measures five independent factors that are five components of academic stress indicating expression of

academic stress through various channels: cognitive, affective, physical, social, interpersonal and motivational. All the items under each of the five factors have fairly high loading ranging from 0.60 to 0.85. The subject has to select one out of two alternative responses 'yes' and 'no' for each item of the scale. The test- re-test reliability of SAAS over the period of one month is 0.88 and split-half reliability is 0.75 indicating adequate reliability of the scale. In the study a sample of four hundred students was selected through stratified random sampling technique. The major findings of the study were: 1. Academic stress was significantly and negatively related to study habits. 2. Academic stress was negatively related to personality. 3. Academic stress was negatively related to achievement. 4. Self-efficacy was significantly and positively related to study habits. 5. Self-efficacy was positively related to personality. 6. Self-efficacy was positively related to achievement.

Khan (2016) explored the impact of academic stress on self-concept, adjustment and achievement motivation. A sample consisted of four hundred high school students whose age ranged between 15 to 17 years. The tools administered in the study were: Academic Stress Questionnaire, Self-Concept Inventory and Bell Adjustment Inventory. The Academic Stress Questionnaire (ASQ) was developed by Akram, Khan and Baby (2013) to assess academic stress among students (15-18 years). The scale consists of 36 items. Responses were scored on a 4-point Likert scale ranging from No Stress (0), Slight Stress (1), lot of Stress (3) to Extreme stress(4). Higher scores reflect increased academic stress level. The ASQ provides five factors, viz., (i) inadequate academic environment in college/university, (ii) lack of adjustment, (iii) apprehensive about future, (iv) poor administration, and (v) worries. Cronbach's alpha of all 36 items was found to be .829. The construct validity of ASQ ranges from 0.41 to 0.88. The major findings of the study were: 1. there was no significant difference between University-run school students and private school students on academic stress, adjustment and achievement motivation. 2. Boys had better adjustment than girls. 3. Girls had higher achievement motivation than boys.

Rose (2016) conducted a study on academic stress and academic achievement and their impact on time management, locus of control level of aspiration and learning styles. A sample of five hundred twenty secondary school students was selected randomly in the study. The tools administered in the study were: Bisht Battery of Stress Scale, Time Management Competency Scale, Level of Aspiration Measure, Style of learning and thinking and Levenson's Locus of Control Scale. "Bisht Battery of Stress Scales (BBSS) by Dr. Bisht" (BBSS) comprises of 80 items consisting of four areas. The four areas dealt within the scale are Academic Frustration, Academic Conflict, Academic Pressure and Academic Anxiety. The items measuring various dimensions of the scale are presented in below table. The numbers of Negative items have been in antique (black) figure. Rest of them is positive" reliability 0.88. The major findings of the study were: 1. Academic stress was negatively correlated with time management. 2. Academic stress and locus of control were positively correlated. 3. Academic stress and level of aspiration were not significantly correlated. 4. Academic stress and style of learning were not significantly correlated.

Deepa (2017) investigated the relationship of mental health and decision making styles with academic stress. Survey method was used in the study. A sample of 13 schools was also selected at randomly. The tools administered in the study were: Academic Stress Scale, Flinders Decision Making Styles Questionnaire and Mental Health Scale. The Academic Stress Scale developed and standardized by the Kohn & Frazer (1986). Academic Stress Scale (ASS; Kohn & Frazer, 1986) is a 35 item scale designed to measure the students" perceived academic stressors. Respondents report their level of stress under 33 different stressful situations (e. g., examination, excessive homework) using a 5 point Likert response format (l=not at all stressful, 2=rarely stressful, 3=sometimes stressful, 4=fairly stressful, 5=extremely stressful). Scores are obtained by summing the reported scores for each item. A higher score is indicative of high stress. The ASS has satisfactory internal consistency as measured by Cronbach"s alpha and split-half reliability .92 and .86, respectively. The major findings of the study were: 1. academic stress of students was significantly and negatively related to mental health 2. Academic stress of students was significantly related to decision making styles.

Reddy et.al (2018) studied on academic stress and its sources. A sample of three hundred thirty six students was selected in the study. The tool administered in the study was Academic Stress Scale. The Academic Stress Scale developed by Rajendran and Kaliappan (1991). It consists of 4 dimensions Personal inadequacy, fear of failure, teacher pupil relationship, interpersonal difficulties and inadequate study facilities. The major findings

of the study were: 1. Females experienced more academic stress compared to males. 2. Commerce stream students experienced more academic stress than Science, Humanities and management students.

OBJECTIVES OF THE PRESENT PAPER

1. To construct and standardize an Academic Stress Scale for Secondary school students.
2. To prepare a draft Academic Stress Scale.
3. To try out the draft Academic Stress Scale.
4. To make an item analysis of the draft Academic Stress Scale.
5. To select items for the final Academic Stress Scale.
6. To determine the reliability of the Academic Stress Scale.
7. To determine the validity of the Academic Stress Scale.

RATIONALE OF THE CONSTRUCTION AND STANDARDIZATION OF THE DRAFT ACADEMIC STRESS SCALE

The number of tools developed by different researchers for measuring various dimensions of academic stress has been increased in recent years. Still the demand for development of new tool is growing to a certain extent. The Academic Stress Scale developed by Kim (1970), Academic Stress Scale developed by Sam (2001), Academic Stress Scale developed by Sheu et.al (2014), Perception of Academic Stress Scale developed by Bedewy and Gabriel (2015) etc. are foreign Academic Stress tools. Though several Academic Stress Scales are there to measure academic stress of students but the researcher did not find any suitable scale to measure the academic stress of secondary school students. Only a few Indian tools are there out of which most of them are meant for measuring academic stress of students in various fields like Academic Stress developed by Kamble (2014) for College and University Students, Academic Stress Scale developed by Rajendran and Kaliappan (1991), Scale for Assessing Academic Stress developed by Sinha, Sharma and Nepal (2001), the Academic Stress Questionnaire (ASQ) developed by Akram, Khan and Baby (2013) etc. These tools have reliability and validity in the context of a particular area only. No recent tools are available which is solely meant for academic stress of Secondary school students of Morigaon District, Assam, in particular. So, the researcher realizes that no scale is useful for the present research situation. Therefore the researcher was constructed and standardized an Academic Stress Scale for the Secondary school students to measure their level of academic stress.

ETHICAL CONSIDERATION

In this study, the researcher will be followed all the rules and regulations during data collection. The researcher will explained all the procedure to the subjects. The researcher also assured, their answers will be confidential and data will be used only for research purpose of this study.

METHODOLOGY

Method

In this study, the researcher has been used descriptive survey method.

Population

In this study, the population comprises all Secondary school students in Morigaon District.

Sampling Technique

Purposive sampling technique was used to collect the required data.

Sample of Schools

A sample of eight Secondary schools from Morigaon district was purposively selected for this study. Out of the eight schools, four Secondary schools were selected in phase of 1 data collection and remaining four

Secondary schools were used in phase of 2 data collection.

Sample of students

A sample of 400 Secondary school students from 8 Secondary schools of Morigaon District was selected purposively for this study.

The researcher has selected two groups of samples for the present study. This includes a sample of 200 Secondary school students for try-out of the draft Academic Stress Scale as well as a sample of other 200 Secondary school students for estimating the reliability of the Academic Stress Scale.

Phase 1: Sample of Secondary school students for try-out of the draft Academic Stress Scale

A total of 200 Secondary school students were selected by the researcher from 4 Secondary schools of Morigaon district, Assam. The lists of Secondary schools are shown in Table 1.

Table 1: Sample of Secondary school students for try-out of the Academic Stress Scale

Sl. No.	Name of Secondary schools	Number of sample students
1	Jagiroad Higher Secondary School	65
2	Shahid Lakhi Deka High School	54
3	Jyoti Niwas High School	50
4	Nakhola Secondary School	31

Phase 2: Sample of Secondary school students for estimating the reliability of the Academic Stress Scale

To estimate the reliability of the Academic Stress Scale, a separate sample of 200 Secondary school students were selected by the researcher from 4 Secondary schools of Morigaon district, Assam. The lists of Secondary schools are shown in Table 2.

Table 2: Sample of Secondary school students for standardization of the Academic Stress Scale

Sl. No.	Name of Secondary schools	Number of sample students
1	Nellie Borpayek Secondary School	56
2	Kiling Poria Secondary School	35
3	Sankardev Vidya Niketon, Jagiroad	20
4	Sitajakhala Secondary School	89

Data collection

Before collecting the required data, the researcher requested permission from the Inspector of Schools (IS) in Morigaon District, Assam. The researcher also requested permission from the respective Secondary schools' authorities in Morigaon District, Assam. The researcher visited a total of 8 Secondary schools in Morigaon District, Assam. Out of the 8 schools 4 Secondary schools were selected for try-out of the Academic Stress Scale while the other 4 schools were for standardization which is the estimation of reliability of the Academic Stress Scale.

The researcher personally distributed a set of draft Academic Stress Scale samples to each selected Secondary school students and requested them to read the instructions carefully. After completing the responses to each statement of the draft Academic Stress Scale, the researcher collected from students. The procedure was accomplished by appreciating students for their cooperation.

First phase: The researcher collected data to find out the discriminating power of each statement of the Academic Stress Scale. The researcher administered a draft scale to 200 sampled Secondary school students of 4 Secondary schools in Morigaon District, Assam.

Second phase: The researcher collected the data required for the estimation of the reliability of the Academic Stress Scale. To attain the relaibility of the Academic Stress Scale, the researcher administered the final draft of the selected items based on the discriminating powers of separate 200 school students of 4 Secondary schools in Morigaon District, Assam.

Analysis and interpretation of the data

In the first phase, a t-test was used by the researcher to find out the discriminating power of each item of the draft Academic Stress Scale. After obtaining the discriminating power of each item the researcher selected items for the final Academic Stress Scale based on the discriminating power.

The data collected during the second phase were used to estimate the reliability of the Academic Stress Scale. The researcher used cronbach's alpha coefficient to measure the internal consistency of the scale. The researcher used Microsoft Excel spreadsheet software and SPSS (Version 22) to analyze the collected data.

DELIMITATION OF THE STUDY

Firstly, the study is confined to Secondary schools of Morigaon District, Assam.
Secondly, the study is limitted to only five dimensions of Academic stress like, Personal inadequacy, Fear of failure, Interpersonal difficulties with teachers, Teaching methods and Inadequate study facilities.

Lastly, the study is confined to only eight Secondary schools of Morigaon District. Out of the eight schools four schools are Provincialised Secondary schools and other four schools are Private(ASSEB) Secondary schools.

DIMENSIONS OF THE ACADEMIC STRESS SCALE

The researcher has chosen five dimensions to measure academic stress of Secondary school students:

- **Personal inadequacy**: It refers to lack of confidence which makes individuals feel that they are not good enough to deal with a particular situation or life such as inferiority complex, lack of confidence, feeling of embarrassment, feeling of overburden, lack of concentration and difficulty in remembering.
- **Fear of failure**: It refers to an irrational and persistent fear of failing like examination stress, stress about completion of syllabus, feeling of rejection, fear of failing and to seek help from other students.
- **Interpersonal difficulties with teachers:** It refers to problem with interpersonal relationships or poor relationships between student and teacher such as hesitation, pressure from teachers, teachers expectations, support from teachers and interactions with teachers.
- **Teaching methods**: It means monotonous teaching style by the teacher such as use of modern methods, teaching skills, techniques and devices.
- **Inadequate study facilities:** It refers to inadequate school facilities like insufficient lab, library, study facilities, lack of newly designed educational materials and difficulty in classroom adjustment.

Construction of the Academic Stress Scale

Planning:

The researcher planned to construct and standardize the Academic Stress Scale to measure the academic stress of Secondary school students of Morigaon District, Assam.

Writing of Statements:

The researcher wrote statements based on five dimensions; Personal inadequacy, Fear of failure, Interpersonal difficulties with teachers, Teaching methods and Inadequate study facilities. To write the statements, the researcher read thoroughly different books, articles, theses etc.

The researcher prepared 81 statements distributed over the five dimensions of academic stress and presented them to the experts, Department of Education, Dibrugarh University. The draft included both positive and negative statements.

Editing the Statements

The statements of the Academic Stress Scale were finalized after presentation before the experts of the Department of Education, Dibrugarh University. On the basis of suggestions and recommendations of the experts, 66 statements were retained for the preliminary draft of the scale. Preliminary draft of the scale is presented in Table 3.

Table 3: Details of preliminary draft Academic Stress Scale

Sl.No.	Dimension of Academic Stress Scale		Sl. No. of Statements in the Scale	No. of total items	
1	Personal inadequacy	Positive	1,3,6,10,12,13,	6	14
		Negative	2,4,5,7,8,9,11,14,	8	
2	Fear of failure	Positive	15,17,18,19,20,22,23,25,26,28	10	15
		Negative	21,16,24,27,29,	5	
3	Interpersonal difficulties with teachers	Positive	30,32,34,37,39,41,45,	7	16
		Negative	31,33,35,36,38,40,42,43,44,	9	
4	Teaching methods	Positive	46,48,49,51,54,55,56	7	11
		Negative	47,50,52,53,	4	
5	Inadequate study facilities	Positive	57,59,62,64,	4	10
		Negative	58,60,61,63,65,66	6	
Total no. of items					66

Preparation Of The Scoring Key

The researcher selected the Likert-type scale. A five-point Likert form scale extending from Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D) and Strongly Disagree (SD) was used. For positive items a score of 5,4,3,2 and 1 and for negative items 1,2,3,4 and 5 were given respectively.

Try-Out

The researcher administered the draft Academic Stress Scale on the Secondary school students of four selected Secondary schools of Morigaon District for the purpose of try-out. The try-out form of Academic Stress Scale was thus administered on 200 students of these four schools. Necessary instructions to the respondents were prepared and placed on the front page of the Academic Stress Scale. Oral instruction was also provided to the students. To administer the scale to students, the researcher requested permission from the Principals/Headmasters of the Secondary schools concerned. After that, the researcher established rapport with students, then the draft Academic Stress Scale was distributed among them. For a better understanding of the scale, respondents were asked to read the instructions carefully. Students responded to each item after understanding the instructions. After filling out the scale, the researcher collected all the forms.

Item Analysis

The items of the tryout draft of the Academic Stress Scale were analyzed to prepare the final draft. Based on the total score of the respondents, 27% of the respondents with the highest total score and 27% of respondents with the lowest total score were taken as high group and low group respectively. This was done after arranging the respondents' scores in descending order which is from highest to lowest. Computation of the mean scores from each item in both groups (High and low scores) was done. The difference between the mean scores was considered as the discriminating power of each item.

To determine whether a particular item's discriminating power is significant or not, the t-value for each item was computed. t value for each item was calculated to measure the extent to which a statement differentiates between a high group and a low group. Out of 200 students, 54 (27% of 200) students were taken from each group which is the high group and low group, resulting in a total of 108 students. The following formula was used to compute t value of each statement -

$$t = \frac{|M_{1-M_2}|}{\sqrt{\frac{{SD_1}^2}{N_1} + \frac{{SD_2}^2}{N_2}}}$$

The t-value equal to or greater than 1.75 indicates that a statement has the ability to differentiate between the high group and low group, meaning that the response of the high and low groups to a statement differs significantly. As a high t- value indicates the high discriminating power of the item, therefore, the researcher selected only those statements having a t value equal to or greater than 1.75 (≤ 1.75).

The researcher dropped six items which were found to have a t value less than 1.75. Table 5 shows the statements with a t value less than 1.75 (≤ 1.75).

Table 5: Rejected items of the draft Academic Stress Scale

Sl. No. in draft Academic Stress Scale	Statements	Positive/Negative	t-value
3	I think teachers like me for my talents.	Positive	1.552
9	I often answer the questions in the same way my classmates' do, instead of conveying my point of view, out of fear of getting rejected.	Negative	0.724
10	I am afraid that teachers will reject me if I do not obey the school's rules and regulations.	Negative	-1.572
18	I feel that failure is a part of life, which helps me to move forward in life.	Positive	0.925
20	Stress during examination helps me to do better.	Positive	1.562
50	Our teachers' expectations are very high for all students, which increases my stress.	Negative	0.502

Selection of the Items for the Academic Stress Scale

Based on the t value (≥ 1.75) , an investigator selected 60 items having a t value equal to or greater than 1.75 to be included in the final Academic Stress Scale for measuring the academic stress of Secondary school students. Out of 60 items, 32 items were positive and 28 were negative.

Table 6: Distribution of the positively and negatively stated items selected for the final Academic Stress Scale

Sl. No.	Dimension of Academic Stress Scale		Sl. No. of Statements in the Scale	No. of total items	
1	Personal inadequacy	Positive	1,3,5,7,9,10,	6	11
		Negative	2,4,6,8,11	5	
2	Fear of failure	Positive	12,14,15,17,18,20,21,23,	8	13
		Negative	13,16,19,22,24,	5	
3	Interpersonal difficulties with teachers	Positive	25,27,29,32,34,36,38,40,	8	16
		Negative	26,28,30,31,33,35,37,39,	8	
4	Teaching methods	Positive	41,43,45,48,49,50,	6	10

		Negative	42,44,46,47,	4	
5	Inadequate study facilities	Positive	51,53,56,58,	4	10
		Negative	52,54,55,57,59,60	6	
Total no. of items					60

Standardization of Academic Stress Scale

For standardization of the Academic Stress Scale, the researcher followed the necessary steps, including the estimation of the reliability and validity of the scale.

Reliability of the Academic Stress Scale

Cronbach Alpha coefficient measures the internal consistency or reliability of a set of survey statements. To estimate the reliability of the Academic Stress Scale, the researcher used the Cronbach Alpha coefficient. For this purpose, the researcher administered the final draft of the Academic Stress Scale to 200 Secondary school students of the Morigaon District. This Cronbach Alpha coefficient formula is-

$$\mathbf{r_{kk(\alpha)}}=\frac{\boldsymbol{k}}{(\boldsymbol{k-1})}\times[1-\frac{\sum {S_i}^2}{({S_x}^2)}]$$

The reliability of the Academic Stress Scale was found to be 0.83, which is highly significant.

Validity of the Academic Stress Scale

Content validity of the scale was ensured by the experts, Department of Education, Dibrugarh University. The members read thoroughly each item where modifications of some items were done. They suggested omitting some items, as well as adding some items.

CONCLUSION

The present paper highlighted the construction and standardization of an Academic Stress Scale, which includes prepare a draft Academic Stress Scale, try out the draft, item analysis of the draft, determine reliability, determine validity of the Academic Stress Scale.

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