

Exploring the Link Between Felder-Silverman Learning Style and Stress Coping Ability: An Empirical Study

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ABSTRACT

Researchers stated that students that are conscious about their own learning style could be empowered to identify the techniques of learning when disclosed to different learning environment and this may result to a greater educational improvement in students' academic performances. Stress among students is quite common in the university due to its abrupt changes from high school. Although some stress is considered necessary for personal growth, the amount of stress overwhelms a student and affects the ability to cope. In this regard, few researchers give an idea of which learning styles may assimilate in coping stress among the students. Therefore, in this paper, a concept on the linkage between learning styles and the coping stress ability is attempted to understand which learning styles might have greater stress coping ability among the university students. The findings of the study suggested that there is a significant relationship and effects of Felder-Silverman learning style (active, reflective, sensing, intuitive, visual, verbal, sequential and global) on stress coping ability. The visual and activist learners have greater effects on stress coping ability among students.

Keywords: Learning Styles, Coping Stress, Personal growth, University Students.

INTRODUCTION:

Educational systems have high expectation of academic achievement and have created a very stressful environment among students which if left untreated can be dangerous to their physical and mental health. Feelings of loneliness and nervousness, as well as sleeplessness and excessive worrying may result if stress is not dealt effectively. And most educational systems have ignored individual differences that exist between learners, such as the learning ability, the background knowledge, the learning goals and the learning style (Ford & Chen, 2001). Learning styles are a way of perceiving, conceptualizing, and problem solving; a preferred way of interacting with and responding to the environment (Curry, L., 1981). They are cognitive, affective, and psychological indicators of the manners by which students perceive, interact with, and respond to their learning environment (Keefe, J. W. 1982 p. 32). They are used by students in order to learn a new subject or to deal with a new problem (Oxford, Ehrman, & Lavine, 1991). The learning style is thus connected to both a set of behaviors - strategies in the way of managing and organizing the information, as well as the way of implementing these behaviors and strategies which may able to cope the stress among the students by adapting the right learning styles. Therefore, students with the knowledge of their own preferences are empowered to use different techniques to enhance learning and recognize various learning styles so that learning maximized no matter what the environment and which in turn may impact overall educational satisfaction (Robotham, D., 1995; Romanelli, F., Bird, E., & Ryan, M., 2009).

STRESS AMONG UNIVERSITY STUDENTS:

Stress is defined as a particular association between the person and the environment that is assessed by the person as exceeding one's resources and threatening one's well being (Lazarus & Folkman, 1984). University students are particularly prone to stress due to the transition nature of university life. They must adjust to being away from home, maintain a high level of academic achievement and adjust to a new social environment. The ability to cope the stress is done by constantly changing cognitive and behavioral efforts to manage specific external/internal demands that are that are appraised as exceeding the resources of the person. Not surprisingly, students report high levels of stress, which interferes with academic performances. These increased stressors can leave students vulnerable to stress-related mental health problems. Students frequently report loneliness, homesickness, conflict, and distress in interpersonal relationships as many university students leave behind close friends and family members and must form new relationships with peers, advisors, and faculty. Study showed that coping modifies stress and psychopathology (Compas et al., 1993). University students have to adapt to various psychosocial changes besides coping with the academic and social demands in preparing for their professional careers (Uehara et al., 2010).

FELDER-SILVERMAN LEARNING STYLE MODEL:

In this context, in the current paper we focus on the Felder-Silverman model (Felder, R. M., & Silverman, L. K., 1988), due to several reasons. FSLSM uses four learning style dimensions: active/reflective (A/R), sensing/intuitive (S/I), visual/verbal (V/V), and sequential/global (S/G), with the assumption that each learner has a preference on each of the four dimensions. Some researchers have argued that this model is one of the best or even the best model to use in adaptive systems (Kuljis, J., & Liu, F., 2005; Carver, C. A., Jr., 1999). Also in a study of business students, the Index of Learning Styles Questionnaire by Felder and Silverman's Index of Learning has been routinely employed for some years as a component of management development courses in business schools (Van Zwanenberg, Wilkinson, and Anderson, 2000). According to FSLSM, individual learners are classified by their preferences on four dimensions: active – reflective, sensing – intuitive, visual – verbal, and sequential – global. Sensing – intuitive determines how you want to perceive or take in information, visual – verbal regulate how you prefer information to be presented, active -reflective shape how you prefer to process information and sequential – global specify how you prefer to organize and progress toward understanding information. Active students learn by trying things out and working with others in group, while reflective students like thinking things through first and prefer working alone or with familiar partner. Sensing learners have a preference toward concrete thinking, practical, concerned with facts and procedures, whereas intuitive learners prefer conceptual thinking, innovative, concerned with theories and meanings to discover possibilities and relationships. Visual learners remember best what they see (pictures, diagrams, schemas etc.) while verbal learners learn more out of words, either spoken or written. Sequential learners tend to think and understand in linear steps and learn in small incremental steps, while global learners prefer holistic thinking, systems thinkers, learns in large step, in large leaps, they are fuzzy about the details of the subject but are able to make rapid connections between subjects.

RESEARCH OBJECTIVES:

The following objectives are formulated for the study:

1. To find the relationship between Felder-Silverman learning style (active, reflective, sensing, intuitive, visual, verbal, sequential and global) and stress coping ability.
2. To find the effect of Felder-Silverman learning style (active, reflective, sensing, intuitive, visual, verbal, sequential and global) on stress coping ability.

HYPOTHESES OF THE STUDY:

The hypotheses of the study are as follows:

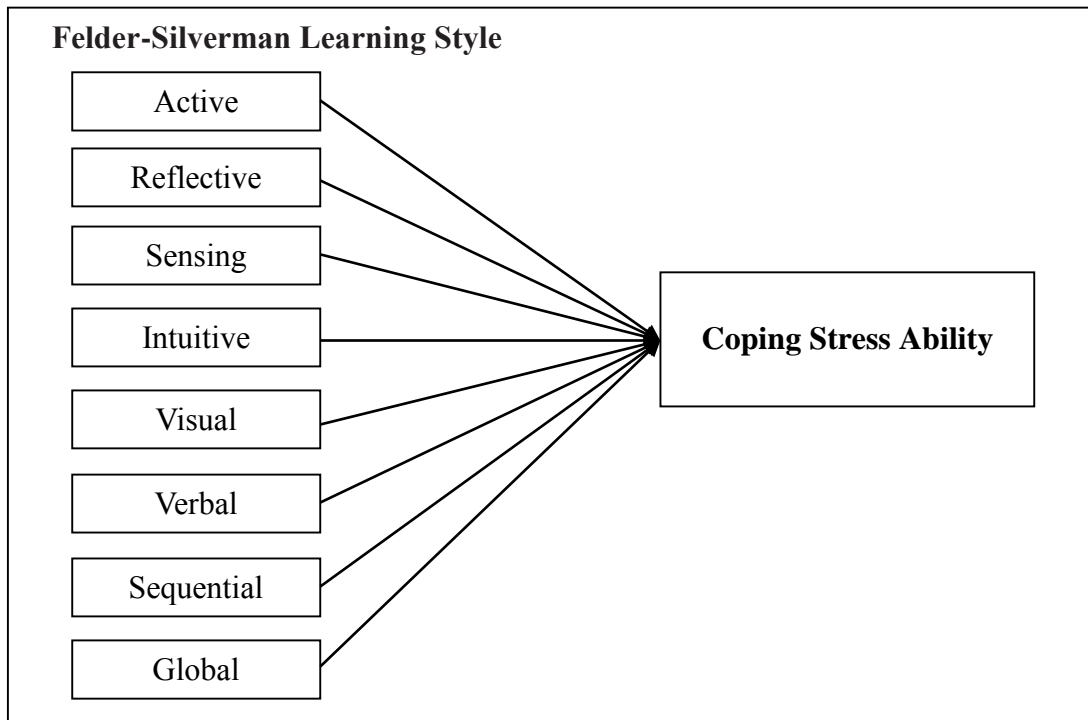
H1: Felder-Silverman learning style (active, reflective, sensing, intuitive, visual, verbal, sequential and global) has a significant relationship with stress coping ability.

H2: Felder-Silverman learning style (active, reflective, sensing, intuitive, visual, verbal, sequential and global) has a significant positive effect on stress coping ability.

CONCEPTUAL FRAMEWORK OF THE STUDY:

The variables of this study consist of different Felder-Silverman learning styles (active, reflective, sensing, intuitive, visual, verbal, sequential, and global) as the independent variables and coping stress ability as the dependent variable.

Fig 1: Conceptual Framework of the study



RESEARCH METHODOLOGY:

In order to get the desired information and to fulfill the objectives of the study, the university students of Indra Gandhi Tribal University were surveyed. A sample size of 300 students is drawn from different departments of the institution using simple random sampling. Data are collected through questionnaires and is divided into two parts. Part A consists of items that represent the demographic details of the students and part B consists of the items that represent the Felder-Silverman Learning style and coping stress ability converted into five-point Likert Scales. The respondents are asked from 1 (strongly disagree) to 5 (strongly agree) for each statement in order to acquire information about the Felder-Silverman Learning style and Coping stress ability. The learning styles questionnaire is adapted from Felder and Silverman's Index of Learning and the coping stress ability questionnaire is self administered e.g. Statement like, (i) I am not moody and not easily irritated, (ii) I can identify and pursue alternative solutions when totally frustrated, (iii) I can handle my anxiety and depression by involving myself with other activities etc. In this research, SPSS 23 version is used to analyze the data using Cronbach Alpha, Pearson Correlation and Multiple regression analysis to get the inferences.

DATA ANALYSIS AND TEST OF HYPOTHESES:

A total number of 300 questionnaires were distributed for study but we received 234 respondents for the study. The demographic details of the respondents are as given below in the Table 1 and Table 2.

Table 1: Gender: Male and Female

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	MALE	150	64.1	64.1	64.1
	FEMALE	84	35.9	35.9	100.0
	Total	234	100.0	100.0	

Table 2: Departments and frequency of students

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Management	25	10.7	10.7	10.7
	Commerce	25	10.7	10.7	21.4
	Vocational Education	21	9.0	9.0	30.3
	Chemistry	27	11.5	11.5	41.9
	Education	19	8.1	8.1	50.0
	History	16	6.8	6.8	56.8
	Pharmacy	24	10.3	10.3	67.1
	Environmental Science	12	5.1	5.1	72.2
	Hindi	22	9.4	9.4	81.6
	Botany	5	2.1	2.1	83.8
	Economics	2	.9	.9	84.6
	Biotech	3	1.3	1.3	85.9
	Geography	2	.9	.9	86.8
	Zoology	9	3.8	3.8	90.6
	Yoga	3	1.3	1.3	91.9
	Sociology	3	1.3	1.3	93.2
	Political Science	3	1.3	1.3	94.4
	Computer Science	4	1.7	1.7	96.2
	Journalism	3	1.3	1.3	97.4
	Psychology	1	.4	.4	97.9
Statistics	1	.4	.4	98.3	
B. Voc	4	1.7	1.7	100.0	
	Total	234	100.0	100.0	

Reliability Test:

The values obtained for the Cronbach’s Alpha of Activist (8 items) is 0.780, Reflector (8 items) is 0.781, Sensing (8 items) is 0.778, Intuitive (8 items) is 0.722, Visual (8 items) is 0.721, Verbal (8 items) is 0.754, Sequential is .744, Global (8 items) is .746 and Coping Stress Ability (10 items) is 0.830. Therefore, all the variables met the threshold as suggested by Hair, Money, Samouel and Page (2007) and Nunnally (1983).

Pearson’s Correlation Analysis of the Variables:

Using SPSS 23 version, the variables were subjected to Pearson’s relationship test and we get the following results as shown from Table 3 to Table 10. Since, all the p-value obtained from the analysis are less than 0.05, we reject the null hypotheses. Therefore, there is a significant positive relationship between Felder-Silverman learning style (active, reflective, sensing, intuitive, visual, verbal, sequential and global) with stress coping ability.

Table 3: Correlations

		Activist	Coping Stress Ability
Activist	Pearson Correlation	1	.858**
	Sig. (2-tailed)		.000
	N	234	234
Coping Stress Ability	Pearson Correlation	.858**	1
	Sig. (2-tailed)	.000	
	N	234	234
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 4: Correlations

		Reflector	Coping Stress Ability
Reflector	Pearson Correlation	1	.806**
	Sig. (2-tailed)		.000
	N	234	234

		Reflector	Coping Stress Ability
Coping_Stress_Ability	Pearson Correlation	.806**	1
	Sig. (2-tailed)	.000	
	N	234	234
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 5: Correlations

		Sensing	Coping Stress Ability
Sensing	Pearson Correlation	1	.862**
	Sig. (2-tailed)		.000
	N	234	234
Coping_Stress_Ability	Pearson Correlation	.862**	1
	Sig. (2-tailed)	.000	
	N	234	234
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 6: Correlations

		Intuitive	Coping Stress Ability
Intuitive	Pearson Correlation	1	.843**
	Sig. (2-tailed)		.000
	N	234	234
Coping_Stress_Ability	Pearson Correlation	.843**	1
	Sig. (2-tailed)	.000	
	N	234	234
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 7: Correlations

		Visual	Coping Stress Ability
Visual	Pearson Correlation	1	.850**
	Sig. (2-tailed)		.000
	N	234	234
Coping_Stress_Ability	Pearson Correlation	.850**	1
	Sig. (2-tailed)	.000	
	N	234	234
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 8: Correlations

		Verbal	Coping Stress Ability
Verbal	Pearson Correlation	1	.856**
	Sig. (2-tailed)		.000
	N	234	234
Coping_Stress_Ability	Pearson Correlation	.856**	1
	Sig. (2-tailed)	.000	
	N	234	234
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 9: Correlations

		Sequential	Coping Stress Ability
Sequential	Pearson Correlation	1	.842**
	Sig. (2-tailed)		.000
	N	234	234

		Sequential	Coping Stress Ability
Coping Stress Ability	Pearson Correlation	.842**	1
	Sig. (2-tailed)	.000	
	N	234	234

** . Correlation is significant at the 0.01 level (2-tailed).

Table 10: Correlations

		Global	Coping Stress Ability
Global	Pearson Correlation	1	.872**
	Sig. (2-tailed)		.000
	N	234	234
Coping Stress Ability	Pearson Correlation	.872**	1
	Sig. (2-tailed)	.000	
	N	234	234

** . Correlation is significant at the 0.01 level (2-tailed).

Multiple Regression Analysis:

To find the effect of the Felder-Silverman learning style (active, reflective, sensing, intuitive, visual, verbal, sequential and global) on stress coping ability, the multiple regression analysis was used as shown in Table 11, 12 and 13. Since the obtained p-value is less than 0.05, we reject the null hypotheses. Therefore, there is effect of Felder-Silverman learning style (active, reflective, sensing, intuitive, visual, verbal, sequential and global) on stress coping ability. The visual learners have the greatest effect on the stress coping ability followed by activist learners.

Table 11: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.955 ^a	.912	.909	2.251

a. Predictors: (Constant), Global, Reflector, Sequential, Visual, Intuitive, Activist, Sensing, Verbal

Table 12: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11838.978	8	1479.872	292.102	.000 ^b
	Residual	1139.915	225	5.066		
	Total	12978.893	233			

a. Dependent Variable: Coping Stress Ability
b. Predictors: (Constant), Global, Reflector, Sequential, Visual, Intuitive, Activist, Sensing, Verbal

Table 13: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-4.614	.829		-5.566	.000		
	Activist	.232	.056	.180	4.172	.000	.209	4.777
	Reflector	.145	.047	.109	3.105	.002	.314	3.186
	Sensing	.179	.054	.138	3.297	.001	.221	4.519
	Intuitive	.150	.056	.110	2.659	.008	.227	4.397
	Visual	.282	.054	.203	5.193	.000	.255	3.915
	Verbal	.193	.057	.145	3.395	.001	.214	4.672
	Sequential	.112	.056	.083	1.998	.047	.224	4.458
	Global	.140	.063	.104	2.221	.027	.180	5.568

a. Dependent Variable: Coping Stress Ability

FINDINGS AND CONCLUSIONS:

Students are one of the most common victims of stress and everyone learns differently. It would be very helpful for students to become more aware of their own learning styles to lower the stress level and develop strategies for overcoming the various demands of life in general. The findings of the study suggested that there is a significant relationship and effects of Felder-Silverman learning style (active, reflective, sensing, intuitive, visual, verbal, sequential and global) on stress coping ability. The visual and activist learners have more effects on stress coping ability among students based on this study.

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