Survey of college academic stressors: Development of a new measure

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Abstract

This study aimed to develop a survey instrument on college academic stressors. A review of extant literature and a focus-group interview among 20 college students were done. Based on the review of extant literature and focus-group interview, an initial survey instrument was developed. The initial survey instrument was further reviewed by 11 college students. After the review, a trial-run of the survey instrument was conducted among 17 college students. The comments from the trial-run participants became the bases for the development of the main-try-out survey instrument. The main-try-out survey instrument was used in the final test administration with 1,210 college students as participants. Responses from the final test administration participants served as bases in determining the descriptive statistics of items, evaluation of validity, and evaluation of reliability of the survey instrument. Based on information gathered, the final survey instrument was developed and was named "Survey of College Academic Stressors."

Keywords: academic-related stressors; college students, stress

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Introduction

Stress is not a new phenomenon. In fact, "stress has been around and has been noticed for ages" (Neil, 1994; p. 3). However, "there has been great debate in the worlds of medicine, psychology, and sociology about the definition of stress" (Wheeler, 2007, p. 2) and is defined by people differently. To some it may refer to an emotion that is regarded as uncomfortable while to others it has something to do while physical sensation and gives focus to how it affects one's manner of thinking (Biegel, 2009). Similarly for Whitman (1985), it refers to "any situation that evokes negative thoughts and feelings in a person. The same situation is not evocative or stressful for all people, and all people do not experience the same negative thoughts and feelings when stressed" (para.1) while for Seaward (2008), with reference to the contemporary times, it "has many connotations and definitions based on various perspectives of human conditions. In eastern philosophies, stress is considered to be an absence of inner peace. In western culture, stress can be described as a loss of control" (p. 4). Generally, "the subject of stress is complicated and complex. It is also a misunderstood subject of considerable interest and extensive discussion in modern society" (Humphrey, Yow & Bowden, 2000, p. 1).

Review of Literature

Stress among Students

Although, there may be different connotations about stress, one thing is for sure, stress affects every aspect of life and going to school is included that is why it is safe to presume that students are also indeed affected. In relation, Robotham (2008) found that a significant number of studies revealed that "levels of stress are on the increase amongst the higher education student population" (p. 742) and in recent years, studies have documented the adverse effect of stress on students (e.g. Agolla & Ongori, 2009; Hussain, Kumar & Husain, 2008; Masih & Gulrez, 2006; Shaikh et al., 2004; Sulaiman, Hassan, Sapian & Abdullah, 2009). To note, in the study conducted by Misra and Mckean (2002), positive association was found between anxiety and academic stress. Specifically, Ang and Huan (2006) said that "in an Asian context, academic stress arising from adolescents' self-expectations and expectations of others (e.g., parents and teachers) are particularly salient" (p.134).

Today, college remains a bridge from childhood to adulthood (MTVU, 2006) and one experience that can be very appealing and satisfying is attending college or university (Abdullah, Elias, Mahyuddin & Uli, 2009). It is important to reiterate though that "college

students are at a critical period where they will enter adulthood. They are expected to be the elites in the society" (Cheng, n.d., p. 2) and "the current emphasis on educational excellence and multiplied parental expectations have given rise to academic stress and strains in the youth of today" (Masih & Gulrez, 2006, p. 98) and putting in the words of Masih and Gulrez (2006), "stress is a lifestyle crisis p" (p. 97).

Academic Stress

Broadly speaking, "a student's life is subjected to different kinds of stressors, such as the pressure of academics with an obligation of success, uncertain future and difficulties envisaged for integration into the system" (Shaikh et al., 2004, p. 347) but exactly, what is meant by academic stress? According to MacGeorge, Samter and Gillihan (2005), it is a mental and emotional pressure, tension, or stress that occurs due to the demands of college life (as cited in DeDeyn, 2008). Similarly, Wilks (2008) believes that "academic stress is the product of a combination of academic-related demands that exceed the adaptive resources available to an individual" (p. 107).

Hussain, Kumar and Husain (2008) made a conclusion that "academic stress not only impedes academic performance but also adjustment to a greater extent" (p. 72) and as early as 1985, Whitman already believed that even personal growth requires some form of stress, the ability to cope by a student can still be affected by the amount of stress especially when it is overwhelming. But as concluded by Malik and Balda (2006), it is a requirement to fight stress to survive and for Agolla and Ongori (2009), since students are regarded as future leaders, the society is being denied of future leaders when there is something that interferes with their well-being.

The Need to Develop a Survey Instrument on College Academic Stressors

"A students' ability to be connected to the institutional environment and their ability to adapt to the organizational culture are related to vocational and educational stability, student satisfaction, and student success" (Demaris & Kritsonis, 2008, p. 8). That is why an indigenous survey instrument that focuses on academic stress among college students which can be used as an objective checklist in determining academic-related stressors is needed because the process of identifying sources of stress and eventually developing programs and interventions can be geared towards the total development of every student.

Conceptual Framework

Several concepts have been considered as framework of this study. These included the actual experiences of 20 college students and the ideas provided by Masih and Gulrez (2006), Wilks (2008), and Ang and Huan (2006).

Generally stress is "any factor, acting internally or externally, which makes adaptation to environment difficult and which induces increased effort on the part of the individual to maintain a state of equilibrium between himself and herself and the external environment" (Humphrey, Yow & Bowden, 2000, p. 2-3) and specifically, academic stress arises from the demands of college life. Masih and Gulrez (2006) cited that admission procedures, high standards of parents, curriculum being highly concept laden, inappropriate school timings, high pupil-teacher ratio, non-conducive physical environment of classrooms, the absence of healthy teacher-student interaction, irrational rules of discipline, physical punishment, excessive or unbalanced school-work, teaching methodology, indifferent attitudes of teachers, overemphasis on weaknesses rather than strengths are the causes of stress among students.

On the other hand, in the literature review conducted by Wilks (2008), the following demands were cited as composition of academic stress: "time management issues; financial burdens; interactions with faculty; personal goals; social activities; adjustment to the campus environment; and lack of support networks" (p. 106) while, "in an Asian context, academic stress arising from adolescents' self-expectations and expectations of others (e.g. parents and teachers) are particularly salient" (Ang & Huan, 2006, p. 134).

Major themes were identified with reference to the actual experiences of 20 college students and the ideas provided by Masih and Gulrez (2006), Wilks (2008), and Ang and Huan (2006) and thus served as the bases for the writing of items included in the initial survey instrument. These major themes were: (a) enrolment and admission-related, (b) subject-related, (c) teacher-related, (d) classmate-related, (e) schedule-related, (f) classroom-related, (g) financial-related, and (h) expectation-related.

Statement of the Problem

This study aimed to develop a survey instrument that will identify academic stressors of college students. Specifically, it sought to answer the following questions:

1. How can a survey instrument which will identify the academic stressors of college students be developed?

2. How can the survey instrument be evaluated in terms of validity and reliability?

Hypothesis

The Survey of College Academic Stressors (SCAS) is a valid and reliable instrument in identifying the academic stressors of college students.

Method

This study followed the initial steps in test development.

Search for Content Domain

Review of extant literature regarding academic stress and a focus-group interview among 20 college students (18 Doctor of Veterinary Medicine and two Hotel and Restaurant Management) aimed to identify their academic-related stressors were done. Such undertakings provided the researcher with much-needed information in identifying major themes that served as guide in writing the items in the initial survey instrument.

Item Writing and Review

The review of extant literature and the focus-group interview conducted among 20 college students led to the writing of items in the initial survey instrument which were divided into eight sub-scales based on the major themes identified. These were: (a) enrolment and admission-related, (b) subject-related, (c) teacher-related, (d) classmate-related, (e) schedule-related, (f) classroom-related, (g) financial-related, and (h) expectation-related. A total of 72 items were with written with the following breakdown: nine for enrolment and admission-related, 19 for subject-related, six for teacher-related, six for classmate-related, 10 for schedule-related, 10 for classroom related, three for financial-related; and 10 for expectation-related.

The items in the initial survey instrument were further reviewed by 11 college students (Development Communication) as to its contents. The researcher performed such undertaking because the researcher wanted to make sure that all items in the initial survey instrument represented the entire range of possible items the initial survey instrument was suppose to cover.

Trial-Run of the Initial Survey Instrument

Seventeen college students (15 Development Communication and two BS in Biology) agreed to participate in the trial-run. The trial run was done to check the suitability of language used in the items, the ease of following the directions and the average length of time needed in answering the survey instrument.

Development of the Main Try-Out Survey Instrument

Minimal suggestions were recorded during the trial-run which served as bases in the development of the main try-out survey instrument used during the final test administration.

Final Test Administration

The final test administration was performed to evaluate the validity and reliability of the survey instrument. A total of 1, 210 college students from 14 programs participated in the final test administration. These participants were chosen via systematic random sampling.

Descriptive Statistics

With the responses of the participants in the final test administration as bases, the means and standard deviations of the items included in the main try-out survey instrument were computed. This was done because the means and standard deviations of items could serve as guide in deciding what items to include in the final survey instrument.

Evaluation of the Survey Instrument's Validity

Factor analysis was used to evaluate the instrument's validity. Specifically, Exploratory Factor Analysis was used with Principal Components Analysis and Varimax Rotation (with Kaiser Normalization). The cut-off was set at 0.40 correlations coefficient.

Evaluation of the Survey Instrument's Reliability

The reliability of the survey instrument was evaluated using Cronbach's Coefficient Alpha formula. This method examined the internal consistency of the items in the survey instrument.

Development of the Final Survey Instrument

The development of the final survey instrument was based on the information gathered from the means and standard deviations of its items, validity evaluation, and reliability evaluation.

Results and Discussion

The study started with a review of extant literature regarding college academic stress and a focus-group interview conducted among 20 college students. This led to the writing of items in the initial survey instrument divided into eight sub-scales, namely: (a) enrolment and admission-related, (b) subject-related, (c) teacher-related, (d) classmate-related, (e) schedule-related, (f) classroom-related, (g) financial-related, and (h) expectation-related. The items in the initial survey instrument were evaluated and reviewed by11 college students as to contents. Seventeen college students participated in the trial-run. Minimal suggestions were recorded and served as bases in the development of the main try-out survey instrument. A

total of 1,210 college students from 14 programs enrolled during the Second Semester of School Year 2010-2011 participated in the final test administration.

Profile of the Final Test Administration Participants

Table 1a to 1c presents the profile of the participants in the final test administration.

Table 1a. Frequency distribution of final test administration participants in terms of sex

Sex	Frequency	Percentage
Male	481	39.75
Female	729	60.25
Total	1210	100

Based on Table 1a, 60.25% of the participants were females and accounted for more than half of the participants.

Table 1b. Frequency distribution of final test administration participants in terms of age

Age	Frequency	Percentage
15	1	0.1
16	146	12.1
17	312	25.8
18	294	24.3
19	195	16.1
20	156	12.9
21	48	4
22	28	2.3
23	11	0.9
24	6	0.5
25	5	0.4
27	2	0.2
28	1	0.1
31	2	0.2
38	1	0.1
40	1	0.1
45	1	0.1
Total	1210	100

Based on Table 1b, 12.1 % of the participants were aged 16, 25.8% were aged 17, 24.3% were aged 18, 16.1% were aged 19, and 12.9% were aged 20. The age range from 16 to 20 accounted for more than half of the participants.

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Table 1c. Frequency distribution of final test administration participants in terms of program

Program	Frequency	Percentage
Bachelor of Arts in English	55	4.54
Bachelor of Science in Agricultural Engineering	49	4.04
Bachelor of Science in Agricultural Business	32	2.64
Bachelor of Science in Agricultural Economics	6	0.49
Bachelor of Elementary Education	95	7.85
Bachelor of Science in Entrepreneurship	12	0.99
Bachelor of Secondary Education	194	16.03
Bachelor of Science in Biology	37	3.05
Bachelor of Science in Development Communication	24	1.98
Bachelor of Science in Agricultural Forestry	4	0.33
Bachelor of Science in Mathematics	32	2.64
Bachelor of Science in Agriculture	164	13.55
Bachelor of Science in Home Economics	10	0.82
Bachelor of Science in Hotel and Restaurant Management	159	13.14
Bachelor of Science in Home Technology	92	7.60
Bachelor of Science in Information Technology	164	13.55
Diploma in Computer Programming	52	4.29
Doctor of Veterinary Medicine	29	2.39
Total	1210	100

Based on Table 1c, 16.03% of the participants came from Bachelor of Secondary Education, followed by 13.55% from Bachelor of Science in Agriculture, 13.14% from Bachelor of Science in Hotel and Restaurant Management, and 7.85% from Bachelor of Elementary Education. These four programs accounted for more than half the participants.

Descriptive Statistics

The responses of the participants in the final test administration served as bases in determining the means and standard deviations of the items included in the main try-out survey instrument. The means and standard deviations are presented in Table 2.

Table 2. Means and standard deviations of items in the main try-out survey instrument

Item No.	M	SD	Item No.	M	SD	Item No.	M	SD
1	3.1597	0.93294	25	2.3511	0.92691	49	2.2313	0.94728
2	2.7188	0.87948	26	2.0474	0.92711	50	2.5699	0.98220
3	2.8211	0.89988	27	2.2737	0.92470	51	2.7795	0.98725
4	2.4359	0.94370	28	2.2205	0.93617	52	2.7396	1.00021
5	2.1514	0.93344	29	2.6722	0.98314	53	2.8627	0.96065
6	2.2329	0.94863	30	2.3677	0.86252	54	2.8710	0.95834
7	2.6705	0.99186	31	2.6814	0.95221	55	2.6057	0.96357
8	2.2928	1.02057	32	2.0616	0.88537	56	2.8652	0.96748
9	2.1913	0.98023	33	2.2903	1.22276	57	2.5732	0.94215
10	2.3394	0.90861	34	2.1215	0.88010	58	2.6206	0.97982
11	2.3860	0.89726	35	2.1464	0.95364	59	2.6364	0.96574
12	2.1223	0.89453	36	2.2097	0.92840	60	2.6614	1.02800
13	2.8270	0.92877	37	2.0782	0.94417	61	2.8270	0.99959
14	2.3053	0.84962	38	2.0699	0.99295	62	2.6389	0.99679
15	2.5549	0.86609	39	2.0291	0.88750	63	2.5915	0.98212
16	2.2055	0.88763	40	1.8619	1.01327	64	2.6431	1.54906
17	2.4551	0.91980	41	2.1098	0.96115	65	2.5807	0.95993
18	2.5682	0.94956	42	2.1664	0.96255	66	2.4251	1.00613
19	2.5250	0.92956	43	2.2488	0.94680	67	2.3062	0.94536
20	2.6364	0.94482	44	2.4027	1.17535	68	2.6148	1.01145
21	2.5416	0.92266	45	2.6148	1.05497	69	2.5183	0.95184
22	2.1131	0.87932	46	2.4626	0.98567	70	2.3869	0.94173
23	2.3461	0.91524	47	2.2579	0.95182	71	2.3319	0.93705
24	2.3810	0.99687	48	2.2812	0.93989	72	2.3910	1.00962

Legend: M= Mean, SD= Standard Deviation

Descriptive statistics are used to organize and describe the characteristics of a collection of data. The collection is sometimes called a data set or just a data (Salkind, 2007). Whenever a data is examined, descriptive statistics come first, and the most common of these are the mean and variance. The same is true for test items. The means and standard deviations of items can provide clues about which items will be useful and which ones will be not. If the variance of an item is low, this mean that there is little variability on the item and it may not be useful. While it is not common to examine item-level descriptive statistics in most research applications, in creating and validating tests it is a crucial first step. Generally, the higher the variability of the item and the more the mean of the item is at the center point of the distribution, the better the item will perform (Kline, 2005).

Evaluation of Validity

To evaluate the validity of the survey instrument, Principal Components Analysis with Varimax Rotation (Kaiser Normalization) was used. According to Brown (2010), "one use for PCA or EFA is to conduct item or subscale analysis with the goal of revising and

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strengthening a test or questionnaire" (p. 30) and "can be used as a back-and-forth tool for eliminating items that don't work" (p. 31). The result of the Principal Components Analysis with Varimax Rotation (Kaiser Normalization) loadings of items with 0.40 correlations coefficient cut-off in the main try-out instrument is presented in Table 3.

Table 3. Principal Components Analysis with Varimax Rotation (Kaiser Normalization) loadings of items in the main try-out survey instrument

Item No.	Component							
	1	2	3	4	5	6	7	8
Enrolment and Admission-related								
1. Enrolling					0.434			0.472
2. Getting of classcards					0.526			0.420
3. Signing of clearances					0.501			
4. Settling of unpaid accounts					0.520			
5. Securing of examination permits					0.570			
6. Securing of class schedules					0.507			
7. Following of enrolment procedures					0.405			
8. Changing/ adding of subjects					0.613			
9. Validating of subjects					0.610			
Subject-related								
10. Passing written examinations	0.618							
11. Passing oral examinations	0.619							
12. Participating in classroom discussions	0.602							
13. Conducting researches								
14. Completing seat works	0.598							
15. Searching for reference materials	0.499							
16. Completing assignments	0.588							
17. Submitting requirements	0.556							
18. Beating requirements deadlines	0.520							
19. Completing requirements	0.539						0.403	
20. Passing unannounced examinations	0.537							
21. Dealing with unannounced graded recitations	0.509							
22. Understanding classroom discussions	0.539							
23. Preparing for an examination	0.542							
24. Passing a removal examination	0.503							
25. Passing practical examination	0.586							
26. Writing of assignments	0.564							
27. Conducting laboratory experiments	0.438							
28. Participating in extension activities	0.433							
Teacher-related								
29. Dealing with strict teachers								0.576
30. Coping with teachers' teaching methodologies	0.403							0.420
31. Adjusting with teachers' unfair treatment of students								0.573
32. Dealing with teachers								
33. Adjusting with teachers' treatment of students								
34. Attending to teachers' requests								

(table continues)

Table 3. *(continued)*

Classmate-related			
35. Arguing with classmates			0.583
36. Disliking classmates			0.678
37. Competing with classmates			0.632
38. Bullying by classmates			0.677
39. Conducting activities with classmates			0.494
Schedule-related			
40. Attending classes		0.543	
41. Attending make-up classes		0.611	
42. Making sense of too many vacant periods		0.593	
43. Managing too little vacant periods		0.532	
44. Moving from one classroom to the other		0.538	
45. Moving from one building to the other		0.512	
46. Commuting to and from the school		0.451	
47. Participating in extra-curricular activities		0.485	
48. Attending meetings of student organizations		0.554	
49. Attending school programs		0.561	
Classroom-related			
50. Bearing with overcrowded classrooms	0.630		
51. Bearing with classrooms that have poor or no ventilation	0.671		
52. Bearing with classrooms that have poor or no lighting	0.674		
53. Bearing with dirty classrooms	0.748		
54. Bearing with noisy classrooms	0.724		
55. Looking for available classrooms	0.622		
56. Bearing with fowl-smelling classrooms	0.715		
57. Waiting for classrooms to be vacated	0.635		
58. Bearing with classrooms with limited seats	0.694		
59. Bearing with distractions in or outside the classrooms	0.632		
Financial-related			
60. Budgeting of allowance			0.652
61. Dealing with unexpected expenses			0.726
62. Saving money for projects			0.620
Expectation-related			
63. Thinking about getting a job after college		0.578	
64. Handling expectations of parents		0.493	
65. Handling expectations of relatives		0.669	
66. Handling expectations of siblings		0.629	
67. Handling expectations of friends		0.625	
68. Worrying about the future		0.647	
69. Handling expectations of teachers		0.640	
70. Handling expectations of benefactors		0.642	
71. Handling expectations of people in the community		0.655	
72. Handling self-expectations		0.650	

As seen in Table 3, using a 0.40 correlations coefficient cut-off, 18 items loaded on component one, 10 items on component two, 10 items on component three, 10 items on

component four, eight items on component five, five items on component six, three items on component seven, and three items on component eight.

Evaluation of Reliability

To evaluate the reliability of the survey instrument, Cronbach's Coefficient Alpha formula was used. This method examined the internal consistency of the items in the main try-out survey instrument. The item- total statistics of the items in the main try-out instrument is presented in Table 4a while presented in Table 4b is the reliability evaluation of the whole survey instrument together with its eight sub-scales.

Table 4a. Item-total statistics of the main try-out survey instrument

Item No.	A	B	C	D	Item No.	A	B	C	D
1	172.1206	991.015	0.336	0.946	37	173.2022	987.309	0.395	0.946
2	172.5616	988.786	0.399	0.946	38	173.2105	988.941	0.348	0.946
3	172.4592	990.543	0.358	0.946	39	173.2512	988.978	0.392	0.946
4	172.8444	988.686	0.372	0.946	40	173.4185	983.582	0.425	0.946
5	173.1290	987.606	0.395	0.946	41	173.1705	980.438	0.503	0.945
6	173.0474	989.224	0.361	0.946	42	173.1140	984.256	0.438	0.946
7	172.6098	988.346	0.358	0.946	43	173.0316	982.812	0.471	0.946
8	172.9875	987.604	0.359	0.946	44	172.8777	983.243	0.367	0.946
9	173.0890	987.005	0.385	0.946	45	172.6656	980.744	0.451	0.946
10	172.9409	983.711	0.476	0.946	46	172.8178	982.076	0.463	0.946
11	172.8943	983.319	0.489	0.946	47	173.0225	984.112	0.446	0.946
12	173.1581	983.953	0.479	0.946	48	172.9992	984.189	0.451	0.946
13	172.4534	986.408	0.418	0.946	49	173.0491	982.909	0.469	0.946
14	172.9750	983.798	0.509	0.945	50	172.7105	979.771	0.503	0.945
15	172.7255	988.669	0.408	0.946	51	172.5008	982.895	0.449	0.946
16	173.0749	986.291	0.441	0.946	52	172.5408	981.907	0.459	0.946
17	172.8253	983.846	0.467	0.946	53	172.4176	986.973	0.394	0.946
18	172.7121	982.567	0.473	0.946	54	172.4093	989.151	0.358	0.946
19	172.7554	981.595	0.501	0.945	55	172.6747	983.445	0.451	0.946
20	172.6439	983.245	0.464	0.946	56	172.4151	986.833	0.393	0.946
21	172.7388	985.082	0.444	0.946	57	172.7072	982.635	0.476	0.946
22	173.1672	985.720	0.456	0.946	58	172.6597	981.354	0.478	0.946
23	172.9343	986.105	0.430	0.946	59	172.6439	984.236	0.437	0.946
24	172.8993	981.912	0.460	0.946	60	172.6190	980.797	0.463	0.946
25	172.9293	982.592	0.485	0.946	61	172.4534	984.408	0.418	0.946
26	173.2329	982.195	0.492	0.945	62	172.6414	981.924	0.460	0.946
27	173.0067	984.638	0.451	0.946	63	172.6889	982.141	0.464	0.946
28	173.0599	983.370	0.467	0.946	64	172.6373	982.065	0.280	0.947
29	172.6082	982.194	0.462	0.946	65	172.6997	984.492	0.436	0.946
30	172.9126	982.133	0.532	0.945	66	172.8552	983.541	0.429	0.946
31	172.5990	984.419	0.441	0.946	67	172.9742	981.815	0.489	0.945
32	173.2188	984.536	0.474	0.946	68	172.6656	984.896	0.405	0.946
33	172.9900	981.280	0.377	0.946	69	172.7621	983.654	0.454	0.946
34	173.1589	985.493	0.459	0.946	70	172.8935	983.308	0.465	0.946
35	173.1339	985.147	0.428	0.946	71	172.9484	983.453	0.465	0.946
36	173.0707	986.590	0.415	0.946	72	172.8894	984.123	0.418	0.946

A= Scale Mean if Item Deleted, B= Scale Variance if Item Deleted, C= Corrected Item-Total Correlation, D= Cronbach's Alpha if Item Deleted

What must be given due attention in Table 4a are columns C which shows the correlation between the respective item and the total sum score (without the respective item) and D which shows the internal consistency of the scale (coefficient alpha) if the respective item will be deleted. Clearly, the reliability of the main try-out survey instrument is at 0.94 levels regardless of an item to be deleted.

Table 4b. Reliability evaluation of the main try-out survey instrument and its sub-scales

	Number of Items	Cronbach's Alpha
Whole Survey Instrument	72	0.948
Enrollment and Admissions-related	9	0.774
Subject-related	19	0.898
Teacher-related	6	0.748
Classmate-related	5	0.751
Schedule-related	10	0.821
Classroom-related	10	0.894
Financial-related	3	0.797
Expectation-related	10	0.878

Based on Table 4b, the Cronbach's Alpha of the main try-out survey instrument as a whole was 0.948 which signify high internal consistency while the Cronbach's Alpha of its sub-scales ranged from 0.748 to 0.898.

Development of the Final Survey Instrument

After analyzing the descriptive statistics (means and standard deviations of items), validity (PCA with Varimax Rotation), and reliability (Cornbach's Alpha Formula), items to be included were finally determined. Out of the 72 items in the main try-out survey instrument, 67 were retained. Table 5 presents the reliability of the final survey instrument.

Table 5. Reliability of the final survey instrument

	Number of Items	Cronbach's Alpha
Whole Survey Instrument	67	0.943
Enrollment and Admissions-related	8	0.759
Subject-related	18	0.896
Teacher-related	3	0.709
Classmate-related	5	0.751
Schedule-related	10	0.821
Classroom-related	10	0.894
Financial-related	3	0.797
Expectation-related	10	0.878

As seen in Table 5, the Cronbach's Alpha of the final survey instrument was 0.943 which signify high internal consistency while the Cronbach's Alpha of its sub-scales ranged from 0.709 to 0.896.

The final survey instrument may be used by guidance counselors, homeroom advisers, and teachers as an objective checklist in identifying academic stressors of college students. For one, the final survey instrument has been initially proven valid (as reviewed by actual college students and item loadings ranging from 0.405 to 0.748 based on the 0.40 cut-off for screening of items) and reliable (Cronbach's Alpha value of 0.943 indicating high internal consistency). For the purposes of recognition, the survey instrument was named "Survey of College Academic Stressors (SCAS)." SCAS is presented in Appendix A.

Limitations of the Study

This study was only limited to one state college in Pampanga in the Philippines with 1,258 participants starting from the focus-group interview up to the final test administration. Therefore it is not guaranteed that the results of this study also hold true to college students of other colleges and universities whether in the Philippines or abroad.

Conclusion

The SCAS is a valid (as reviewed by actual college students and item loadings ranging from 0.405 to 0.748 based on the 0.40 cut-off for screening of items) and reliable (Cronbach's Alpha value of 0.943 indicating high internal consistency) survey instrument in identifying the academic stressors of college students.

Recommendations

The SCAS has gone initial stages of testing its validity (item review and PCA with Varimax Rotation) and reliability (Cronbach's Coefficient Alpha formula) in the process of establishing its psychometric properties. However, in order to have a more detailed property of SCAS, further study is still recommended. It must be reviewed again to determine redundant items and further prove its validity and reliability. Larger sample size is also needed for norming and interpretation of test scores and in doing so, school counselors, homeroom advisers, and teachers are encouraged to administer the SCAS in their respective colleges and universities. Other researchers especially those tasked to do their theses and dissertations may also use the SCAS. The information gathered from SCAS can be useful in reviewing programs intended for college students.

Calaguas, G. M. (2012). Survey of college academic stressors: Development of a new measure. *International Journal of Human Sciences* [Online]. 9:1. Available: http://www.insanbilimleri.com/en

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Appendix A

SURVEY OF COLLEGE ACADEMIC STRESSORS

Name:_____   Age:_____
Course and Year Level:_____   Sex:_____

Directions: Using your own experiences, please rate how stressful the events listed below are. When you cannot answer a statement on the basis of experience, rate it according to what you would most likely feel. On the space provided after each item, indicate your rating using the following scale:

Not at all Stressful (1)   Mildly Stressful (2)   Moderately Stressful (3)   Severely Stressful (4)

Enrolment and Admission-related		**Schedule-related**	
1. Getting of classcards	[___]	35. Attending classes	[___]
2. Signing of clearances	[___]	36. Attending make-up classes	[___]
3. Settling of unpaid accounts	[___]	37. Making sense of too many vacant periods	[___]
4. Securing of examination permits	[___]	38. Managing too little vacant periods	[___]
5. Securing of class schedules	[___]	39. Moving from one classroom to the other	[___]
6. Following of enrolment procedures	[___]	40. Moving from one building to the other	[___]
7. Changing/ adding of subjects	[___]	41. Commuting to and from the school	[___]
8. Validating of subjects	[___]	42. Participating in extra-curricular activities	[___]
Subject-related		43. Attending meetings of student organizations	[___]
9. Passing written examinations	[___]	44. Attending school programs	[___]
10. Passing oral examinations	[___]	**Classroom-related**	
11. Participating in classroom discussions	[___]	45. Bearing with overcrowded classrooms	[___]
12. Completing seat works	[___]	46. Bearing with classrooms that have poor or no ventilation	[___]
13. Searching for reference materials	[___]	47. Bearing with classrooms that have poor or no lighting	[___]
14. Completing assignments	[___]	48. Bearing with dirty classrooms	[___]
15. Submitting requirements	[___]	49. Bearing with noisy classrooms	[___]
16. Beating requirements deadlines	[___]	50. Looking for available classrooms	[___]
17. Completing requirements	[___]	51. Bearing with fowl-smelling classrooms	[___]
18. Passing unannounced examinations	[___]	52. Waiting for classrooms to be vacated	[___]
19. Dealing with unannounced graded recitations	[___]	53. Bearing with classrooms with limited seats	[___]
20. Understanding classroom discussions	[___]	54. Bearing with distractions in or outside the classrooms	[___]
21. Preparing for an examination	[___]	**Financial-related**	
22. Passing a removal examination	[___]	55. Budgeting of allowance	[___]
23. Passing practical examination	[___]	56. Dealing with unexpected expenses	[___]
24. Writing of assignments	[___]	57. Saving money for projects	[___]
25. Conducting laboratory experiments	[___]	**Expectation-related**	
26. Participating in extension activities	[___]	58. Thinking about getting a job after college	[___]
Teacher-related		59. Handling expectations of parents	[___]
27. Dealing with strict teachers	[___]	60. Handling expectations of relatives	[___]
28. Coping with teachers' teaching methodologies	[___]	61. Handling expectations of siblings	[___]
29. Adjusting with teachers' unfair treatment of students	[___]	62. Handling expectations of friends	[___]
Classmate-related		63. Worrying about the future	[___]
30. Arguing with classmates	[___]	64. Handling expectations of teachers	[___]
31. Disliking classmates	[___]	65. Handling expectations of benefactors	[___]
32. Competing with classmates	[___]	66. Handling expectations of people in the community	[___]
33. Bullying by classmates	[___]	67. Handling self-expectations	[___]
34. Conducting activities with classmates	[___]	---End of SCAS---	