Students’ Economic Status and Access to Technology in Relation to Their Academic Stress on Online Learning at the University of Bohol

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ABSTRACT

Socioeconomic status refers to the family’s social and economic standing in society. It is measured by combining an individual or group’s economic and social position, which is often based on income, education, and occupation. It significantly affects academic performance and even one’s health status. The pandemic changed the educational system, causing a huge transition from traditional learning methods to online learning. This shift resulted in confusion, burden, and difficulty among students from different walks of life. This study was conducted to determine the academic stress on online learning among nursing students in relation to their economic status and their ability to access technology. The study utilized a quantitative-correlational method aided by a standard questionnaire. Two hundred thirty-six University of Bohol nursing students participated in the study. The results showed a significant correlation between students’ economic status and their academic stress on online learning. The study also revealed that students with better access to technology experienced less academic stress compared to those with limited access. This highlights the importance of providing equal access to technology for all students, particularly in the context of online learning. The findings have implications for educational policy and practice, emphasizing the need for equitable access to technology for all students.
students enrolled in the second semester of SY 2021–2022 were included in the study by random selection. Data revealed a significant correlation between economic status and the level of stress related to academic expectations and a significant correlation between economic status and access to technology after being subjected to the Spearman rho test of correlation. However, no significant correlation was found between access to technology and the respondents’ level of academic stress.

**INTRODUCTION**

The existence of the COVID-19 pandemic affected many people worldwide. It not only poses threats to people’s health but also impacts the economic status of some families worldwide. The pandemic caused many changes, including adopting the new educational system, which uses technological applications like Google Classroom, Google Hangouts, Skype, Facebook groups, Messenger, and Zoom to implement distance learning.

The COVID-19 conundrum puts pressure on educators and learners to accept the digital academic experience as the pinnacle of the online teaching-learning process (Lederman, 2020). With these consequences of the pandemic, access to technology varies among learners. Students with equitable access to technology are at an advantage as this will allow them to quickly and actively participate in online classes. However, mobile learning will enable students to learn outside of traditional classroom walls and timetables, and several higher education institutions are implementing it worldwide. Most students experience online academic stress due to various problems, such as the inability to connect and access online study material, lack of access to an online educational app, and poor economic status, leading to poor academic performance.

Among the elements that affect the learner’s education are family, economic, emotional, mental, and social sources of stress. Extreme amounts of stress can impair work effectiveness and subpar academic performance. There are several things that can lead to academic stress, including the stress of taking many examinations that affect the learner’s full potential, especially among courses that demand the student’s full attention. Undergraduate nursing students from the Philippines considered online learning to be stressful (44.4%) and very stressful (47.2%) during the pandemic (Oducado & Estoque, 2021). Also, access to online learning is currently a problem among low-income families (Tria, 2020), increasing the drop-out rates in school (Adams, Meyers, & Beidas, 2016). Academic expectations, faculty work and examination, and perceptions can also affect the learner’s perceived academic stress. Expectations significantly shape students’ educational experiences and may exacerbate their stress and anxiety (Jia, Konold, Cornell, & Dewey 2016).
The primary thrust of the study was to determine the students’ economic status and access to technology in relation to their academic stress on online learning at the University of Bohol for the second semester of 2021 – 2022.

**Related Literature.** Socioeconomic status has been defined as the position of an individual on a socioeconomic scale that assesses variables like work, income, education, and place of residence in addition to certain populations, heritage, and religion. From a theoretical standpoint, the study addresses the need to better understand the pathways that affect wellbeing changes for individuals of lower and higher SES amidst public health crises (Galama & Van Kippersluis, 2019).

Stress is the effect of an interplay between the individual and the environment. It is a crucial factor causing a bad equilibrium between the demands of students’ lives. Their mental and physical health are also affected, causing anxiety that may result from internal perception or external environmental stimuli. Daily hassles among students are experiences that can be attributed to anger, exasperation or irritation, distress or anxiety, and ultimately feelings exaggerated by responsibilities, which can form through an argument or disagreement, financial issues, and family worries or misunderstanding (Lazarus, 2013).

Furthermore, Betty Neuman’s “Neuman System Model” has a dynamic structure that offers a holistic system-based view. It is based on the protection of natural features of the welfare-oriented system and the balance of the plan concerning these factors. The Neuman System Model shows a comprehensive conceptual structure, responses to stressors, and protective measures. Every student nowadays is usually exposed to the various forces that threaten their system across all online information. Stress has the potential to create confusion or inequality in human harmony and requires feedback. Many stressors are general, and sometimes stress disrupts the individual or student system and can lead to physical illness or emotional and social problems (Bademli & Duman, 2017).

**Related Studies.** As the pandemic strikes, education has been dramatically affected, leaving 1.2 billion students in 186 countries out of their classrooms. Those who are unable to access the means that are being used on various online learning platforms, which specifically include smartphones and laptops, may find it hard to cope with the current situation (Chen, Bryne, & Vélez, 2021).

The family’s economic status is the main factor influencing the student’s performance (Villanueva & Nuñez, 2020). According to the recent Family Income and Expenditure Survey conducted by the Philippine Statistics Authority (PSA), the economic status of most Filipinos shows that the majority (58.4%) of Filipino people fall under the low-income class, 40% of middle-income class
Filipinos, and only 1.4% compromises the High-income class. Between people with low incomes and the middle-income class falls the family who is under the low-income class, which is defined as not a middle-class family but also not considered poor (Zoleta, 2020).

From a practical standpoint, organizational practices can perpetuate and impact socioeconomic inequality (Bapuji, Ertug & Shaw, 2020). The same income level may indicate comfort for one and discomfort for another, stemming from divergent financial responsibilities or expenditures (Leana & Meuris, 2015).

The multifaceted nature of stress among undergraduate and graduate students is caused by both academic and non-academic elements, such as sociocultural, environmental, and psychological characteristics (Brand & Schoonheim-Klein, 2009).

Moreover, different internal and external factors significantly affect academic stress among students. Studies have shown that male undergraduates have been reported to have much more academic pressure than females (Aihie & Ohanaka, 2019). On the other hand, age is also another factor affecting stress. In a study conducted by Ramkisson, Pillay, and Sibanda (2017), they found that younger individuals have higher mental wellbeing. A reasonable argument could be that younger individuals have more minor duties and are not burdened with as many obligations as older ones.

**RESEARCH METHODOLOGY**

This study utilized the quantitative-correlational method aided by a questionnaire. By utilizing the quantitative correlational method, the researchers were able to accurately determine the direction and strength of the relationship between the various variables and also identify the variables that have the strongest relationship without manipulating the data-gathering process. The respondents for this study are the 1st year to 4th year nursing students of the University of Bohol for the SY 2021-2022. From a total of 570 students, a random sample of 236 respondents was selected with a five percent error margin at a 95% confidence interval. A standard questionnaire from the standard tool of Cuisia-Villanueva & Nuñez (2020) was utilized to determine the Student’s Access to technology and Academic Stress on Online Learning at the University of Bohol. The questionnaire is divided into three parts. Part I is used to elicit the respondent’s profile, such as age, sex, and parent’s monthly income, which will be the essential factor in measuring the student’s socioeconomic status. Part II utilized a Likert scale to assess the students’ access to technology and their use of social media and gadgets in learning and will be answered using a scale below.
Part III, designed to assess the respondents’ academic stress on online learning, utilized a standard questionnaire on the Perception of Academic Stress (PAS) scale by Bedewey and Gavriel. Cronbach's alpha for internal consistency reliability is 0.7, content validity was supported, and factor analysis produced four theoretically significant and associated factors.

The tool consists of eighteen (18) statements, wherein the respondents can choose to check the column that corresponds to their answer using the scale below.

To ensure safety and no harm will happen to the respondents, the researchers underwent an ethics review from the ethics review committee of the University of Bohol, and the UBREC reviewed the protocol. A study permit was secured, including signatories from the Vice President of Academic Affairs, the Dean of the College of Nursing, and the Research subject adviser. After the signed
approval, the researchers contacted the respondents via Facebook Messenger or email accounts to ask for consent for the respondents to be a part of the study by stating the researcher’s identity and the purpose of the study. Once consent was given, the researchers stated the instructions and the link to the Google forms sent to the email addresses of the corresponding respondents. The data gathered were coded, interpreted, and analyzed statistically using SPSS. The coded data were stored in the researcher’s Google Drive, which only the researchers can access. The researchers observed privacy and confidentiality throughout the study, assuring that the gathered data are used for research purposes only, practicing ethical considerations throughout the research.

**RESULTS AND DISCUSSION**

Results showed that the respondents have high accessibility in terms of owning a gadget or device such as a computer, laptop, smartphone or tablet that can be used for electronic learning” (WM 3.58) and that they have not encountered issues with internet connection or equipment during e-learning experience (WM 3.49). Moreover, it was found that respondents agree that it is more comfortable to understand lessons and cope with topics via e-learning platforms (e.g., Zoom class sessions, other social media platforms, or Moodle), with the lowest weighted mean of 2.70. They are slightly comfortable understanding the lessons and coping with topics using e-learning platforms.

With the ongoing online classes that different institutions are adopting at present, it is a must for every student to have a functional electronic gadget and internet connectivity to be able to connect easily to their online classes. Most of the respondents of this study are classified to be in the lower middle-income class and come from low-income families. Yet, it has been found that their families had given priority to the students having their electronic gadgets and having an internet connection, which is important for their learning. These gadgets are helpful for students’ learning, and some digital companies are trying to make their units affordable, especially for those in the middle and lower classes (Ceisil, 2018). However, the student’s internet access is equally important as owning a gadget when having flexible learning in the new normal (Asio, Gadia, Abarintos, Paguio, & Balce, 2021).

Moreover, it was found that respondents agree that “It is more comfortable to understand lessons and cope with topics via e-learning platforms (e.g., Zoom class sessions, through other social media platforms, or Moodle),” with the lowest weighted mean of 2.70. They are slightly comfortable understanding the lessons and coping with topics using e-learning platforms.
<table>
<thead>
<tr>
<th>Items</th>
<th>Weighted Mean</th>
<th>Descriptor</th>
<th>Interpretation</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I own a gadget or device (e.g., computer/laptop/smartphone/tablet) that can be used for electronic learning (e-learning).</td>
<td>3.58</td>
<td>Strongly Agree</td>
<td>High Accessibility</td>
<td>1</td>
</tr>
<tr>
<td>5. I have not encountered issues with my Internet connection or equipment during my e-Learning experience.</td>
<td>3.49</td>
<td>Strongly Agree</td>
<td>High Accessibility</td>
<td>2</td>
</tr>
<tr>
<td>8. I get enough support from my family in regard to the e-learning journey during the lockdown.</td>
<td>3.29</td>
<td>Strongly Agree</td>
<td>High Accessibility</td>
<td>3</td>
</tr>
<tr>
<td>3. Information and learning materials are accessible and easier to find online.</td>
<td>3.15</td>
<td>Agree</td>
<td>Moderate Accessibility</td>
<td>4</td>
</tr>
<tr>
<td>4. It is more expensive to access equipment/devices and an Internet connection compared to using books or other offline learning materials.</td>
<td>3.10</td>
<td>Agree</td>
<td>Moderate Accessibility</td>
<td>5</td>
</tr>
<tr>
<td>2. I have an Internet connection that can be accessed regularly to attend online classes or do schoolwork.</td>
<td>3.06</td>
<td>Agree</td>
<td>Moderate Accessibility</td>
<td>6</td>
</tr>
<tr>
<td>7. It is more difficult for my teacher/s to address questions or concerns during the e-Learning sessions.</td>
<td>2.83</td>
<td>Agree</td>
<td>Moderate Accessibility</td>
<td>7</td>
</tr>
<tr>
<td>10. I had a positive e-learning experience during the lockdown and was motivated throughout the learning process.</td>
<td>2.76</td>
<td>Agree</td>
<td>Moderate Accessibility</td>
<td>8</td>
</tr>
<tr>
<td>9. I understood all the lessons during my e-learning experience.</td>
<td>2.72</td>
<td>Agree</td>
<td>Moderate Accessibility</td>
<td>9</td>
</tr>
</tbody>
</table>
It is more comfortable to understand lessons and cope with topics via eLearning platforms (e.g., Zoom class sessions, other social media platforms, or Moodle).

Table 2 shows the summary of the respondents’ levels of academic stress. It was found that the respondents have a moderate level of academic stress, with a weighted mean of 2.91. The level of academic stress related to students’ academic self-perception ranked at the top with a weighted mean of 3.14, followed by stresses related to faculty work and examinations with a weighted mean of 2.88, and lastly by the stresses related to academic expectations with a weighted mean of 2.62.

The mode of online instruction adopted in the new normal causes much stress to students, which could contribute to the moderate level of stress felt in terms of academic self-perception. The new learning mode in the new normal makes the students feel more likely to fail courses this year and have difficulty catching up with academic tasks. The possibility of perceiving strict teachers who could give them a hard time concerning their academic performance also contributed to their stress levels (Hassan, Algahtani, Zrieq, Aldhmadi, Atta, Obeidat, & Kadri, 2021). Academic stress is well-known, but academic expectations are less well-researched (Johnston & Cassidy, 2020). Parents and students can mainly impose academic expectations and may also come from teachers. When these expectations overwhelm the student’s ability to cope, they become vulnerable to experiencing academic expectation stress (Fawzy & Hamed, 2017).

Table 2. Summary of the Respondent’s Level of Academic Stress

<table>
<thead>
<tr>
<th>Item</th>
<th>Weighted Mean</th>
<th>Descriptor</th>
<th>Interpretation</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stresses related to students’ academic self-perceptions</td>
<td>3.14</td>
<td>Moderately Agree</td>
<td>Moderate level of academic stress</td>
<td>1</td>
</tr>
<tr>
<td>Stresses related to faculty work and examinations</td>
<td>2.88</td>
<td>Moderately Agree</td>
<td>Moderate level of academic stress</td>
<td>2</td>
</tr>
<tr>
<td>Stresses related to academic expectations</td>
<td>2.62</td>
<td>Moderately Agree</td>
<td>Moderate level of academic stress</td>
<td>3</td>
</tr>
<tr>
<td>Overall mean</td>
<td>2.91</td>
<td>Moderately Agree</td>
<td>Moderate level of academic stress</td>
<td></td>
</tr>
</tbody>
</table>
Table 3 shows the correlation between economic status and the level of academic stress. Findings revealed that when the economic status is correlated to the overall level of academic stress, it shows an insignificant relationship, which means that the economic status has nothing to do with the respondent’s academic stress. However, when the sub-variables of academic stress are subjected to a Spearman Rho correlation test, it was found that economic status and the level of stress in academic expectation have a p-value of 0.005, showing a significant relationship.

Academic expectations are subjective stress that students may experience when they cannot meet the demands or expectations of a particular situation. They assume that psychological pressure can affect both student self-efficacy and depression. Academic stress occurs when students struggle to adapt to the academic environment, such as school or university, affecting their academic performance (Habibi Asgarabad, Charkhabi, Baker, and Dutheil, 2021). Academic stress can affect a variety of psychological outcomes. It has been a significant cause of depression, suicide, mental and behavioral disorders, and anxiety in college students.

Furthermore, many low-income students are found to have emotional trauma and social instability (Rathee & Sharma, 2018). During the early childhood years, insecurity is a result of social instability, melancholy, anxiety, alienation, and inadequacy when emotional needs are not met. Because of the family’s low socioeconomic condition, some adolescents’ innocent brains feel motivated to improve their literary interpretation; on the other hand, students are depressed and achieve poor academic results. Conversely, some students of higher socioeconomic status believe they do not require hard effort or higher ranks, so they avoid rigorous study. Some of their statuses have no significance.

Table 3. Correlation Between Economic Status and the Level of Academic Stress

<table>
<thead>
<tr>
<th>Variables</th>
<th>Spearman Rank Correlation Test Value</th>
<th>P-value</th>
<th>Decision</th>
<th>Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Status and Level of Stress in Academic Expectation</td>
<td>-.182</td>
<td>0.005</td>
<td>Reject the null hypothesis</td>
<td>There is a significant correlation between the variables</td>
</tr>
</tbody>
</table>
Economic Status and Level of Stress in Faculty work and examinations | -.005 | .936 | Failed to reject the null hypothesis | There is no significant correlation between variables
---|---|---|---|---
Economic Status and Level of Stress in Academic Self-Perceptions | -.007 | .920 | Failed to reject the hypothesis | There is no significant correlation between variables
Economic Status and Overall Level of Academic Stress | -.094 | .148 | Failed to reject the hypothesis | There is no significant correlation between variables

Table 4. Correlation between Access to Technology and the Level of Academic Stress per Category

<table>
<thead>
<tr>
<th>Variables</th>
<th>Spearman Rank Correlation Test Value</th>
<th>P-value</th>
<th>Decision</th>
<th>Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to technology and Level of Stress in Academic Expectation</td>
<td>.000</td>
<td>.996</td>
<td>Failed to reject the null hypothesis</td>
<td>There is no significant correlation between the variables</td>
</tr>
<tr>
<td>Access to Technology and Level of Stress in Faculty work and examinations</td>
<td>.028</td>
<td>.668</td>
<td>Failed to reject the null hypothesis</td>
<td>There is no significant correlation between variables</td>
</tr>
<tr>
<td>Access to Technology and Level of Stress in Academic Self-Perceptions</td>
<td>.283</td>
<td>.000</td>
<td>Reject the null hypothesis</td>
<td>There is a significant correlation between variables</td>
</tr>
<tr>
<td>Access to Technology and Overall Level of Academic Stress</td>
<td>.109</td>
<td>.094</td>
<td>Failed to reject the null hypothesis</td>
<td>There is no significant correlation between variables</td>
</tr>
</tbody>
</table>

When access to technology is correlated to the level of academic stress per category, The data in Table 4 showed that only “Access to Technology and Level of Stress in Academic Self-perceptions got a significant correlation, with a p-value of .000, which is lesser than the 0.05 level of significance. Accordingly, students taking online classes can experience academic satisfaction whenever they
have a positive academic self-perception and have adequate access to technology. Inversely, students with low levels of technical support could negatively affect the student’s academic self-perception, revealing the role of technical accessibility during online classes in perceiving positive self-perceptions and academic satisfaction (Hassan et al., 2021).

Table 5. Correlation between Access to Technology and Academic Stress (overall)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Spearman Rank Correlation Test Value</th>
<th>P-value</th>
<th>Decision</th>
<th>Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to Technology and level of academic stress</td>
<td>.109</td>
<td>.094</td>
<td>Failed to reject the hypothesis</td>
<td>There is no significant correlation between variables</td>
</tr>
</tbody>
</table>

CONCLUSIONS

The pandemic greatly affected the lives of everyone, especially making it hard for Families in the low-income class to cope with finances. However, despite the economic hardships experienced by most families during the pandemic, students are adapting to the needs of online classes since each student is able to own an electronic gadget and have internet connectivity to be used for e-learning. However, the type and quality of these gadgets and the strength of their internet connection varies according to economic capacity. The individual’s economic status may significantly impact one’s access to technology, but one’s access to technology does not significantly impact the individual’s level of academic stress. The adaptation theory by sister Calista Roy emphasizes that people are an open adaptive system with an input (stimuli) that adapts through processes. This has been noted in the results derived from the study, which revealed that the economic challenges brought by the pandemic do not hinder an individual from looking for means to continue learning online with other students.

To cope with academic stress on online learning, especially concerning academic self-perceptions and academic expectations regarding access to technology and economic status, nursing students should acquire technical support from the government and look for scholarship grants to help with educational expenses. This has to be emphasized, especially among nursing students from low-income and lower-middle-income classes. Moreover, to personally cope with the perceived academic stress, students should practice positive thinking and learn to de-stress whenever possible to maintain physical, emotional, and mental reserves, preventing and managing stress.
RECOMMENDATIONS

1. The Commission on Higher Education, in coordination with the LGU, will continuously provide and widen the coverage of financial assistance and technical support to the students, especially the students who belong to the low-income and lower-middle-income classes.

2. Increasing the awareness of emotional exhaustion due to increased telecommunication use during pandemics via broadcast media platforms and forms of social media. Mainstream news must recognize pandemic-related stress and burnout and provide the general public with evidence-based data on prevalence and thought patterns. New media will hopefully pick up on this information and facilitate its rapid dissemination to the general public.

3. The University of Bohol, in coordination with Kalinaw Organization, will sponsor webinars about mental and emotional health and how to cope with academic stress that would most likely affect the student's holistic health. Leading awareness campaigns towards certain age brackets while taking sociocultural differences into account can aid in increasing compliance with healthy online habits. Campaigns presented by role models have the potential to capture attention and induce behavioral changes.

4. Nursing students from the University of Bohol manage their time, improve their study habits, and prioritize learning in order to enhance academic self-confidence and prevent academic failure.

5. The College of Nursing and faculty enhance the class activities in line with the topic scope to relieve the stress perceived by the students and also prevent the constraint of education.

6. The Supreme Student Government in the College of Nursing, in coordination with the University of Bohol Guidance Center, offers online assistance to nursing students for an opportunity to express their problems and mental challenges so that appropriate support and assistance can be provided, students may express their thoughts and provide ideas on dealing with stress and burnout.

REFERENCES CITED


