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Stressors and coping mechanism among university students

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Abstract

Background: Stress is a global public health challenge that affects all ages especially students, it is responsible for major psychological breakdown and considered to be a silent killer. This study aimed at investigating the factors influencing stress among students with emphasis on socio-demographic profile, stressors, the effects and coping mechanism.

Methods: Cross-sectional study design was utilized, with 230 subjects from different colleges at the Virgen Milagrosa University Foundation (VMUF), Pangasinan, Philippines; Data was retrieved using semi structured questionnaire and analyzed using the frequency distribution table, percentage, average mean, the weighted mean and the Pearson correlation coefficient (r).

Result: The result showed that most respondents were 17-19 years old (38.3%), males (63.0%), Roman Catholic (64.3%), in the Allied Health Sciences (53.0%), 2nd year level (39.6%) whose parents were married (88.3%), mostly working in the private section (mothers: 33.0%) and (fathers; 51.3%), earning more than Php10,000.00 (48.7%) per month. Students are moderately stressed by various stressors as evident by the symptoms though developed various coping strategies however, these stressors could be physical, cognitive, emotional, and behavioral in nature. A relationship exists between age, sex, program of study, parent's occupation and stressors, while the effects of stress is positively related to age, sex, religion, year level, marital status and parents occupation. Nevertheless there was a positive relationship with various coping mechanism.

Conclusion: In conclusions, stress is an inevitable aspect of life with various effects on students, it is important to develop policies to evaluate the impact among students to avoid its consequences.

Keywords: Factors; Stress; Coping Mechanism; Stressors

1. Introduction

Stress is a global public health challenge that happens to all man-kind, it is the sense of having little or no control over one's body response to events however; it helps you rise up to challenges [1]. A word coined in 1958 by Selye, and defined as the non-specific response of the body to any demand for change. Hence, the ability to manage stress becomes an important tool to humanity since the degree of stress cannot be measured by any medical tool [2]. The most dangerous aspect of stress is how easily it can creep in and yet one has no power over it, therefore the need for coping strategies. Major cause of stress among student has been reported to be academic workload, time management [3], interpersonal stressors ranked highest while environmental was the least [4], financial problems, relationship, family problems, and extracurricular activities were also recorded [5]. Certain theories have been able to explain stress

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significance to man such as General Adaptation Syndrome [2], Oriented Theory of Stress [6] and Adaptive Model Theory of Stress [7]. The effects are classically divided into four categories: cognitive symptoms, emotional symptoms, physical symptoms and behavioral symptoms [8]. Vivek et al., reported gender as one of the most important factors in the development of stress, and rated number one among healthcare students [8]. Stress was found to be more prevalent in pharmacy students rather than medical and dentistry students [9]. Sleepless nights was the most common effects of stress in both sex, however, in males body pains/fatigue was common while the females indicated that they become irritable/moody [10]. Considering the effect of stress especially among students hence, this study aimed at investigating the factors influencing stress among Virgen Milagrosa University Foundation students its effect and coping mechanism.

2. Methodology

A descriptive cross-sectional design, utilizing students aged 15-35 years was conducted at the Virgen Milagrosa University Foundation (VMUF) San Carlos City, Pangasinan, Philippines. 230 respondents were recruited using the Parel's formula [8], after excluding participants aged <15 or >35 and those who refuse to give consent to participate. A simple random sampling procedure was adopted across all the colleges. A semi-structure questionnaires adopted with few modification [8] was used for data collection.

The instruments used for the study were standardized instruments [8]. The validity was done with a score of 4.482 signifying it is highly valid. Likert scale was used to assess data as follows:

Table 1 Likert scale

Numerical Rating	Statistical Limit	Descriptive Rating	Descriptive Interpretation
4	3.5-4.0	Always	Extremely stressed
3	2.5-3.49	Often	Highly stressed
2	1.5-2.49	Sometimes	Moderately stressed
1	1.0-1.49	Seldom	Mildly stressed
0	0.1-0.99	Never	No stress

2.1. Statistical analyses

All statistical analyses were done with *Statistical Package for the Social Sciences for Windows (Version 25)*. Data were analyzed using cross tabulation, weighted mean, and Pearson correlation coefficient was used to assess the correlation of stressors, effect and coping mechanism with the demographic profiles and test the research hypotheses at 0.05 alpha level. A 95% confidence interval was used for this study and a P value of ≤ 0.05 was considered statistically significant.

Written informed consent was obtained from all of the participants. Confidentiality of the participant's identity as well as information was maintained at all times. To further maintain anonymity, no forms of identifiers were in the questionnaire, as code numbers were used.

3. Results

3.1. Demographic and lifestyle characteristics

About 38.3% of our study participants were aged 17-19 years old, mostly males (63.0%), in the Allied Health Sciences programs (53.0%), 2nd year level (39.6%), attending Roman Catholic (64.3%), with 88.3% of their parents been married, 33.0% of their mothers work in a private institutions while 51.3% of the fathers were also found to work in a private institutions, mostly earning more than Php 10,000.00 per month (48.7%).

Table 2 Demographic profile of respondents

AGE	Frequency	Percentage (%)	PARENT'S MARITAL STATUS	Frequency	Percentage (%)
17-19	88	38.3	Single	14	6.1
20-22	77	33.5	Married	203	88.3
23-25	44	19.1	Separated	7	3.0
26-28	15	6.5	Widow/Widower	6	2.6
29 and above	6	2.6	Total	230	100.0
Total	230	100.0			
			OCCUPATION (MOTHER)		
SEX			Government Employee	49	21.3
Male	145	63.0	Private Employee	76	33.0
Female	85	37.0	Self-employed	67	29.1
Total	230	100.0	None	38	16.5
RELIGION			Total	230	100.0
Roman Catholic	148	64.3	OCCUPATION (FATHER)		
Born Again Christian	38	16.5	Government Employee	63	27.4
Hinduism	9	3.9	Private Employee	118	51.3
Buddhism	12	5.2	Self-employed	26	11.3
Islam	4	1.7	None	23	10.0
Iglesia Ni Cristo	19	8.3	Total	230	100.0
Total	230	100.0	PARENT'S MONTHLY INCOME		
PROGRAM of study			less than P5,000	15	6.5
Allied Health Sciences	122	53.0	P5,000 - P10,000	103	44.8
Non-Allied Health Sciences	108	47.0	more than P10,000	112	48.7
Total	230	100.0	Total	230	100.0
YEAR LEVEL					
1st Year	45	19.6			
2nd Year	91	39.6			
3rd Year	71	30.9			
4th Year	23	10.0			
Total	230	100.0			

3.2. Causes of Stress

Generally, VMUF students were moderately stressed from physical (AWM=2.18), cognitive (AWM=2.54), emotional (AWM=2.43) and behavioral (AWM=2.38) stressors. Overall, the physical, cognitive, emotional, and behavioral stressors moderately (AWM=2.38) causes stress among VMUF students.

Table 3 Causes of stress (stressors) among VMUF students

CAUSES								
PHYSICAL								
	4	3	2	1	0	WM	DE	
Academic workload	138	74	9	5	4	3.47	O	
Finances	0	8	105	113	4	1.51	S	
Professors	81	105	32	6	6	3.08	O	
Classroom environment	0	23	144	63	0	1.83	S	
Place of residence	10	10	45	71	94	1.00	SE	
						2.18	S	
COGNITIVE								
Perceived expectations	103	82	43	2	0	3.24	O	
Unpreparedness	14	125	57	34	0	2.52	O	
Peer pressure	65	137	22	4	2	3.13	O	
Communication	14	10	65	88	53	1.32	SE	
Working memory	51	44	97	37	0	2.47	S	
						2.54	O	
EMOTIONAL								
Family issues	87	81	33	21	8	2.95	O	
Relationship issues	45	41	77	27	40	2.10	S	
Peer issues	45	126	40	15	4	2.84	O	
Relationship with school staff	43	40	83	23	41	2.09	S	
Sickness	64	31	65	24	46	2.19	S	
						2.43	S	
BEHAVIORAL								
Poor grades	88	89	17	14	22	2.90	O	
Faculty demands	110	53	66	1	0	3.18	O	
Humiliation	12	64	65	45	44	1.80	S	
Learning difficulties	83	24	101	8	14	2.67	O	
Discipline style	2	19	96	55	58	1.36	SE	
						2.38	S	
						AWM	2.38	S

Legend: 4 - Always (A) = 3.50-4.00; 3 - Often (O) = 2.50-3.49; 2 - Sometimes (S) = 1.50-2.49; 1 - Seldom (SE) = 1.00-1.49; 0 - Never (N) = 0.1-0.9; WA = Weighted Mean; AWM = Average Weighted Mean; DE = Descriptive Equivalence

3.3. Extent of Stress

Students are moderately stressed physically (AWM=2.47), emotionally (AWM=2.04), behaviorally (AWM=2.20), and highly stressed cognitively (AWM=2.74).

Table 4 Extent of Stress Experienced by VMUF Students

EFFECTS/SYMPTOMS							
PHYSICAL							
	4	3	2	1	0	WM	DE
Fatigue	53	89	46	28	14	2.60	O
Sleep problem	21	76	73	36	24	2.15	S
Lack of motivation	18	49	110	15	38	1.97	S
Boredom and Sickness	123	71	36	0	0	3.38	O
Fear of insecurity	39	65	75	12	39	2.23	S
						2.47	S
COGNITIVE							
Constant worrying	32	116	72	0	10	2.70	O
Poor judgment	80	52	60	8	30	2.63	O
Inability to concentrate	100	47	67	8	8	2.97	O
Anxious and racing thoughts	72	36	78	10	34	2.44	S
Day dreaming and forgetful	115	66	8	4	37	2.95	O
						2.74	O
EMOTIONAL							
Anger and moodiness	32	53	70	29	46	1.98	S
Frustration	0	57	101	4	8	1.64	S
Blaming others	48	57	85	30	10	2.45	S
Questioning authorities and refuse to follow instructions	36	54	79	18	43	2.10	S
Sense of loneliness and isolation	18	78	66	34	34	2.05	S
						2.04	S
BEHAVIORAL							
Overeating and tobacco use	59	89	62	2	18	2.73	O
Restlessness	43	40	51	59	37	1.97	S
Social withdrawal	62	103	18	33	14	2.72	O
Nervous habits (e.g. pacing , nail biting)	10	52	56	32	80	1.48	SE
Been aggressive	34	56	80	24	36	2.12	S
						2.20	S
						2.36	S

Legend: 4 - Always (A) = 3.50-4.00; 3 - Often (O) = 2.50-3.49; 2 - Sometimes (S) = 1.50-2.49; 1 - Seldom (SE) = 1.00-1.49; 0 - Never (N) = 0.1-0.9; WA = Weighted Mean; AWM = Average Weighted Mean; DE = Descriptive Equivalence

3.4. Coping Mechanism

Student Physically (AWM=2.27), cognitively (AWM=2.34), moderately cope with stress, while coping highly in terms of emotional (AWM=2.67) and behavioral (AWM=2.63) aspect of life.

Table 5 Coping Mechanisms

COPING MECHANISMS							
PHYSICAL							
	4	3	2	1	0	WM	DE
Relaxation	44	80	35	40	31	2.29	S
I get medical help	60	64	36	37	33	2.35	S
I ask a relative or friend i respect for advice	72	29	44	34	51	2.16	S
I try to keep my up a regular physical activity	26	61	67	39	37	2.00	S
I tame my mouth and listen more	47	104	26	37	16	2.56	O
						2.27	S
COGNITIVE							
I keep a sense of humor	76	37	66	25	26	2.49	S
I try to join a study group	70	37	80	10	33	2.44	S
I try to manage my time	77	50	56	13	34	2.53	O
I learn to improve my interpersonal and communication skills	56	40	61	25	48	2.13	S
I consult a psychiatrist/psychologist	64	36	43	40	47	2.13	S
						2.34	S
EMOTIONAL							
I do what I enjoy daily	64	60	46	46	14	2.50	O
Study motivational and inspirational books or videos	52	72	54	0	52	2.31	S
Build myself to love more and accept that man is not perfect	91	62	63	10	4	2.98	O
I try to analyze the problem in order to understand it better	76	79	33	32	10	2.78	O
I pray	72	71	65	12	10	2.80	O
						2.67	O
BEHAVIORAL							
I try to prioritize task and take things one day at a time	67	107	56	0	0	3.05	O
I socialize with friends and family	60	59	57	28	26	2.43	S
I ask for help and build my personality	82	68	46	28	6	2.83	O
I divert the time to surf the internet for knowledge	75	62	31	11	51	2.43	S
Always put up a cheering countenance	72	52	47	17	42	2.41	S
						2.63	O
						2.48	S

Legend: 4 - Always (A) = 3.50-4.00; 3 - Often (O) = 2.50-3.49; 2 - Sometimes (S) = 1.50-2.49; 1 - Seldom (SE) = 1.00-1.49; 0 - Never (N) = 0.1-0.9; WA = Weighted Mean; AWM = Average Weighted Mean; DE = Descriptive Equivalence

Regarding stressors, cognitively age and year level were significantly related with unpreparedness (p=0.036), Sex (p=0.048) and year level (p=0.017) with perceived expectations especially among males, as a cause of stress. Program

is positively correlated with the type of professors ($p=0.0013$) and negatively related to place of residence ($p=-0.044$) as a physical cause, peer issues (0.043) as an emotional cause. Parents' status is negatively correlated with relationship status ($p=-0.049$). Mother's occupation is positively correlated with finances ($p=0.014$), but negatively correlated with working memory ($p=-0.046$); poor grades ($p=-0.036$); and humiliation ($p=-0.021$).

Table 6 Relationship between Demographic Profile and stressors

CAUSES		AGE	SEX	RELIGION	PROGRAM	YEAR LEVEL	PARENTS' MARITAL STATUS	OCCUPATION (MOTHER)	OCCUPATION (FATHER)	PARENTS' MONTHLY INCOME
1	Pearson Correlation	0.037	0.082	-0.043	-0.035	0.128	-0.028	0.076	0.053	0.103
	Sig. (2-tailed)	0.579	0.214	0.515	0.601	0.053	0.672	0.250	0.424	0.118
2	Pearson Correlation	0.049	0.027	-0.215**	0.030	0.044	-0.125	0.162*	0.028	-0.028
	Sig. (2-tailed)	0.458	0.688	0.001	0.649	0.509	0.059	0.014	0.670	0.673
3	Pearson Correlation	-0.117	0.010	0.007	0.164*	-0.074	-0.048	-0.090	0.023	-0.078
	Sig. (2-tailed)	0.076	0.884	0.916	0.013	0.261	0.470	0.174	0.729	0.236
4	Pearson Correlation	0.048	-0.096	-0.042	-0.078	-0.070	-0.103	0.092	0.063	0.035
	Sig. (2-tailed)	0.469	0.149	0.526	0.242	0.290	0.120	0.166	0.339	0.600
5	Pearson Correlation	-0.105	0.055	0.024	-0.133*	-0.095	0.064	-0.058	-0.032	-0.029
	Sig. (2-tailed)	0.112	0.405	0.719	0.044	0.149	0.338	0.381	0.630	0.661
6	Pearson Correlation	0.049	0.130*	-0.067	0.041	0.158*	-0.028	-0.050	-0.007	0.003
	Sig. (2-tailed)	0.463	0.048	0.313	0.533	0.017	0.673	0.455	0.910	0.958
7	Pearson Correlation	0.139*	0.077	-0.063	0.055	0.182**	-0.128	0.050	0.032	0.016
	Sig. (2-tailed)	0.036	0.242	0.345	0.410	0.006	0.053	0.451	0.628	0.812
8	Pearson Correlation	-0.032	0.130*	0.121	0.090	0.033	0.074	-0.023	0.033	-0.022
	Sig. (2-tailed)	0.625	0.050	0.068	0.174	0.615	0.264	0.723	0.614	0.738
9	Pearson Correlation	-0.041	0.006	-0.027	0.035	0.118	-0.033	0.122	0.028	0.045
	Sig. (2-tailed)	0.539	0.934	0.679	0.599	0.075	0.614	0.065	0.671	0.493
10	Pearson Correlation	0.101	0.185**	0.087	-0.028	0.043	0.084	-0.132*	0.013	0.043
	Sig. (2-tailed)	0.128	0.005	0.191	0.678	0.520	0.203	0.046	0.841	0.521
11	Pearson Correlation	0.035	0.127	-0.112	0.124	0.083	-0.007	-0.020	0.007	0.020
	Sig. (2-tailed)	0.593	0.054	0.089	0.059	0.210	0.920	0.760	0.921	0.764
12	Pearson Correlation	0.002	-0.019	-0.103	-0.067	0.002	-0.130*	0.119	0.037	0.031
	Sig. (2-tailed)									

	Sig. (2-tailed)	0.978	0.769	0.120	0.309	0.979	0.049	0.073	0.575	0.635
13	Pearson Correlation	-0.079	-0.055	0.100	0.134*	0.003	-0.092	0.021	0.059	-0.028
	Sig. (2-tailed)	0.234	0.406	0.132	0.043	0.961	0.162	0.756	0.375	0.676
14	Pearson Correlation	0.060	-0.067	0.035	-0.045	-0.105	-0.026	0.035	0.057	0.039
	Sig. (2-tailed)	0.368	0.312	0.592	0.492	0.111	0.696	0.603	0.392	0.560
15	Pearson Correlation	0.061	0.100	-0.045	0.089	0.022	-0.020	-0.073	0.058	0.112
	Sig. (2-tailed)	0.354	0.132	0.500	0.180	0.743	0.765	0.267	0.378	0.091
16	Pearson Correlation	0.055	-0.004	0.005	0.020	-0.046	0.075	-0.138*	-0.056	0.044
	Sig. (2-tailed)	0.403	0.956	0.937	0.768	0.489	0.257	0.036	0.402	0.507
17	Pearson Correlation	0.084	0.119	0.036	0.003	-0.068	0.046	-0.096	0.013	0.035
	Sig. (2-tailed)	0.205	0.071	0.589	0.966	0.305	0.483	0.145	0.840	0.595
18	Pearson Correlation	0.063	0.050	0.054	-0.043	0.208**	0.074	-0.153*	0.049	0.072
	Sig. (2-tailed)	0.342	0.448	0.413	0.516	0.002	0.261	0.021	0.463	0.279
19	Pearson Correlation	0.101	0.016	-0.065	0.116	0.078	-0.087	0.004	0.075	0.061
	Sig. (2-tailed)	0.125	0.809	0.327	0.078	0.242	0.190	0.953	0.257	0.358
20	Pearson Correlation	0.071	-0.114	-0.050	-0.058	0.007	-0.079	-0.042	0.049	0.018
	Sig. (2-tailed)	0.281	0.085	0.446	0.380	0.921	0.235	0.522	0.457	0.790

Table 7 Relationship between Demographic Profile and Stress

	EFFECTS/ SYMPTOMS	AGE	SEX	RELIGION	PROGRAM	YEAR LEVEL	PARENTS' MARITAL STATUS	OCCUPATION (MOTHER)	OCCUPATION (FATHER)	PARENTS' MONTHLY INCOME
1	Pearson Correlation	0.112	0.060	-0.135*	0.112	0.095	-0.103	0.020	0.041	0.002
	Sig. (2-tailed)	0.089	0.364	0.040	0.090	0.150	0.118	0.766	0.536	0.972
2	Pearson Correlation	0.111	-0.053	-0.074	0.055	0.244**	-0.121	0.133*	-0.010	0.049
	Sig. (2-tailed)	0.094	0.424	0.267	0.408	0.000	0.067	0.044	0.877	0.462
3	Pearson Correlation	0.012	0.058	0.026	-0.017	0.204**	0.151*	-0.088	-0.065	-0.009
	Sig. (2-tailed)	0.860	0.380	0.694	0.798	0.002	0.022	0.185	0.328	0.888
4	Pearson Correlation	0.020	-0.075	0.177**	-0.116	-0.015	0.001	-0.097	0.037	-0.016
	Sig. (2-tailed)	0.765	0.258	0.007	0.079	0.826	0.983	0.141	0.576	0.807

5	Pearson Correlation	0.004	0.165*	0.080	-0.054	-0.082	0.137*	-0.186**	-0.035	0.076
	Sig. (2-tailed)	0.957	0.012	0.226	0.418	0.217	0.038	0.005	0.600	0.252
6	Pearson Correlation	0.045	-0.199**	-0.043	0.019	-0.045	-0.040	-0.052	0.055	0.045
	Sig. (2-tailed)	0.500	0.002	0.514	0.777	0.495	0.551	0.431	0.405	0.494
7	Pearson Correlation	0.030	0.039	0.006	0.087	0.221**	-0.126	0.014	-0.024	-0.004
	Sig. (2-tailed)	0.652	0.556	0.926	0.187	0.001	0.056	0.838	0.713	0.953
8	Pearson Correlation	-0.096	0.046	-0.054	0.139*	0.193**	-0.053	0.116	-0.048	-0.131*
	Sig. (2-tailed)	0.145	0.484	0.412	0.035	0.003	0.423	0.080	0.464	0.047
9	Pearson Correlation	-0.033	0.115	0.056	0.039	0.004	0.064	-0.166*	-0.061	-0.031
	Sig. (2-tailed)	0.615	0.083	0.396	0.555	0.954	0.337	0.012	0.354	0.635
10	Pearson Correlation	-0.076	0.110	0.015	0.113	-0.109	0.119	-0.125	0.005	-0.049
	Sig. (2-tailed)	0.253	0.097	0.821	0.086	0.099	0.072	0.059	0.939	0.456
11	Pearson Correlation	0.145*	-0.024	0.027	0.079	0.049	0.016	-0.051	-0.029	-0.045
	Sig. (2-tailed)	0.028	0.715	0.682	0.232	0.459	0.813	0.441	0.657	0.496
12	Pearson Correlation	-0.203**	0.036	0.170**	0.082	-0.108	0.085	-0.062	-0.025	-0.073
	Sig. (2-tailed)	0.002	0.585	0.010	0.218	0.102	0.198	0.348	0.701	0.269
13	Pearson Correlation	-0.018	0.190**	0.057	0.005	-0.077	0.043	-0.152*	0.027	-0.009
	Sig. (2-tailed)	0.780	0.004	0.386	0.939	0.247	0.516	0.021	0.685	0.887
14	Pearson Correlation	0.015	-0.077	0.054	-0.016	-0.015	0.095	-0.087	-0.071	0.004
	Sig. (2-tailed)	0.821	0.242	0.417	0.813	0.827	0.150	0.187	0.281	0.952
15	Pearson Correlation	0.021	-0.118	0.083	0.040	-0.057	-0.077	0.019	0.094	0.120
	Sig. (2-tailed)	0.755	0.074	0.211	0.549	0.394	0.243	0.777	0.156	0.069
16	Pearson Correlation	0.054	0.095	0.031	-0.051	0.107	-0.087	-0.084	-0.025	0.076
	Sig. (2-tailed)	0.414	0.150	0.643	0.445	0.106	0.188	0.205	0.704	0.250
17	Pearson Correlation	-0.127	0.084	0.091	0.002	-0.093	0.162*	-0.107	-0.054	-0.027
	Sig. (2-tailed)	0.054	0.204	0.171	0.978	0.162	0.014	0.106	0.419	0.688
18	Pearson Correlation	0.082	0.097	0.040	0.052	-0.029	0.028	-0.114	0.027	0.024
	Sig. (2-tailed)	0.213	0.144	0.550	0.432	0.666	0.670	0.085	0.683	0.717

19	Pearson Correlation	0.030	0.072	0.035	-0.092	-0.156*	0.081	-0.142*	-0.013	-0.019
	Sig. (2-tailed)	0.654	0.274	0.597	0.163	0.018	0.221	0.032	0.849	0.778
20	Pearson Correlation	0.052	0.012	0.078	-0.064	-0.046	0.098	-0.040	0.011	0.024
	Sig. (2-tailed)	0.429	0.857	0.239	0.334	0.490	0.139	0.546	0.863	0.718

Regarding stress, age is positively correlated with anger and moodiness (p=0.028) but negatively correlated with frustration (p=-0.002). Sex is positively related with fear of insecurity (p=0.012); and blaming others (p=0.004) but negatively correlated with constant worrying (p=-0.002). Religion is positively correlated with boredom, sickness (p=0.007); and frustration (p=0.010) but negatively correlated with fatigue (p=-0.040). Year level is positively correlated with sleep problem (p=0.000); poor judgment (p=0.001) and inability to concentrate (p=0.003) whereas, it negatively correlated with lack of motivation (p=-0.002); and social withdrawal (p=-0.018). Parents’ marital status is positively correlated with lack of motivation (p=0.022); fear of insecurity (0.038); and restlessness (p=0.014). Occupation of mothers is positively correlated with sleep problem (p=0.044), but negatively correlated with fear of insecurity (p=-0.044); blaming others (p=-0.021); and nervous habits (e.g. pacing, nail biting) (p=-0.032). Finally, parent’s monthly income is negatively correlated inability to concentrate (p=-0.047).

3.5. Correlation between Demographic Profile and Coping Mechanism

Age is positively correlated with relaxation (p=0.021). Sex is negatively correlated with the ability to learn to improve their interpersonal and communication skills (p=-0.000); and consult a psychiatrist/psychologist (p=-0.003). Likewise it negatively correlated with studying motivational and inspirational books or videos (-0.006), and socializing with friends and family (p=-0.007).

Religion is positively correlated with prioritizing task and take things one day at a time (p=0.038) but negatively correlated with keeping a sense of humor (p=-0.038). Program is positively correlated with building one’s self to love more and accept that man is not perfect (p=0.000), and praying (p=0.008). Year level is negatively correlated with study group (p=-0.021); and prioritizing task and taking things one day at a time (p=-0.000); as well as diverting the time to surf the internet for knowledge (p=-0.021).

Parents’ marital status is positively correlated with medical help (p=0.030), and trying to keep up a regular physical activity (p=0.004). Likewise it is positively correlated with study group (p=0.021). Furthermore, it is positively correlated with prioritize task and taking things one day at a time (p=0.009), and diverting the time to surf the internet for knowledge (p=0.008). As to the occupation of mothers, it is negatively correlated with relaxation (p=-0.009) and trying to keep up a regular physical activity (-0.033). Parent’s monthly income is negatively correlated with building ones-selves to love more and accepting that man is not perfect (p=-0.037).

Table 8 Relationship between Demographic Profile and Extent of Coping Mechanisms

EFFECTS/ SYMPTOMS	AGE	SEX	RELI GION	PROGRAM	YEAR LEVEL	PARENTS’ MARITAL STATUS	OCCUPATION (MOTHER)	OCCUPATION (FATHER)	PARENTS’ MONTHLY INCOME	
1	Pearson Correlation	0.152*	0.025	0.060	-0.040	-0.083	0.027	-0.171**	0.028	0.076
	Sig. (2-tailed)	0.021	0.710	0.369	0.551	0.209	0.689	0.009	0.678	0.250
2	Pearson Correlation	0.065	0.007	0.032	-0.019	-0.123	0.143*	-0.094	0.028	0.091
	Sig. (2-tailed)	0.324	0.917	0.634	0.774	0.062	0.030	0.154	0.677	0.168
3	Pearson Correlation	0.121	0.054	-0.056	-0.013	-0.036	-0.056	-0.014	0.065	0.020
	Sig. (2-tailed)	0.068	0.412	0.396	0.840	0.584	0.397	0.828	0.324	0.760

4	Pearson Correlation	-0.024	0.051	0.105	-0.077	-0.106	0.191**	-0.141*	-0.016	-0.040
	Sig. (2-tailed)	0.720	0.442	0.111	0.242	0.110	0.004	0.033	0.811	0.544
5	Pearson Correlation	0.167*	0.086	-0.105	0.033	0.064	-0.023	-0.040	0.050	-0.008
	Sig. (2-tailed)	0.011	0.192	0.112	0.622	0.334	0.724	0.551	0.454	0.899
6	Pearson Correlation	-0.053	0.044	-0.137*	0.055	-0.036	0.026	-0.019	-0.060	0.004
	Sig. (2-tailed)	0.424	0.504	0.038	0.411	0.584	0.694	0.778	0.367	0.951
7	Pearson Correlation	-0.037	-0.069	0.071	0.023	-0.154*	0.152*	-0.072	-0.066	-0.104
	Sig. (2-tailed)	0.579	0.296	0.281	0.726	0.020	0.021	0.275	0.322	0.117
8	Pearson Correlation	-0.040	0.095	-0.036	0.052	-0.089	-0.019	-0.117	0.036	0.021
	Sig. (2-tailed)	0.547	0.153	0.588	0.434	0.178	0.774	0.076	0.586	0.749
9	Pearson Correlation	-0.072	-0.241**	0.092	0.021	-0.043	-0.025	-0.008	0.030	-0.089
	Sig. (2-tailed)	0.279	0.000	0.165	0.753	0.519	0.705	0.903	0.651	0.178
10	Pearson Correlation	0.007	-0.193**	-0.005	-0.059	0.070	-0.103	0.011	-0.023	-0.065
	Sig. (2-tailed)	0.916	0.003	0.944	0.376	0.292	0.120	0.870	0.723	0.328
11	Pearson Correlation	0.101	0.021	-0.087	0.094	0.109	-0.098	-0.037	0.084	0.090
	Sig. (2-tailed)	0.128	0.756	0.187	0.157	0.098	0.139	0.579	0.203	0.173
12	Pearson Correlation	0.135*	0.180**	0.124	-0.023	0.022	0.072	-0.185**	-0.006	0.078
	Sig. (2-tailed)	0.040	0.006	0.060	0.725	0.740	0.276	0.005	0.925	0.238
13	Pearson Correlation	-0.033	0.094	-0.064	0.173**	-0.038	-0.009	-0.010	-0.024	-0.137*
	Sig. (2-tailed)	0.615	0.154	0.336	0.008	0.571	0.892	0.877	0.720	0.037
14	Pearson Correlation	0.014	-0.101	-0.002	0.029	-0.046	0.009	-0.012	0.067	0.027
	Sig. (2-tailed)	0.833	0.126	0.971	0.658	0.491	0.888	0.860	0.312	0.680
15	Pearson Correlation	-0.032	0.045	-0.059	0.268**	0.093	-0.091	-0.072	0.022	-0.100
	Sig. (2-tailed)	0.629	0.497	0.370	0.000	0.158	0.167	0.276	0.739	0.129
16	Pearson Correlation	0.016	-0.025	0.137*	-0.097	-0.242**	0.172**	-0.128	0.024	0.023
	Sig. (2-tailed)	0.807	0.701	0.038	0.141	0.000	0.009	0.052	0.717	0.729
17	Pearson Correlation	0.156*	0.176**	0.060	0.044	0.116	0.037	-0.129	0.012	0.062
	Sig. (2-tailed)	0.018	0.007	0.363	0.510	0.080	0.580	0.051	0.859	0.353

18	Pearson Correlation	0.063	0.033	0.004	0.053	-0.035	-0.019	-0.165*	0.055	0.095
	Sig. (2-tailed)	0.344	0.623	0.953	0.421	0.597	0.773	0.012	0.408	0.149
19	Pearson Correlation	0.103	0.079	0.103	-0.043	-0.152*	0.173**	-0.173**	0.013	0.080
	Sig. (2-tailed)	0.120	0.231	0.118	0.518	0.021	0.008	0.009	0.841	0.224
20	Pearson Correlation	0.149*	-0.032	-0.111	0.056	0.097	-0.082	-0.002	-0.036	0.009
	Sig. (2-tailed)	0.024	0.633	0.094	0.395	0.140	0.217	0.970	0.585	0.887

4. Discussions

The current cross-sectional study was conducted to find out the factors influencing stress among VMUF students, to determine the various stressors, effects, coping mechanism and the relationship between the demographic profiles, stressors, effects, coping mechanism. The age range observed in this study was in line with previous studies^{4, 10, 11}, were age bracket of college students were reported as ages 16-18, though there was slight variations with previous studies¹². This could be due to racial or ethnic differences or cultural variations regarding when students get admitted into colleges. The present study disagree with previous studies with respect to the fact that they reported more females^{4, 10, 12}. Similarly differs as regards year level with previous study documenting more prevalence among first year students¹², also it contradicts previous studies in terms of religion wherein Hinduism was report as the common religion¹² though similar finding with socioeconomic status¹². This difference could be due to racial disparity and the fact that students are exposed to many problems such as family, financial and relationship issues leading to stress⁴.

The study revealed that the most common physical stressors among Virgen Milagrosa university students were academic workload, the type of professors, classroom environment and finances, while perceived expectations, peer pressure, unpreparedness, working memory and communication forms majority of cognitive stressors. Though together with family issues and sickness, peer issues also constitute major emotional stressors experienced by students, while the various faculty demands, poor grades, learning difficulties, humiliation and discipline style constitute behavioral stressors. Generally, it was revealed that stressors among Virgen Milagrosa university students could range from physical, cognitive, emotional, to behavioral in nature. This findings were in line with previous studies who reported worries and academic load, finance, relationship issues, family pressures grades and difficulty in concentrating as major factors leading to stress^{4, 5, 8-10, 15, 16}. Also Al-Dubai *et al.*¹⁷ from Malaysia and Hamill¹⁸ from Ireland, reported worry and financial difficulties as major stressors. This is possible due to the fact that emotional and behavioral stressor are vital causes of stress, hence considered as interpersonal stressors among college students⁴.

The current study revealed that students are moderately stressed physically, emotionally, behaviorally, and highly stressed cognitively. The most common physical effects were boredom, sickness, fatigue, fear of insecurity, sleep problem, lack of motivation, while inability to concentrate, day dreaming, forgetfulness, constant worrying, and poor judgment were the cognitive effects. Moreover, emotionally, they blaming others, questioning authorities, refuse to follow instructions, and behaviorally, overeating, tobacco use, social withdrawal are the common effects experienced. This is similar to the reports of previous studies^{4, 5, 8-10}. Hence, VMUF students were shown to be moderately stress. Similarly, Nebhinani *et al.*¹¹ reported that 82.4% of their population were moderately stressed, while Sarkar *et al.*¹² reported moderate stress in 67.2% of their population, similarly, Singh *et al.*¹³ reported 76.9%, this was however, contrary to the reports of Bag¹⁴ who reported mild stress as the most common 73.14%. This differences could be due to variations in sample size, difference in categorization of the stress based on score obtained and study locations. Students may experience stress at a healthy level, which keeps them focused and motivated, however, stress level may become unhealthy if students start experiencing physical, mental, behavioral or emotional problems^{4, 9}.

It was also revealed that students tame their mouths, get medical help, seek advice, do regular physical exercise as physical coping skills, while trying time management, maintaining high sense of humor, participating in study groups as well as improve communication skills were part of the cognitive ways of coping with stress. They also build themselves to love more, pray and do what they enjoy more as emotional way of adapting and finally behaviorally, they prioritizing task, learn to ask for help, socialize with friends, music and surf the internet to cope with their daily stress. This findings are in line with previous studies that documented music¹⁰, prioritizing task, and learning to ask for help,¹¹

This is contrary to the reports of previous studies who documented use of unhealthy coping strategies such as avoidance, blaming, optimism, and leisure activities as main coping strategies¹⁹⁻²².

The study revealed that age, year level, sex with male dominance, Program of study, place of residence, Parents' marital status and Mother's occupation were positively related with various stressor, similar to previously document studies²⁴. Similarly, association exist between level of stress and demographic variables such as age, year level, sex with male dominance, Program of study, place of residence, Parents' marital status and occupation similar to the findings of Bag¹⁴ and Shakar¹², this was also noted with coping mechanism similar to Dasgupta et al.²³ who reported a positive correlation between total stress score and each strategy of adaptive and maladaptive coping strategies. Though several factors were employed as coping strategies such as effective communications, consulting psychologist, maintaining a good sense of humor, prayers and building themselves to love more as well as taking time to adequately relax, attitude such as self-blame, denial and negative thinking was never an option in managing stress. This corroborated the study of Nebhinani et al.¹¹. hence, Stressor, effects of stress and use of coping strategies are highly dependent on and associated with multiple demographic factors among others.

5. Conclusions

Stress is part of human existence and hence not possible to promise a stress-free life, nonetheless, there are possibilities to alleviate the effect and cope with stress as a positive relationship exists with individual personality as regards demographics, stressors, extent of stress and coping mechanism. Hence this study provided insight to the various stressors, effects and coping mechanism.

The study was limited in the possibility of recall bias and possible conscious denial of respondents to certain questions as well as not having matching by sex and age.

Similar or parallel studies should be conducted to explore other variables and authorities as well as government agencies should adopt stress management protocols especially in schools to reduce the effect of the world most silent yet greatest killer called stress.

Compliance with ethical standards

Disclosure of conflict of interest

There is no competing interest.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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