

## **Stress, Coping Strategies, and Academic Performance of Maritime Students**

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### **Abstract**

Stress has become an essential subject matter in research studies in academic circle as well as in our society. This study aimed to investigate the stress level, coping strategies, and the academic performance of the maritime students in Misamis University. The modified Student Stress Survey (SSS) was the research instrument used to gather data from 120 randomly selected maritime students. Findings revealed that the top ranked stressors of the students were academic stress which includes their classes/academic load, grades, and test/examination. Most of the students used a combination of coping strategies. Nevertheless, on the overall, the students have moderate level of stress and that none of the stress factors significantly affect their academic performance. The findings may provide insights to academic planners on how to provide a quality academic service to the students during their stay in Misamis University to ensure that their well-being is also taken into account.

**Keywords:** coping strategies, grades, hostile, stressors, workload.

## Introduction

Researchers have defined stress as the insight of strangeness between environmental stressors (burden) and person's ability to accomplish these demands (Vermunt & Steensma, 2005; Topper, 2007). Stress is also viewed as the body's reaction, both physiologically and neurologically, to become accustomed to a new condition (Elias et al., 2011). Stress arises when individuals perceive that they cannot possibly cope with the demand being made on them. Stressors have a major influence upon mood, sense of well-being, behavior, and health of an individual (Schneiderman et al., 2005).

College life is a new and exciting time, but it can be overwhelming. Many of the learning and growing opportunities existing in a college environment may lead to unhealthy levels of stress which could hamper students' abilities to socialize and attain their academic goals. Recognizing the sources of stress is important in preventing it from becoming unmanageable or unbearable (Callahan, 2015). Although an optimal level of stress can augment learning capacity (Kaplan & Sadock, 2000), too much stress can cause physical and mental health problems (Liao et al., 2006), reduce self-worth (Bressler & Bressler, 2007), and may influence the academic success of students (Robbins et al., 2006; Hofer, 2007).

In an educational organization where the academic loads are time bound, student is prone to experience stress (Smith et al., 2000). Stress has a huge effect on students' mental capabilities, emotional aspects, physical strength, as well as their way of living. In recent years, many students in a university have experienced massive stress due to their academic performance, conflicting time schedules, and financial problems which is the most common (Deb et al., 2015; Beiter et al., 2015; Vinichenko et al., 2016). Stress can inhibit and suppress learning. When a student experiences high level of stress or unceasing stress, one's ability to learn is interfered that may inhibit the student to obtain good grades, and may lead to poor mental, emotional, and physical health (Gustafson, 2015).

Furthermore, majority of the students nowadays suffer from stress that could lead them isolated in their own environment and could lessen their self-esteem (Bressler & Bressler, 2007) affecting academic performance (Choi et al., 2006). Maritime students are not free from this stress. In the Philippines, the study conducted by Amorte et al. (2013) on the factors contributing to stress among second year marine engineering students revealed that majority of the respondents agreed that the factors contributing to stress are projects and requirement of the subjects, problems with instructors, payment of tuition fees, issuance of permits during examination days, and understanding/comprehension of the subjects.

In Misamis University, Ozamiz City, there is a considerable number of students in the College of Maritime Education. Maritime students are being trained under a semi-military discipline, even in this highly evolved era where technology is at its peak. Such type of discipline is still being practiced which in some other way may create stress to the students. Nonetheless, there was no study conducted yet on the stress level and coping mechanisms of the maritime students, and the relationship between stress and their academic performance. Hence, the need to embark on this study is anchored on this premise. This study aimed to determine the sources of stress and responses of students, coping strategies, and academic performance of maritime students in Misamis University. This paper also examined if stress has relationship to the academic performance of students. The findings may provide insights to academic planners on how to provide quality academic service to the students during their stay in the University to ensure that their well-being is also taken into account. The results may also serve as reference for policy making and interventions.

## **Materials and Methods**

### ***Locale***

The study was conducted in Misamis University, a private nonsectarian tertiary school in Ozamiz City. The University has been offering maritime education for over a decade.

### ***Participants***

The approval to conduct the study was obtained from the dean of the college of maritime education. Informed consent was also secured from each of the target respondent of the study after explaining the purpose of the study, the confidentiality of one's responses, anonymity of one's identification, and the voluntary participation in the study. All target participants gave the informed consent. A total of 120 randomly selected male maritime students from first year to third year (40 per year level) were the participants of the study.

### ***Survey instrument***

The descriptive research design was adopted in this study with survey using questionnaire and interview as the method. The survey instrument used was the student stress survey questionnaire retrieved online. The instrument had undergone some modifications before distributing it first to ten respondents for external validation and subjecting it to Cronbachs' alpha test for internal validity. The test revealed an internal consistency of 0.842 suggesting that the questionnaire was valid. Stress was defined in the questionnaire as the body's reaction to a challenge. The parameters of the questionnaire were decided upon with the goal to identify the sources of stress encountered by the students, their coping mechanisms, and the effect of stress to their academic performance if unresolved. The questionnaire has three sections: students' profile (section A), sources of stress (section B), and responses to stress which include students coping strategies in dealing with stress (section C). In section A, the respondents were asked to furnish demographic information such as age, gender, year-level, number of units enrolled, and accommodation (boarding or non-boarding). In section B, 14 sources of stress were listed down in the questionnaire for the respondents to select. These items are rated on a five-point Likert-type scale (5= most of the time, 4= often, 3= occasionally, 2= seldom and 1= never). The range of the scores of the student-life stress scale is 1 to 5 corresponding to the Likert scale. The average score per subscale and the overall mean were determined to find the level of academic stress of the students. In section B, the students were asked to tick the most appropriate strategies used by them to counter stress.

For the data on the academic performance of students, the general point average (GPA) was obtained by the researchers. Many institutions in the Philippines adopted the GPA as a measure of academic performance. The reason of acquiring their GPAs is to recognize whether the stress they experienced has an impact on their academic performance. Misamis University academic performance is based on a five-point scale as excellent (1.50-1.00), very good (2.00-1.75), good (2.50-2.25), poor (3.00-2.75) and very poor (below 3.00).

Interview was carried out to reinforce the information. Twenty students volunteered for the in-depth structured interview. The interview incorporated questions to explore factors causing stress to the students and how students thought they would respond to stress. The account of the students during the interview may support or confirm the quantitative data that are shown in this study. Also, the researchers also aimed to explore the new possible sources of stress.

### ***Data analysis***

Statistical Package for Social Sciences (SPSS) version 2.0 was used for analysis. Chi-square test of independence is utilized to determine whether students' GPAs depend upon the presence of stress factors.

## **Results and Discussion**

### ***Sources of stress***

Recently stress has appeared as an emerging issue among the college students. Table 1 shows the sources of stress of the maritime students in Misamis University. In this study, the top ranked stressor of the students was academic stress such as the classes or academic load, grades, test, and problems with instructors. This result is congruent with the past research which found that academic stress was on top of the college students' stressors list (Ong & Cheong, 2009; Elias et al., 2011). This finding agreed also with other studies showing that school examinations, workload, homework and grade competition were the major stressors (Britz & Pappas, 2010; Nakalema & Ssenyonga, 2013; Siraj et al., 2014). Sitting for examinations was also found to be the source of stress for students (Fan & Wang, 2001; Li & Lin, 2003), thus,

the stress level may possibly double up when there are two examinations in a day.

Moreover, Zeidner (1992) reported that students experienced most stress from academic overload and academic assessment procedures. This situation might be due to lack of time management. Thus, students were not able to organize their work and priorities. Research indicates that a person with good time management would report fewer psychological and physical symptoms of stress (Macan et al., 1990; Misra et al., 2000). Students have a tendency to delay completion of coursework and preparation of exams until the very last moment (Brinthaupt & Shin, 2001). Poor time management like last-ditch cramming for examinations is observed to lead to distress and poor academic performance (Blumner & Richards, 1997). However, the findings of this present study disagreed with previous findings of Ross et al. (1999) and Nakalema and Ssenyonga (2013) that the most stressful among university students is the daily academic hassles.

**Table 1. Respondents’ sources of stress.**

<b>Sources of stress</b>	<b>Weighted mean</b>	<b>Ranking</b>
Classes/Academic load	3.09	1
Grades	3.08	2
Test/Exams	2.91	3
Problems dealing with the instructors	2.87	4
Living away from home	2.78	5
Money	2.77	6
Not enough time	2.68	7
Family	2.57	8
Problems with boyfriend/girlfriend	2.56	9
Friends	2.53	10
Not being happy	2.49	11
Job	2.46	12
Roommate	2.42	13
Health condition	2.27	14
<b>General weighted mean</b>	<b>2.68</b>	

In this study, problems dealing with the instructors ranked 4<sup>th</sup> in the list. Maritime students are being trained under a semi-military discipline which may contribute to their stress. The same was supported

by Amorte et al. (2013) in their study. Instructors are important components of the support system of students (Pazandeh et al., 2007). They can help students build accountability, acquire skills, communicate effectively, and reduce their fear and anxiety by providing them the appropriate corrective feedback and active presence (Alavi & Abedi, 2008). However, instructors' inapt reactions to students' errors and unfair assessment contribute to student disappointment, lack of motivation, and stress (Salehian & Armat, 2009). However, when students perceive their teachers as partners in the educational process, they are more likely to take on new and difficult tasks.

The findings also revealed that living away from home ranked 5<sup>th</sup>. Perhaps, for many undergraduate students, university life is a major transition in their lives since they are accorded the chance to make a decision on what to do without the undue influence of their parents (Nakalema & Ssenyonga, 2013). However, amidst the newly found liberty, students have to struggle to meet the expectations of their parents which include expectations related to their academic performance (Renk & Smith, 2007). The transitional nature of college life that requires adjustment to the new environment amidst new responsibilities and challenges create stress. The adaptation to a new environment brings stress (Wintre & Yaffe, 2000) like changes in housing situation. During this adjustment period, the students have to conform to particular campus values, culture and traditions, and at the same time adjust to the new way of instruction and pursue academic interests, which often can be very stressful as reported by Zeidner (1992) and Krause et al. (2005).

Unexpectedly, personal problems such as health conditions, roommate, and relationship problems were found to be the least stressful factor for the students. This finding concurs with that of Zeidner (1992) whose findings revealed that the least salient stressors among university students were familial, personal, social, and administrative factors. Another surprising result was that working to earn money was less stressful to the students. The reasons for this might be the desire of the students to cope with financial necessity and to prepare themselves for future employability. For them, it is a matter of time management.

Nevertheless, in general, the findings revealed that maritime students in Misamis University did experience stress but at a moderate

level with the general weighted mean of 2.68. Their gender (all males) may have greatly affected on how they cope up with the stressors. Male students are trained to show strength and machismo in the face of challenges right from their young age (Misra et al., 2000). More specifically, male students use more active coping for their stress, positive reframing, planning, and accepting the stressor while female students apply more emotion-focused strategies like venting, self-blame, and behavioral disengagement (Devonport & Lane, 2006). The selection of coping mechanisms is accounted for by the difference in the sex role stereotypes and gender role expectations where females are taught to focus on emotions and seek social support whereas males are taught to take outward action in dealing with the stressful situation (Bang, 2009). In the findings of the study conducted by Siraj et al. (2014) on the stress and its association with the academic performance of medical students in Kebangsaan Malaysia, majority of the respondents that were found stressful were female (72%) and only 28% were male. In contrast, stress shows beneficial effects in females when compared to males in the study of Kumar et al. (2014).

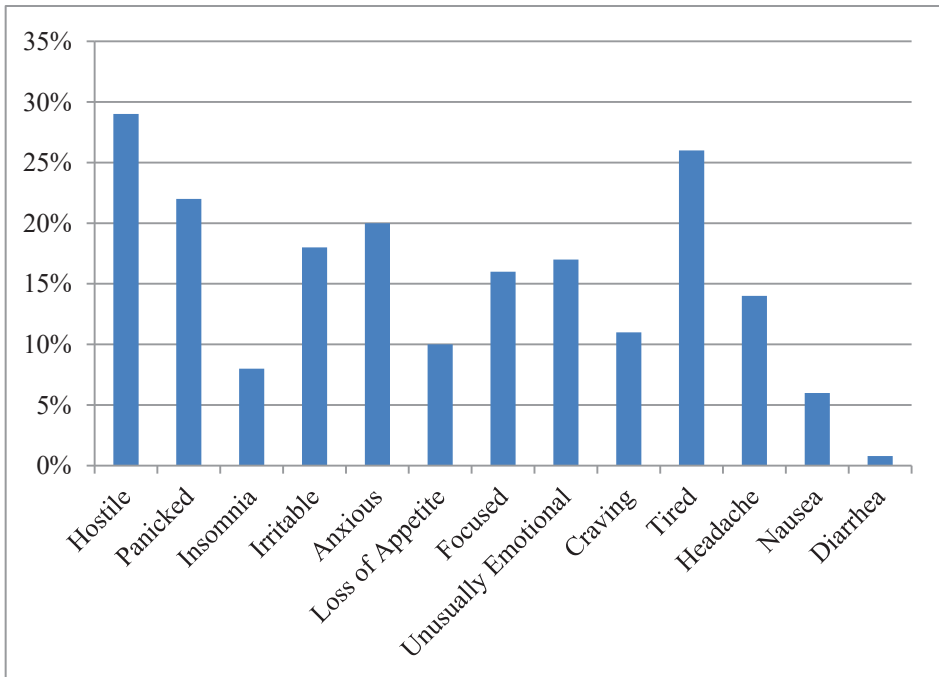
### ***Respondents' responses to stress***

The person's ability to face everyday challenges will determine if he/she is being stressed. Figure 1 reflects on how the maritime students responded to their present level of stress. The highest percentage was being hostile which shows that when a student encountered stress, they tend to become unfriendly/antagonistic towards each other, maybe because they wanted to isolate themselves and to figure out how they could cope up with their stress. A considerable percentage of the respondents also felt tired after having a stress. This is a normal response of a human being to a certain stimulus. Stress is simply a reaction to a stimulus that disturbs the physical or mental health (Goyal et al., 2013). Without good stress management, often the body is always on high alert. In due course, high levels of stress lead to serious health problems. Stress management is all about taking charge of your thoughts, lifestyle, emotions, and the way you deal with problems.

Some marine students in this study responded to stress by becoming tired, panicked, anxious, irritable, and unusually emotional.

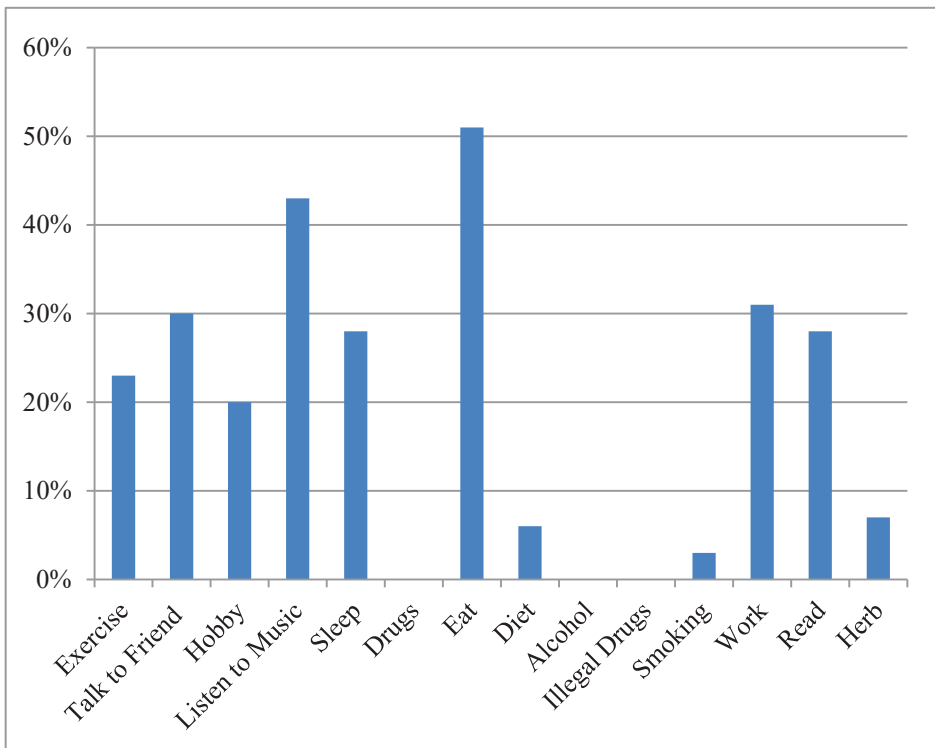


A considerable number of students also experienced headache, craving or loss of appetite, insomnia, and nausea. Few had diarrhea as their response to stress. However, the interview with some students revealed that most of them were comfortable in their present level of stress. In fact, there were students who became focused when under stress in this study. They consider academic stress as a eustress and their partners in life. According to McGonigal (2016), stress is fundamental to growth and development. Knowlton (2015) reported that stress is a motivating force, a cognitive enhancer, and physically enhancing. If an individual is stressed, one may go about trying to rectify the problem, prepare, plan or fix the situation. Stress is shown to help increase memory and recall as a result of slightly higher level of cortisone released by the adrenal gland in response to stress (Fancourt et al., 2015). Stress can also increase physical performance and endurance because of the release of adrenaline which speeds up the heart rate and metabolism (Oken et al., 2015).



**Figure 1. Students' responses to stress in percentage.**

The various coping strategies used by students when experiencing stress is shown in Figure 2. This finding is similar to the results of other studies which showed how students utilize a number of strategies to cope with stress (Elias et al., 2011; Sohail, 2013; Siraj et al., 2014). More than half (51%) of the respondents relied on eating as their outlet to relieve from any stressor as Gower et al. also showed in their study. Aside from eating, nearly half of the respondents listened to music as their coping style.



**Figure 2. Respondents' coping strategies in percentage.**

The students were found engaging in work and talking with friends, family, and relatives as their coping strategies. This response can be classified as a problem-solving coping strategy when discussing with friends or an emotion-focused coping strategy which often takes an

ugly form of escaping from real problems. The problem-solving strategy leads to attainment of higher level of academic achievement and success as noted by Gaudreau and Miranda (2010). Other forms of coping mechanisms used by students include sleeping, reading, exercising, hobby/sports, taking herb, and dieting. Similar results were reported by Shaikh et al. (2004). In the present study, smoking to relieve stress was noted among few respondents. This is in agreement with the study carried out by Sohail (2013). Moreover, the finding revealed that nobody resorted to alcohol intake and use of illegal drugs to counter stress which was validated by data from interviews. It cannot be quoted with confidence whether this is the actual situation or an under or over stated fact. However, this information needs to be further looked into. It is known that stress can lead to depression and propensity to alcohol intake and students screened positive for depression were found at risk of alcohol intake (Dyrbye et al., 2009).

### ***Relationships between stress level and academic performance of maritime students***

The Chi-square test results are presented in Table 2. The findings indicated that at p-value of 0.05, the students' GPAs in every year-level are not significantly dependent on the number of occurrences of stress factors all throughout the semester. It can be deduced that not any of the stress factors encountered by students significantly affect their performance. This finding has some similarities with the study of Sanders and Lushington (2002) that stress has negative impact on academic performance, but it was poorly related. Rafidah et al. (2009) also found that students of moderate degree stress performed to have satisfactory GPAs. Elias et al. (2011) also noted that there was a significant, but weak and negative relationship between stress and academic achievement. The present study found that the ability to manage stress is important. If students can handle their stress, then their stress level will not matter (Ellis, 2015). The important thing is to learn how to manage stress.

**Table 2. Relationship between stress and academic performance in every year-level.**

<b>Year-level</b>	<b>Chi-square P Value</b>
1 <sup>st</sup> Year	0.999912
2 <sup>nd</sup> Year	0.775949
3 <sup>rd</sup> Year	0.631054

## **Conclusion and Recommendations**

The main stressors identified in this study were classes/academic load, grades, and test/examinations. Most of the students used a combination of coping strategies. The students have moderate level of stress and that none of the stress factors significantly affect their academic performance. Higher academic performance can be achieved even with a higher level of stress, if the students are able to manage their stress well.

Maritime students have to be exposed to various interventions in the school such as stress management, decision making in a tough situation, breaking bad news, team building, managing diversity, spiritual development, reflective skills, interfaith discussion, and other areas that could promote and produce well-adjusted seafarers.

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