

VOLUME 2 | 2021 ISSUE

ADYQ

MULTIDISCIPLINARY RESEARCH JOURNAL





MULTIDISCIPLINARY
RESEARCH JOURNAL

VOLUME 2 | 2021 ISSUE

ADYO

Adyo is the official peer-reviewed journal of Manila Adventist College. It publishes research studies done by faculty, staff, students, and other professionals from various disciplines such as nursing, medical laboratory science, pharmacy, midwifery, physical therapy, radiologic technology, accountancy, and business. The publication is in line with the vision of the institution to be the premier, Christ-centered, and research-oriented institution of learning. And the vision of the Center for Assessment and Research for an empowered academic community that embraces a research culture which touches lives. It is published once a year.

TABLE OF CONTENTS

Editorial board..... 3

Editorial column..... 3

Submission guidelines

Call for Manuscript Submission 4
Guidline for Article Submission 5

Articles

Sexual Behavior of Senior High School
Students in a Faith-Based School..... 10
Pharmacy Students' Coping Responses
and Experiences in Online Learning
During the COVID-19 Pandemic 19
Disaster Awareness and Preparedness
of College Students: A Descriptive-
Correlational-Comparative Studyc..... 26

Abstracts

Determinants of Hand Hygiene
Compliance Among Nurses..... 40

Certified Public Accountant Review School
of Manila Adventist College..... 41

Perinatal Cultural Beliefs and Practices of
Women in Selected Municipalities of Laguna,
Philippines: A Qualitative Research..... 42

Cultural Awareness and Sensitivity
Among Nursing Students..... 43

Effects of Community-Based Exercises on
Selected Outcome Measures of Chronic
Stroke Patients 44

Knowledge and Experience on Sexual
Harassment in the Workplace among
Radiologic Technologists..... 45

Organizational Commitment and Job Satisfaction
of Registered Nurses in a Private
Tertiary Hospital in Pasay City 46

GJ Car Rental: A Feasibility Study..... 47

PUBLISHING: A SCIENTIFIC LEGACY

By Linda Lim-Varona, MD

This second volume of our school's beloved multidisciplinary journal is taking baby steps to become a full-grown scientific publication forum in the near future. Its name, Adyo, is a Tagalog term, which means sumulong at magpatuloy (move forward and proceed). In another Tagalog dictionary, adyo is defined as "going upstairs; dropping in for a visit when passing by." In both essences, this journal admonishes us to move forward in every step of our lives. More specifically, as a school with a strong emphasis on research, we must adyo to pursue research, step up, and proceed with a serious goal to publish all these outputs.

Being in a school where research is a definite requirement in order to graduate from any of its programs, most students would comply with this requirement with the thought of "have it done and over with." But as one research scientist, Philip J. Clapham, strongly worded in an article he wrote for the May 2006 issue of BioScience Journal, failure to

publish is a scientific crime. Surely, no one would want to be guilty of this.

So, why is there a need to publish finished research? Dr. Luz Claudio, the author of *How to Write and Publish a Scientific Paper: The Step-by-Step Guide*, enumerates eight valid reasons. First, publishing research to paper will help you clarify your research goals. It will help you in reviewing and interpreting your data and force you to compare your work with that of others. Second, the peer review process gives you important feedback on the validity of the research approach and can provide insight on the next steps for advancing and interpreting your work. Third, communicating the information that you have found will help other researchers advance their work, thus building on the body of knowledge that exists in your field. Next, writing and publishing put your research into a larger context. Further, your published paper can help in the public understanding of a research question. Sixth, having a robust body of published works helps advance your career as you are considered for academic appointments and promotions. Also, publishing helps establish you as an expert in your field of knowledge. Lastly, the peer-reviewed publication provides evidence that helps in the evaluation of the merit of research funding requests.

In this issue, we laud the students, with their research advisers, for taking the time to complete the research process by writing the finished work until its publication. Volume 2 of Adyo becomes part of your (and our) legacy to science.



Linda Lim-Varona, MD

EDITORIAL BOARD

Dr. Linda Lim-Varona, MD
Editor-in-chief

Maria Carmela Lacs-Domocmat, PhD
Ryan Ray M. Mata, PhD(ip), MN, MAN, RN
Vina Rose Dahilig-Talan, PhD(cand), MS, RPh
Editorial Board

Rainier Moreno-Lacalle, PhD
John Christian V. Villanueva, PhD, LPT
Jude L. Tayaben, PhD
External Peer Reviewers

Victoria J. Lupton, MA (cand), LPT
Meishe R. Flores, MA, LPT
Herssel Capobres, LPT
Copy Editors

Johanna Gallermo-Bacal
Graphic Designer

Call for Manuscript Submission

The Manila Adventist College Multidisciplinary Research Journal, *Adyo*, is the official publication of Manila Adventist College, published biannually.

Adyo aims to disseminate studies conducted by professionals and students. The journal covers a wide range of topics relevant to different professions such as nursing, midwifery, physical therapy, radiologic technology, medical laboratory science, pharmacy, religion, business administration, accountancy, and law and jurisprudence.

Adyo invites submission of original research papers written by professionals or students. Authors are requested to submit electronic copies of the manuscript following the prescribed format.

Please submit your research paper to the publication committee at the email: macresearch@adventisthealth-mnl.com. Kindly type in the email subject "Manuscript Submission for *Adyo*."

The submitted research papers will undergo a blind peer-review process. Authors will be notified about the results of the peer review process through email. Accepted manuscripts will be published according to the date of submission and compliance with the recommended revision within a specified period.

Terms of Submission

- Manuscripts must be submitted on the understanding that these were not yet published nor have been submitted to any other publications.

- The author submitting the article is responsible for ensuring that the article submitted for publication has been approved by all authors.
- All accepted manuscripts are subject to peer-review and editing.

Peer Review Process

- This journal operates a peer-review process. All contributions will be initially assessed by the editor for suitability for the journal.
- All manuscripts will be subjected to peer-review and are expected to follow the guidelines for writing manuscripts.
- The editor receives the manuscript for initial review.
- The accepted manuscript will be forwarded to the peer-reviewers, whose identities will remain anonymous to the authors.
- Papers deemed suitable are typically sent to a minimum of two independent expert reviewers to assess the scientific quality of the paper. To limit reviewer bias, all articles will undergo double-blind review in which both the reviewer and the author are anonymous.
- Feedback will be sent to the author of the submitted manuscript if accepted without revision. With minor revisions, the author will be advised to make the necessary corrections within the specified time.
- *Adyo* has the sole right to publish peer-reviewed manuscripts.
- The editor is responsible for the final decision regarding the acceptance or rejection of articles.

Guideline for Article Submission

Adyo, MAC Multidisciplinary Research Journal, invites submission of original research papers written by professionals or students. Authors are instructed to submit electronic copies of the manuscript following this format:

- Microsoft Office word format (.doc, .docx) should be between 10 to 12 pages for full text and 300 words for abstract.
- Font type is Times New Roman, font size 12 (except the title, which is font size 16), double-spaced on letter-size paper with at least 1" margin on all sides.
- APA format (7th edition)

Submit the research paper to the publication committee. The submitted research papers will undergo a blind peer-review process. Authors will be notified about the results of the peer review process through email. Accepted manuscripts will all be published according to the date of submission and compliance with the recommended revision within a specified period.

Manuscript contents and format

The manuscript should contain the following:

1. Title
2. Authors, their affiliations, and correspondence
3. Abstract, keywords
4. Main text: Introduction, Methods, Results and Discussions, Conclusions and Recommendations
5. Tables or figures
6. Acknowledgments
7. References
8. Author Profile

Title

- The title identifies the key issues/topic or (variables or phenomena) under consideration.
- Use bold and capital-initials.
- Font size 16

Author

- The arrangement is the first name, middle name, and last name with the educational attainment (ex: Mary Jane C. Dela Cruz, PhD)
- For group research, the supervisor's or adviser's name is listed first.
- The correspondence includes the email address of the authors.

Abstract

The one-page abstract should contain 300 words in a single paragraph and gives the reader a clear idea of what has been achieved. Identify five keywords that reflect the content of the manuscript.

The abstract contains the following:

- For Quantitative Research: Brief background or rationale of the study, aim, methodology (includes theoretical framework, research design, data gathering method, population, sampling technique, sample size, statistical treatment), ethical considerations, results, conclusions and implications to practice, and recommendations.

Keywords: maximum of 5 words, separated by a comma, italicized, alphabetically arranged, not capitalized

- For Qualitative Research: Brief background or rationale of the study, aim, methodology (includes theoretical

framework, research approach and design, data gathering method, population, sample size, sampling technique), ethical considerations, trustworthiness, findings, conclusions and implications to practice, and recommendations.

Keywords: maximum of 5 words, separated by a comma, italicized, alphabetically arranged, not capitalized

- For Feasibility study: Brief background or rationale of the study, aim, methodology (includes research design, data gathering method, sample size, sampling technique, sources of data), ethical considerations, findings (marketing study, technical study, organization and human resource study, strategic management, financial study, socio-economic study), conclusions and recommendations.

Keywords: maximum of 5 words, separated by a comma, italicized, alphabetically arranged, not capitalized

The research article must have all the following four major parts: (1) Introduction, (2) Methodology, (3) Results and Discussion, (4) Conclusions and Recommendations.

Introduction

The Introduction section states the problem, research gap, succinct review of related literature, and the theoretical framework.

- Problem
 - ♦ State the importance of the problem.
 - ♦ Provide an adequate background of the problem. Statistics may be included from international to local data. Frame the problem or question and its context.
 - ♦ Include the discussion of the research gap.
- Review of related literature: Avoid a detailed literature survey or a summary of the results but instead provide a succinct review of relevant scholarship, including

(1) relation to previous work; and (2) differences between the current report and earlier reports if some aspects of this study have been reported on previously.

- For quantitative research, identify the hypothesis, aims, and objectives: State specific hypotheses, aims, and objectives.
- For qualitative research, state the purpose(s), goal(s), or aim(s) of the study.
- Include the theoretical or conceptual framework that lays the foundation of the study.

Methods

The Methods section provides adequate details to allow the work to be reproduced by an independent researcher. It gives details on

- Research Design. Specify the research design employed.
 - ♦ For qualitative research, also describe the approach to inquiry if it illuminates the objectives of the study (e.g., descriptive, interpretive, feminist, psychoanalytic, postpositivist, constructivist, critical, postmodern or constructivist, or pragmatic approaches).
- Research Setting or Locale of the study. Provide a place and dates defining the periods of recruitment and data collection. In qualitative research design, provide the general context for study (when data were collected, sites of data collection).
- Reflexivity: This is only required in qualitative research.
 - ♦ Describe the researchers' backgrounds in approaching the study, emphasizing their prior understandings of the phenomena under study (e.g., interviewers, analysts, or research team).
 - ♦ Describe how prior understandings of the phenomena under study were managed

- and/or influenced the research (e.g., enhancing, limiting, or structuring data collection and analysis).
- Population and Sampling. Details about the population and sampling such as specific population or study participants or source of data (e.g., documents, events) and the recruitment and selection process. Also, identify the eligibility or inclusion and exclusion criteria
 - In the case of animal research, report the genus, species, and strain number or other specific identification, such as the name and location of the supplier and the stock designation. Give the number of animals and the animals' sex, age, weight, physiological condition, genetic modification status, genotype, health-immune status; if known, drug- or test-naïve, and previous procedures to which the animal may have been subjected.
 - ♦ In quantitative research include the
 - intended and achieved sample size, basis for determination of sample size.
 - major demographic characteristics
 - procedures for selecting participants.
 - sampling technique/method
 - percentage of sample approached that participated, whether self-selection occurs (for experimental research)
 - ♦ In qualitative research,
 - Describe the demographics/cultural information, perspectives of participants, or characteristics of data sources that might influence the data collected.
 - Describe existing data sources, if relevant (e.g., newspapers, Internet, archive).
 - ♦ Recruitment process
 - Describe the recruitment process (e.g., face-to-face, telephone, mail, email, recruitment protocols).
 - Describe any incentives or compensation and provide assurance of relevant ethical processes of data collection and consent process as relevant (may include institutional review board approval, particular adaptations for vulnerable populations, safety monitoring).
 - Provide any changes in numbers through attrition and the final number of participants/sources (if relevant, refusal rates or reasons for dropout).
 - In qualitative research, describe the rationale for the decision to halt data collection (e.g., saturation).
 - ♦ Participant selection
 - Describe the participants/data sources selection process (e.g., purposive sampling methods such as maximum variation, diversity sampling, or convenience sampling methods such as snowball selection, theoretical sampling), inclusion/exclusion criteria.
 - Data collection procedure. Describe the following:
 - ♦ methods used to collect data.
 - ♦ methods used to enhance the quality of measurements, including training and reliability of data collectors, or use of multiple observations.
 - Ethics. Discuss the ethical considerations such as the approval in the ethics committee, use of informed consent, ensuring confidentiality or anonymity of data.
 - ♦ Provide data repository information for openly shared data, if applicable.
 - ♦ Describe archival searches or the

process of locating data for analyses, if applicable.

- Research instruments
 - ♦ Provide information on validated, self-constructed, or ad hoc instruments created for individual studies.
- Masking in experimental research:
 - ♦ Report whether participants, those administering the experimental manipulations, and those assessing the outcomes were aware of condition assignments.
 - ♦ If masking took place, provide a statement regarding how it was accomplished and if and how the success of masking was evaluated.
- Data analysis
 - ♦ In quantitative research, provide information detailing the statistical and data-analytic methods employed.
 - ♦ In qualitative research. Specify the following:
 - method of data analysis used such as manual coding or use of software.
 - criteria for ensuring trustworthiness.

Results and Discussions

The Results and Discussion section discusses the general and specific results or outcomes of the data collection and analysis. It should be clear and concise and avoid extensive citations and discussion of published literature.

- Tables, graphs, and drawings or images may be used to present the findings and follows the following:
 - ♦ Tables and figures are to be cited consecutively in the text. Every table must have a descriptive title, and if numerical measurements are given, the units are included in the column heading. Vertical lines are not used in tables. Please provide the reference sources in the figure/table captions, if any.

- ♦ Please provide vector drawings or images for editing. The requirements on the drawings provided are listed as below: Resolution is 300 dpi at least; the format is emf, wmf, eps, ai, etc.; the width is within either single column (85 mm) or double column (166 mm), and must be no longer than 230 mm. Please submit each drawing as a separate file.

- Reporting guidelines
 - ♦ Authors may use the appropriate reporting guidelines such as:
 - CONSORT for randomized controlled trials
 - TREND for non-randomized trials
 - PRISMA for systematic review and meta-analyses
 - STROBE for observational studies
 - SRQR for qualitative studies
 - ARRIVE for animal experiments.
- Discussions may include the following:
 - ♦ provide a statement of support or nonsupport for the hypotheses.
 - ♦ discuss similarities and differences between reported results and the work of others (related literature and studies)
 - ♦ provide an interpretation of the results, considering.
 - Sources of potential bias and threats to internal and statistical validity
 - Imprecision of measurement protocols
 - Overall number of tests or overlap among tests
 - Adequacy of sample sizes and sampling validity
 - Discuss generalizability (external validity) of the findings, considering the:
 - Target population (sampling validity)
 - Other contextual issues (setting, measurement, time; ecological validity)

Conclusions

- The conclusion answers the research questions/problems and ensures that the research objectives were achieved.

- It also includes important implications and recommendations such as the discussions of implications for future research, program, or policy that come from the findings.

Conflict of Interest

All authors are requested to disclose any actual or potential conflict of interest, including any financial, personal, or other relationships with other people or organizations that could inappropriately influence, or be perceived to influence, their work.

When authors have nothing to declare, please write: 'The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.'

Acknowledgments

Source(s) of research funds, sponsors, and others who supported the study should be disclosed.

Reference style

References follow the APA format 7th edition and list all the materials cited in the article.

Appendices

If there is more than one appendix, they are to be identified as A, B, etc.

Author Biography

Biographies of the first author and/or the corresponding author/s are within 150 words and include the educational background, research field, and published papers and patents, etc.

Sexual Behavior of Senior High School Students in a Faith-Based School

Carolyn D. Fiñones, RPM; Angela Mea Grace A. Malaluan

David C. Garrido; Johnlyd Timothy B. Camato

Rafael Maurice G. Ramos; Romerson A. Villanueva

Corresponding author: Carolyn D. Fiñones, cvdfinones@gmail.com

Senior High School Department, Manila Adventist College

Abstract

This paper reports the research findings that investigated the Sexual Behavior of Senior High School Students. Many factors may lead to first sexual experience, including biological changes in puberty, peer pressure, deranged personal values, environmental opportunities, and even self-esteem and self-efficacy. It is empirical to highlight the current trend on the sexual behavior of its students to be aware and be prepared for whatever intervention program it may require from the administration, support from faculty, action from parents, and improvements on the behavior from students themselves. Using purposive sampling, the researchers gathered the data from sixty-six Grade 12 Senior High School Students from a faith-based school in Pasay. The researchers ensured all ethical considerations, such as but not limited to consents and informed assent with the proper protocol, were observed. The data were analyzed using descriptive design including frequencies, percentage mean, and standard deviation. The result showed that these students from a faith-based school have very low to low engagement in intense sexual activities. This result adheres to the social contagion theory of Rogers and Rowe that explains how sexual behavior can be similar among individuals in a group and this sexual behavior develops gradually over time depending on the adolescent's environment and pubertal development. Any form of sexual activities for young individuals that is not correctly regulated may result in negative consequences until sexual behavior becomes societally appropriate as they age. Thus, it is a call for more mature individuals both in and out of the position in the institution to educate and guide younger individuals, build values that match with one's faith, and present options and possibilities as they make choices in their lives. This gift of sexuality is from God to humanity, but it is destroyed and maligned by sin, yet the wholeness sexuality should be preserved.

Keywords: *sexual behavior, adolescents, senior high school, faith-based institution, sexuality*

Sexuality is a healthy part of a teenager's holistic development. As a person grows, his needs develop behavioral patterns as he matures emotionally and socially. Biological changes also happen in preparation for a more mature role of parenting. However, adolescents tend to explore their bodies and have sexual experimentations immaturity. These sexual activities, which are not limited to coitus or sexual intercourse with

other individuals, may result in experiencing problems in school, family, and their way of living. It shows that 45% of women aged 20-24 have given live birth, and women aged 18 have reported having given birth for the first time 2010-2015 (UNICEF, 2019), which is the adolescent period – between 10 to 20 years old. A person experiences physical, cognitive, psychological, and socio-cultural changes during this stage

(Santos, 2016). Due to this development, sexual experimentation usually happens, and they are acquiring sexual experience for the first time, which the environment shapes. The social contagion theory of adolescent sexual behavior by Rodgers and Rowe (as cited by Coyne & D'Onofrio, 2012) stated that the social environment influences sexual behavior. It encompasses a variety of attitudes and behaviors that are stimulated by contacts within the circles and developed over time. Some of these activities are reading pornographic materials, watching X-rated movies, and accessing porn sites on the internet. Masturbation, phone sex, cybersex, and live showing, may also be included. These sexual activities, which homosexuals and heterosexuals perform with other individuals, also involve anal and oral sex, kissing, necking, petting, and prostitution. According to Fortenberry (2013), half of the adolescents have sexual activities outside the context of dating with varied content of short-term relationships that do not involve penile-vaginal intercourse. While there is limited literature to reveal the age point of first sexual initiation, the study of Habito et al. (2019) discovered that their Filipino respondents first experience sex during adolescents. If intense sexual activities are not regulated properly, these may lead to acquiring sexually transmitted diseases (STDs) and unwanted pregnancy that can ruin the future of young people. In the Philippines, one in ten young Filipino women aged 15-19 has begun childbearing; eight percent are already mothers. Another two percent is pregnant with their first child based on the 2013 National Demographic and Health Survey (Recide, 2013). The Philippines also has the fastest-growing rate of HIV epidemic in the Western Pacific, with a 174% increase in HIV cases from 2010 to 2017 (Ganguangco, 2019).

The researchers aimed to discover if the respondents' sexual behaviors manifest

similar actions. The result of the study will contribute to the limited related research that focuses on faith-based schools. The study will also give a glimpse to school administrators, teachers, and parents on the current extent of sexual behavior of their students and prepare them for any intervention to save students from the risks. The researchers believed that this study would also be an eye-opener to students and be cautious of their sexual interests and explorations.

Methodology

This study used the descriptive design survey method to present the sexual behaviors of senior high school students. The study was conducted in a private faith-based but non-sectarian institution in Pasay City. This school offers allied health and business courses and senior high school education. 66 Grade 12 senior high school students enrolled for the school year 2018-2019 were selected through purposive sampling. There were 34 males (51.51%) and 32 females (48.49%) with ages ranging from 17 to 19 ($M=1.45$, $SD=.53$), which best fits the category of adolescents. The instrument used to gather the data has two parts: the demographic profile of the respondents, which included age and gender, and the survey questionnaire to measure the extent of sexual activities. The survey questionnaire consists of semi-constructed 15 items 5-point Likert Scale with Cronbach's alpha of .851. This was adopted from the Health Behavior questionnaire by Villagomez (2012), with a Cronbach's alpha of .817. The researchers conducted a pilot test in a sister institution of the research locale located in Baesa, Caloocan City.

After securing approval to conduct the study from the board of Ethics Review Committee, the researchers submitted a letter of intent to the school principal of the chosen research locale. The researchers provided informed consent and assent forms to the students to give them the liberty to either participate or

not participate in the study. The researchers used an exam-style method in collecting the data, where they separated boys and girls. The respondents were arranged one seat apart. The researchers provided folders for the respondents to cover their answers to ensure they would not be conscious of answering the questionnaires. Upon submitting the completed forms, the researchers checked them for missing items, and they encoded these data in Microsoft Excel. The statistician analyzed them using descriptive analyses, which involve frequency distribution, percentage mean, and standard deviation.

Results and Discussions

The data collected from the respondents were analyzed using the software, Statistical Package for Social Sciences or SPSS. The table in the next page presents the frequency and extent sexual behavior of the respondents.

The table above shows that among the sexual activities of the respondents; the first three variables got the highest mean. They are:

1. watching erotic or X-rated videos with a mean score of 2.30,
2. masturbation with a mean score of 2.02, and
3. mouth kissing with a mean score of 1.92.

For other variables with the highest level of sexual engagement, 21 out of 66 respondents declared to have never watched X-rated movies. 32 respondents claimed they have never engaged in masturbatory acts, while 51 have never done mouth kissing. With regards to the variables with the lowest mean, below are the following:

1. sex intercourse (penis penetration through a vagina) with a mean score of 1.17,
2. sex relations with a member of the same sex with a mean score of 1.15, and
3. anal sex (penis penetration through the anus) with a mean score of 1.14.

For the sexual activity that had lowest extent level of engagement, it is notable that there are still few students who declared to have engaged in such activities. Three claimed to have paid someone in exchange for sexual favor. Three have had engaged in sexual intercourse, three had a same-sex relationship, and three had been involved in anal sex. The low to very low engagement in sexual acts of senior high school in the faith-based school is also due to the social influence process of parental restriction and religious teachings. Despite this kind of environment, many respondents still declared to have been engaging themselves in sexual activities that can be done independently.

The study results indicated that even in a faith-based school, senior high school students might tend to engage in sexual activities. Watching erotic and X-rated videos is the most commonly practiced sexual behavior, while anal sex is uncommon.

In the 2006 pornography statistic, 4.2 million or 12% of total websites were into pornography, which is accessible to all internet users. 25% of daily search engine requests were on these sites. Remarkably, masturbation follows watching erotic or X-rated movies, which could mean that the former could have resulted from frequent exposure to the latter. In a study conducted in Australia, the masturbatory act starts at 13 for 53% males and 25 % females (Robbins, 2011). Although some literature links masturbation to sexual health, there are not enough data to conclude on the exact role of masturbation in the development of sexuality of an individual. Further, this particular sexual behavior is controversial among Christian authors whether such an act is considered a sin.

Regarding accessing, sending, receiving, and watching sexually stimulated images, scenes and movies, it is shown in the frequency table that more respondents engaged themselves

Table*Frequency and Extent Level of the Respondents' Sexual Behavior*

		Frequency	Percent	Mean	Verbal Interpretation
1. Watching erotic or X-Rated movies and videos	Never	21	31.8	2.30	Low
	Rarely	17	25.8		
	Sometimes	18	27.3		
	Often	7	10.6		
	Always	3	4.5		
	Total	66	100.0		
2. Masturbation	Never	32	48.5	2.02	Low
	Rarely	20	30.3		
	Sometimes	8	12.1		
	Often	5	7.6		
	Always	1	1.5		
	Total	66	100.0		
3. Mouth kissing	Never	51	77.3	1.92	Low
	Rarely	7	10.6		
	Sometimes	3	4.5		
	Often	3	4.5		
	Always	2	3.0		
	Total	66	100.0		
4. Reading erotic or pornographic books and magazines	Never	56	84.8	1.83	Low
	Rarely	7	10.6		
	Often	3	4.5		
	Total	66	100.0		
5. Necking (kissing on the nape or neck)	Never	59	89.4	1.61	Very Low
	Rarely	3	4.5		
	Sometimes	1	1.5		
	Often	3	4.5		
	Total	66	100.0		
6. Exchanging erotic messages or pictures through the cellphone	Never	32	48.5	1.45	Very Low
	Rarely	11	16.7		
	Sometimes	16	24.2		
	Often	4	6.1		
	Always	3	4.5		
	Total	66	100.0		

7. Fondling or being fondled (touching of sex organs)	Never	36	54.5	1.35	Very Low
	Rarely	12	18.2		
	Sometimes	8	12.1		
	Often	7	10.6		
	Always	3	4.5		
	Total	66	100.0		
8. Phone sex (exchanging voice messages through phone)	Never	45	68.2	1.24	Very Low
	Rarely	8	12.1		
	Sometimes	9	13.6		
	Often	2	3.0		
	Always	2	3.0		
	Total	66	100.0		
9. Oral sex (kissing or sucking of sex organs)	Never	57	86.4	1.23	Very Low
	Rarely	5	7.6		
	Sometimes	2	3.0		
	Often	2	3.0		
	Total	66	100.0		
10. Receiving payment (in cash or in kind) for sex	Never	57	86.4	1.21	Very Low
	Rarely	7	10.6		
	Sometimes	2	3.0		
	Total	66	100.0		
11. Cybersex (exchanging erotic messages and pictures through the internet)	Never	53	80.3	1.21	Very Low
	Rarely	7	10.6		
	Sometimes	3	4.5		
	Often	2	3.0		
	Always	1	1.5		
	Total	66	100.0		
12. Paying someone in exchange for sex favors	Never	63	95.5	1.18	Very Low
	Rarely	1	1.5		
	Always	2	3.0		
	Total	66	100.0		

13. Sex intercourse (penis penetration through the vagina)	Never	63	95.5	1.17	Very Low
	Sometimes	1	1.5		
	Always	2	3.0		
	Total	66	100.0		
14. Sex relations with a member of the same sex	Never	63	95.5	1.15	Very Low
	Always	3	4.5		
	Total	66	100.0		
15. Anal Sex (penis penetration through the anus)	Never	62	93.9	1.14	Very Low
	Sometimes	1	1.5		
	Always	3	4.5		
	Total	66	100.0		
Overall Mean				1.467	Very Low

in exchanging erotic messages and or pictures through their cellphones. This is also known as "sexting", and it is commonly defined as the exchange of sexually explicit images between adolescents via cell phone. Once extended to other media, particularly the internet, it is already labeled cybersex as defined in oxford languages. This is a prevalent topic in US media, yet related studies are lacking. A survey conducted by the National Campaign to prevent teen and unplanned pregnancy showed that 18% of teen boys and 22% of teen girls aged 13-19 had sent semi-nude to nude photos either on the internet or on their cell phones. The majority of these teens said they also had sent sexually suggestive images to their boyfriends or girlfriends, while 21% of teen girls and 39% of teen boys declared that they send sexual content to someone they are interested to go on a date with. Further, 15% sent the same form of content to someone they have just known online (Lounsbury, Mitchell & Finkelhor, 2011).

About petting or fondling of sexual organs, it shows that it was also practiced to a different extent by 30 respondents, which also outnumbered those who engaged in mouth kissing. This behavior may include caressing or touching sex organs or breasts using hand or mouth to stimulate the other person sexually. In other studies, petting could mean a simple stroke or caress; however, in this study, petting is simply touching or stimulating others' sexual organs. In the survey on the sexual behavior of Filipino adolescents (De Jose, 2013), among 1,412 respondents ages ranging from 15 to 24 years old, 31.7% also disclosed to have had engaged in petting while 30.8% specifically identified that they had done petting in general public but secluded and dark place. Though this sexual activity does not involve sexual intercourse, it can lead to more intense sexual feelings. In addition, the researchers also found out that about ten respondents declared to have involved themselves in oral sex, receiving payment

or paying someone in exchange for sex, cybersex, sexual intercourse, same-sex relationship, and anal sex.

Religion serves as a morale builder, and there is a strong relationship between religiosity and sexual behavior among teenagers. Though prohibitions on pre-marital sex are part of faith-based sex education, it lacks clear-cut details on how a Christian adolescent decides on what specific behavior is permissible to a particular situation and the specific level of intimacy. Experimentation leads them to test different sexual expressions with church teachings overpowered by media and peer influences in a society with a lenient foundation of values and morality (Twelker. 2019).

The overall findings of this study is a loud call to a faith-based institution to revisit how the church it represents stands firm to values and morality based on biblical truth. The data provided the facts that some young students have already been corrupted in the supposed beauty of sex within the marriage bond originally planned by our Creator. Although it could have been brought about by the factor that not all students belong to the same faith the institution holds, it is still a reality that has to be given attention. Even though most of these sexual behaviors are not explicitly labeled as a "sin" in the Bible, it has to be the focus of sex education in faith-based schools and mainline churches.

Academe institutions and churches must not undermine the chances of having STDs among adolescents. Bible teachers, chaplains, pastors, counselors, and all adults overseeing these young people within the vicinity of the school must work hand in hand, even to a point of classroom intervention. Sexual jokes and innuendos should not be normalized, specifically beyond the bond of marriage. Parents should also be quick to respond to these issues for nobody can replace them as the first sex educators of their children. The result of this study may strengthen the sex education for students founded on God's principles and eliminate gray areas such as but not limited to the act of masturbation. The virtue of Holiness, obedience, and self-denial has to be integrated with all aspects of decision-making so that students will be guided well as they journey on the road of sexual development.

Though this study yielded interesting results, there are still limitations that can be addressed in future studies. Academic researchers may also check on the integration of faith in learning with sex education. Future researchers may widen the scope of analyses to other faith-based institutions as participants of this study can be considered a limitation. It would also be more interesting if further studies could look into the difference in sexual behavior among students from different religious groups.

References

- Coyne, C. A., & D'Onofrio, B. M. (2012). Some (but not much) progress toward understanding teenage childbearing. A review of research from the past decade. *In Advances in Child Development and Behavior* (Vol. 42). <https://doi.org/10.1016/B978-0-12-394388-0.00004-6>
- Fortenberry, J. D. (2013). Sexual development in adolescents. *Handbook of Child and Adolescent Sexuality*, 171–192. <https://doi.org/https://doi.org/10.1016/B978-0-12-387759-8.00007-6>
- Gangcuangco, L. M. A. (2019). HIV crisis in the Philippines: urgent actions needed. *The Lancet Public Health*, 4(2), e84. [https://doi.org/10.1016/S2468-2667\(18\)30265-2](https://doi.org/10.1016/S2468-2667(18)30265-2)
- Habito, C. M., Vaughan, C., & Morgan, A. (2019). Adolescent sexual initiation and pregnancy: What more can be learned through further analysis of the demographic and health surveys in the Philippines? *BMC Public Health*, 19(1), 1–13. <https://doi.org/10.1186/s12889-019-7451-4>
- Jose, E. G. De. (2013). Filipino adolescents' sexual attitudes and behaviors: Results from a university cohort. *Academic Journal of Interdisciplinary Studies*, 2(8), 717. <https://doi.org/10.5901/ajis.2013.v2n8p719>
- Lounsbury, K., Mitchell, K. J., & Finkelhor, D. (2011). "The true prevalence of sexting". <https://scholars.unh.edu/cgi/viewcontent.cgi?article=1063&context=ccrc>
- Recide, S. R. (2014). *One in ten young Filipino women age 15 to 19 is already a mother or pregnant with first child (Final Results from the 2013 National demographic and health survey)*. <https://psa.gov.ph/content/one-ten-young-filipino-women-age-15-19-already-mother-or-pregnant-first-child-final-results>
- Robbins, C. L., Schick, V., Reece, M., Herbenick, D., Sanders, S. A., Dodge, B., & Fortenberry, J. D. (2011). Prevalence, frequency, and associations of masturbation with partnered sexual behaviors among us adolescents. *Archives of Pediatrics and Adolescent Medicine*, 165(12), 1087–1093. <https://doi.org/10.1001/archpediatrics.2011.142>
- Rodgers, J. L., & Rowe, D. C. (1993). Social contagion and adolescent sexual behavior: A developmental EMOSA model. *Psychological Review*, 100(3), 479–510. <https://doi.org/10.1037/0033-295X.100.3.479>
- Ropelato, J. (2007). Internet pornography statistics. *Top Ten Reviews*, 1–10. <http://internet-filter-review.toptenreviews.com/internet-pornography-statistics.html>
- Santos, R. R. (2016). *Personal development* (First Edition). Rex Book Store, Inc.
- Twelker, P. A. (2003). *Sexual Attitudes and abstinence among christian youth*. <https://ptwelker.wordpress.com/2019/03/24/sexual-attitudes-and-abstinence-among-christian-youth>
- UNICEF data. (2021). *Early childbearing*. <https://data.unicef.org/topic/child-health/adolescent-health/>
- Villagomez, L. L. C. (2013). *Socio-cognitive, affective, and situational determinants of college students' health behavior: Towards a healthy lifestyle module*. [Unpublished Master's Thesis]. Adventist University of the Philippines.

Author Biography

Carolyn D. Fiñones is the Head of the Guidance Services Office of Manila Adventist College. She is a Registered Psychometrician and a faculty of the Senior High School department. Correspondence can be addressed to cvdfinones@gmail.com or macpsychomet@adventisthealth-mnl.com

Angela Mea Grace A. Malaluan, David C. Garrido, Johnlyd Timothy B. Camato, Rafael Maurice G. Ramos, and Romerson A. Villanueva are Senior High School students of Manila Adventist College Batch 2019.

Pharmacy Students' Coping Responses and Experiences in Online Learning During the COVID-19 Pandemic

Vina Rose Dahilig-Talan, RPh, MS¹; Sofia M. Cortez, RPh; Elsa Espeleta, RPh;
Frederick M. Francisco, RPh; Leilani E. Hidea, RPh

Corresponding author: Vina Rose A. Dahilig-Talan, vinarosedahilig@yahoo.com
Department of Pharmacy, Manila Adventist College

Abstract

Stress among university students is a common phenomenon (Bòke et al., 2019, Reddy, et al., 2018). In addition to dealing with academic stress, students also have to deal with the transition to online distance learning in the light of the COVID-19 pandemic in the Philippines. This study explored the coping responses of the BS Pharmacy students in Manila Adventist College during the COVID-19 pandemic. This descriptive cross-sectional study was conducted on all 34 students in the first and second year level of the Pharmacy program. To measure coping responses and types of coping, a questionnaire was drawn from two standardized tests – the Brief COPE Inventory and the Brief Resilient Coping Scale (BRCS). Twenty-seven out of 34 students responded, giving a 79.41% response rate. Most of the respondents were first year students, are currently living with their parents, are using prepaid plans and mobile phones for online learning. The respondents report positive coping responses through Religion and Acceptance scales on the Brief COPE Inventory. They have taken an approach type and adaptive coping response to the situation. Majority of the students are medium resilient copers. This study recommends that wholistic interventions and student support be provided to the students to ensure their coping strategies and preserve mental well-being in online distance learning during the pandemic.

Keywords: *coping strategies, flexible learning, student resilience, mental well-being,*

Introduction

Stress is a common phenomenon in daily human interactions. It is pervasive anywhere people worked with each other or had close relationships with, for example, coworkers, family members, lovers, friends, students and teachers. People experience stress and perceive issues as threatening or dangerous whenever they believe that they have in adequate resources to cope with such obstacles (Shahsavarani, et. al, 2015)

Literature showed that stress is predominant among university students (Bòke et al., 2019,

Reddy, et al., 2018). Stress among university students was thought to be attributed to the expectations parents had for their children, which become larger burdens that these children could not carry anymore). Academic stress (Reddy, 2018) was defined as the interaction between environmental stressors, student's appraisal and reactions for the same. Common causes of academic stress include including high workload, attending lessons, respecting deadlines, balancing university and private life, and economic issues. These stressors have been found to

be associated with high risk of distress and reduced academic achievement (Portoghese et al., 2019).

As consequence to stress, individuals use many ways to cope. Coping was referred to as the way people manage stressful life conditions. The coping theory of Lazarus, 1999 defined coping as constantly changing cognitive and behavioral efforts undertaken by an individual in order to deal with demands which are especially challenging and are probably exceeding individual capacities and/or resources. Coping was said to have an inverse relationship with stress. When coping is ineffective, the stress level is high. On the other hand, when coping is effective, stress level is low. Therefore, analyzing coping can greatly help educational psychologists, researchers and educators understand students' constant struggle to adapt to troubling stressors and those produced by changing life conditions and help provide interventions that can help their academic capacities.

In the Philippines, the usual stressors in the academia have been further exacerbated for the tertiary-level students due to the COVID 19 pandemic. The extraordinary turn of events on both national and international scale have greatly affected the social and academic lives of these students.

Due to the nationwide imposition on social distancing, colleges and universities in the Philippines have suspended their face-to-face classes and operations and have resorted to flexible means of teaching and learning strategies, primarily through online distance learning (CHED CMO 5, s.2020). Majority of the tertiary level institutions utilized online learning management systems to deliver instruction to their learners while both teachers and students teach and study at home.

It is the interest of this study to explore the coping responses of the BS Pharmacy

students in Manila Adventist College during the Philippines situation in the light of the COVID-19 pandemic.

Methods

This quantitative descriptive study was conducted on all 34 students in the first and second year level of the BS Pharmacy program in Manila Adventist College during the Schoolyear 2020-2021. Consent from the respondents was sought and given as indicated by their participation in the online survey. The survey was administered by sending online questionnaires through the students' email and Facebook messenger accounts.

The study follows Lazarus and Folkman's framework of coping (Lazarus and Folkman, 1984). In order to measure the coping responses, type of coping and online student engagement, a questionnaire was drawn up with two standardized test – the Brief COPE Inventory and the Brief Resilient Coping Scale (BRCS). The students' responses were validated with additional open-ended questions. This questionnaire was then tested on ten respondents who were excluded for the study.

The resulting questionnaire was tested for its content validity with three experts – a registered psychologist, a college professor in the Pharmacy program of a different university and a college professor practicing online learning. The instrument was also tested for its reliability by determining its Cronbach alpha where a value of ≥ 0.7 is considered acceptable. Results of the reliability testing yielded Cronbach alpha of 0.9269, indicating high internal consistency. Data was cleaned, coded and encoded using Stata v.11. Descriptive statistics was used to characterize the student population. Correlation analyses and z-test were performed to compare differences in Brief COPE Scores between different student groups.

Results and Discussions

Of the 34 students invited to participate in the study, only 27 responded to the survey, giving a 79.41% response rate. Majority were females (88.88%) with mean age of 20.37 ± 2.15 . Most of the respondents are in their first year of the program (59.26%). Most of the students lived in Pasay City (37.04%) while the rest went back to their provinces as far as Isabela (3.70%) and Kidapawan (3.70%).

Most are living with their parents (66.67%) while some live with their guardians (11.11%). More than half (55.56%) use mobile data while some use postpaid internet connection (40.74%) and prepaid internet (3.70%). Almost all of the respondents use their mobile phones (96.30%) and laptops (55.56%) while only three of the twenty-seven participants (11.11%) use personal computers

Table 1

Summary of Respondent's Demographics

PARTICIPANT CHARACTERISTICS		FREQUENCY	PERCENTAGE
Gender	Male	3	11.11%
	Female	24	88.89%
	Total	27	
Year-Level	First Year	16	59.26%
	Second Year	11	40.74%
	TOTAL	27	
Internet Connection	Mobile data	15	55.56%
	Postpaid plan	11	40.74%
	Prepaid plan	21	3.70%
	TOTAL	27	
Type of Device used	Mobile phone	26	96.30%
	Laptop	15	55.56%
	PC	3	11.11%
Online resources used	Google	5	18.51%
	Facebook	4	14.81%
	Facebook messenger	4	14.81%
	Youtube	4	14.81%
	Zoom	4	14.81%
	Gmail	4	14.81%
	Google classroom	3	11.11%
	Instagram	1	3.70%
	Ebook	1	3.70%

Coping Responses

Coping responses of the respondents were measured using the Brief COPE Inventory and the Brief Resilient Coping Scale. The Brief COPE Inventory is an abbreviated version of the Carver's 1989 COPE Inventory, a 60-item instrument multi-dimensional inventory developed to assess different coping strategies people use in response to stress. The questions in the Brief COPE inventory identifies ways the respondents were coping with the stress in their life and the extent that they have been doing it since the start of the enhanced community quarantine in the Philippines due to the COVID-19 pandemic. There are 14 scales in the inventory, each comprising of two questions: 1) acceptance; 2) emotional support; 3) humor; 4) positive reframing; 5) religion; 6) active coping; 7) instrumental support; 8) planning; 9) behavioral disengagement; 10) denial; 11) self-distraction; 12) self-blaming; 13) substance use and 14) venting. Strategies of acceptance, emotional social support, humor, positive reframing, and religion are categorized as emotion focused. Active coping, instrumental support, and planning are considered as problem-focused strategies while behavioral disengagement, denial, self-distraction, self-blaming, and substance use and venting are considered as dysfunctional coping strategies.

Coping strategies are also further subcategorized as either adaptive or maladaptive. Adaptive forms of coping include direct coping, if the problem can be solved, reappraisal, regulated emotional expression, and non-repressive self-control. On the other hand, rigid dysfunctional approach coping (rumination, venting/emotional discharge, and confrontation) and rigid maladaptive avoidance, based on abandonment, social isolation, inhibition, and emotional suppression (Brown, L. et. al, 2019) are considered maladaptive.

The objective of this study is to determine the coping responses of the students during the COVID-19 pandemic and determine their type of coping. The summary of their coping responses is tabulated in Table 2.

From the 14 scales in the Brief COPE Inventory, the students scored highest in the Religion scale (Group mean: 7.19 ± 1.04) while Substance abuse was the least type of coping response used (Group mean: 2.11 ± 0.58).

Z-test was used to measure gender differences in the coping responses of the respondents in the Brief COPE scale scores. Males scored higher in the religion category (8 ± 0) than females (7.08 ± 1.06). An opposite finding was observed for scores on substance abuse where females scored higher (2.13 ± 0.61) than males (2 ± 0). However, there were no significant differences between the means of males and females ($p > 0.05$) for both Religion and Substance Abuse scales. T test was also used to evaluate differences between first and second-year level students. The results of the Brief COPE inventory indicated that most of the respondents found comfort in religious or spiritual beliefs by praying or meditating. They collectively do not need alcohol or other drugs to feel better or to help them get through the stress they are experiencing.

The respondents also ranked high in the Acceptance scale. Acceptance is accepting the reality that the COVID-19 pandemic has happened and that they are learning to live with it (Brief COPE, 1997). Males have higher acceptance scores than females. There were no significant differences between the means of males and females. On the other hand, the second-year students have higher acceptance than first-year level students. There were also no significant differences between the means of males and females ($p > 0.05$).

Table 2
Summary Of Coping Responses

Brief COPE Scales	Total Population	Gender					Year Level					
		Male		Female		p-value	First Year		Second Year		p-value	
		M	SD	M	SD	M	SD	SD	M	SD	M	
Self-distraction	6.11	1.34	6.67	1.53	6.04	1.33	0.46	6.25	1.24	5.91	1.51	0.53
Active Coping	6.31	1.22	6.67	1.53	6.23	1.21	0.60	6.33	0.98	6.27	1.55	0.90
Denial	3.15	1.68	5.00	1.53	2.92	1.44	0.04	2.94	1.44	3.45	2.02	0.44
Substance Abuse	2.11	0.58	2.00	0	2.13	0.61	0.73	2	0	2.27	0.59	0.23
Use of Emotional Support	5.04	1.73	4.50	3.54	5.08	1.64	0.65	5.25	1.69	4.7	1.83	0.44
Use of Instrumental Support	4.85	1.77	5.33	3.06	4.80	1.64	0.63	4.88	1.5	4.82	2.18	0.93
Behavioral Disengagement	3.85	1.63	3.00	1.00	3.96	1.68	0.35	3.75	1.48	4	1.90	0.70
Venting	4.96	1.56	2.67	1.15	5.26	1.36	0.00	5.06	1.34	4.8	1.93	0.68
Positive Reframing	6.23	1.63	5.33	2.08	6.35	1.58	0.32	6.13	1.63	6.7	1.71	0.68
Planning	5.89	1.45	5.67	2.08	5.92	1.41	0.78	5.69	1.30	6.18	1.66	0.39
Humor	2.77	1.24	2.67	1.15	2.78	1.28	0.88	2.88	1.36	2.6	1.07	0.59
Acceptance	6.37	1.55	7.00	1.00	6.29	1.60	0.47	6.19	1.72	6.64	1.29	0.47
Religion	7.19	1.04	8.00	0.00	7.08	1.06	0.15	7.13	1.02	7.27	1.10	0.72
Self-Blame	3.67	1.44	2.67	0.58	3.80	1.47	0.21	3.63	1.15	3.73	1.85	0.86

Notes: M= mean; SD = Standard deviation

There were, however, significant differences between genders for Denial and Venting scales. Similar with the findings in literature, gender differences in the expression of emotion have been observed and that the female gender role has been associated with the expression of emotion (Deng, et al. 2015). Denial was defined in the Brief COPE as saying to oneself "this is not real" or refusing to believe that it has happened. Males scored higher than females and there was a significant difference between these groups ($p < 0.05$). This result is consistent with studies that reveal that women report higher levels of chronic and daily stressors than men (Anbumalr et al., 2017). However, given that there were only three male respondents,

it is recommended that this study be replicated for comparison of findings.

Venting was defined as saying things to let unpleasant feelings escape or by expressing negative feelings. Females reported higher scores than males and there was a significant difference between these groups ($p < 0.05$).

These results reflect the stereotypical views on gender socialization on stress coping based on various studies. It is a general view that men might be more likely to cope with stress by denying the problem or avoiding it because men are socialized to conceal their emotions (Chaplin, 2015).

Because men, based on some literature, are considered to be action oriented, direct, and assertive, they also might be more likely to engage in problem-focused coping (Chen and Sun, 2019). The social norm seems to be for women to express their feelings and for men to conceal their feelings. (Garcia et al, 2018).

To cope with the situation, students listed their coping activities. Most of the respondents found that sleeping (81.47%) is an effective way to cope with the current situation. Others read (66.67%), surf the internet (66.67%), watch movies (55.56%) or watch TV (51.85%). This is of special interest to the researchers so that future extra-curricular interventions may be developed based on activities they enjoy the most.

Results also showed that the respondents have taken an approach-type of coping than avoidant. Both males and females have higher scores on approach coping than avoidant. First-year level students have higher scores on approach coping) than their second-year counterparts. There were no significant differences for gender and year-level on these types of coping.

Participants also record a higher mean on adaptive coping than maladaptive, indicating that the students have found positive means to cope with their current situation. This result is consistent with the individual scales in the Brief COPE inventory which showed that the top coping responses of the students were under the adaptive category. These were as follows: religion (7.19 ± 1.04), acceptance (6.37 ± 1.55) and active coping (6.31 ± 1.22).

To further validate the results of the Brief COPE Inventory, the Brief Resilient Coping Scale was also administered to the respondents. The Brief Resilient Coping Scale (BRCS) is a 4-item measure designed to capture tendencies to cope with stress

in a highly adaptive manner (Sinclair and Wallston, 2004). There were four themes from the BRCS instrument: tenacity, optimism, creativity, an aggressive approach to problem solving and commitment to extract positive growth. The themes describe an effective, active problem-solving coping pattern that reflects resilient coping. The final scores in the BRCS scale were summed up where a high score between 17 and 20 indicates a highly resilient copier and a low score between 4 and 13 suggests a low resilient copier. Sinclair and Wallston, 2004 recommends the BRCS as a useful scale in identifying individuals in need of interventions designed to enhance resilient coping skills.

Based on the BRCS scores, majority of the respondents are medium resilient copiers. Analysis of the individual scores showed that there were 10 low resilient copiers (with scores 12-13), 11 medium resilient copiers and 4 high resilient copiers.

Conclusions

Under normal, ordinary circumstances, university students are often faced with stress, particularly, academic stress. This stress is currently being compounded with the uncertainty caused by the COVID-19 pandemic and challenges of distance learning. As part of the responsibilities of college faculty members, it becomes necessary for them to determine how students cope with the current strain and aid in ensuring coping resilience and preserving mental wellness.

While this study showed that generally, the students have positive coping responses by turning to religion for comfort and reassurance and by accepting the current situation, the current level of resiliency is moderate. Thus, the immediate concern of the faculty should be to determine the extent of the students' resiliency during flexible teaching and

learning. The results of the study indicate a need to provide mental health support and extra-curricular interventions to ensure students' coping resiliency during these challenging times.

References

- Agolla, J. and Ongori, H. (2009). An assessment of academic stress among undergraduate students: The case of University of Botswana. *Educational Research and Review* 4(2), 063-070.
- Anbumalr,C. & P., Dorathy V.P., Jaswanti & Dhandapani, Priya & D., Reni. (2017). Gender differences in perceived stress levels and coping strategies among college students. *The International Journal of Indian Psychology*. 4(4), 22-23 https://www.researchgate.net/publication/323995368_Gender_Differences_in_Perceived_Stress_levels_and_Coping_Strategies_among_College_Students.
- Ashwin P., McVitty D. (2015) The Meanings of student engagement: Implications for policies and practices. In: Curaj A., Matei L., Pricopie R., Salmi J., Scott P. (eds) *The European Higher Education Area*. Springer, Cham. https://doi.org/10.1007/978-3-319-20877-0_23
- Böke, Bilun Naz; Mills, Devin J.; Mettler, Jessica; Heath, Nancy L., (2019). Stress and coping patterns of university students. *Journal of College Student Development*, 6(1). 85-103. <https://muse.jhu.edu/article/715312>.
- Brown, L., Bond, M & Topa, G. (reviewing editor). (2019) The pragmatic derivation and validation of measures of adaptive and maladaptive coping styles, *Cogent Psychology*, 6:1. DOI: 10.1080/23311908.2019.1568070
- Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the brief cope. *International Journal Of Behavioral Medicine*, 4(1), 92-100.
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality And Social Psychology*, 56(2), 267.
- Chaplin, T. (2015). Gender and emotion expression: A developmental contextual perspective. *Emot Rev.* 7(1),14–21. <http://emr.sagepub.com/content/7/1/14.full.pdf+html>.
- Chen S-M, Sun P-Z (2019) Gender differences in the interaction effect of cumulative risk and problem-focused coping on depression among adult employees. *PLoS ONE* 14(12). e0226036. <https://doi.org/10.1371/journal.pone.0226036>
- Connor-Smith JK, & Flachsbart C. (2002). Relations between personality and coping: a meta-analysis. *J Pers Soc Psychol* 93(6), 1080-107. doi: 10.1037/0022-3514.93.6.1080. PMID: 18072856. <https://pubmed.ncbi.nlm.nih.gov/18072856/>
- Deng Y, Chang L, Yang M, Huo M, & Zhou R. (2016). Gender differences in emotional response: Inconsistency between experience and expressivity. *PLoS ONE* 11(6). e0158666. <https://doi.org/10.1371/journal.pone.0158666>
- Eisenberg, S. A., Shen, B. J., Schwarz, E. R., & Mallon, S. (2012). Avoidant coping moderates the association between anxiety and patient-rated physical functioning in heart failure patients. *Journal of Behavioral Medicine*, 35(3), 253-261.

Conflict of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

- García, F.E., Barraza-Peña, C.G., Włodarczyk, A. et al. (2018). Psychometric properties of the Brief-COPE for the evaluation of coping strategies in the Chilean population. *Psicol. Refl. Crít.* 31(22) <https://doi.org/10.1186/s41155-018-0102-3>
- Gol, A. R., & Cook, S. W. (2004). Exploring the underlying dimensions of coping: a concept mapping approach. *J. Soc. Clin. Psychol.* 23, 155–171. doi:10.1521/jscp.23.2.155.31021
- Herman-Stabl, Mindy & Stemmler, Mark & Petersen, Anne. (1995). Approach and avoidant coping: Implications for adolescent mental health. *Journal of Youth and Adolescence.* 24, 649-665. 10.1007/BF01536949.
- Holahan CJ, Moos RH, Holahan CK, Brennan PL, & Schutte KK. (2005). Stress generation, avoidance coping, and depressive symptoms: a 10-year model. *J Consult Clin Psychol.*, 73(4):658–666. doi:10.1037/0022-006X.73.4.658
- Meyer, B. (2001). Coping with severe mental illness: Relations of the brief cope with symptoms, functioning, and well-being. *Journal of Psychopathology and Behavioral Assessment* 23, 265–277. <https://doi.org/10.1023/A:1012731520781>
- Moore BC, Biegel DE, & McMahon TJ. (2011). Maladaptive coping as a mediator of family stress. *J Soc Work Pract Addict.*, 11(1):17–39. doi:10.1080/1533256X.2011.544600.
- Portoghese, I., Galleta, M., Porru, F., Burdorf, A., Sardo, S., D'Aloja, E., Finco, G., & Campagna, M. (2019). Stress among university students: factorial structure and measurement invariance of the Italian version of the effort-reward imbalance student questionnaire. *BMC Psychol* 7, 68. <https://doi.org/10.1186/s40359-019-0343-7>.
- Ptacek, J.T., Smith, R.E., Dodge, K.L. (1994). Gender differences in coping with stress: When stressor and appraisals do not differ. *Personality and Social Psychology Bulletin*, 20(4), 421-430. <https://journals.sagepub.com/doi/10.1177/0146167294204009>
- Regehr, C. & Glancy, D. (2013). Interventions to reduce stress in university students: A review and meta-analysis. *Journal of Affective Disorders*, 148(1), 1-11.
- Shahsavarani, A., Abadi, E., & Kalkhoran, M. (2015). Stress: Facts and theories through Literature Review. *International Journal of Medical Reviews*, 2(2), 230-241.
- Sinclair VG, Wallston KA. (2004). The development and psychometric evaluation of the Brief Resilient Coping Scale. *Assessment.*, 11(1), 94-101. <https://pubmed.ncbi.nlm.nih.gov/14994958>

Author Biography

Asst. Prof. Vina Rose Dahilig-Talan, RPh, MS is currently the program chair of the Department of Pharmacy of the Manila Adventist College. She graduated MS Pharmacy (major in Hospital Pharmacy) and BS Industrial Pharmacy from the University of the Philippines Manila. She is currently a candidate for the degree of PhD. in Educational Leadership and Management in De La Salle University Manila. She finished her post-graduate fellowship in Plant Medicine Research and Drug Formulation in Rangsit University, Thailand. An associate member of the National Research Council of the Philippines Pharmaceutical Sciences Division, she has presented and published her research works in the field of plant medicine and education research in various local and international fora.

Sofia M. Cortez, RPh, Elsa Espeleta, RPh, Frederick M. Francisco, RPh, and Leilani E. Hidea, RPh are faculty members of the Department of Pharmacy.

Disaster Awareness and Preparedness of College Students: A Descriptive-Correlational-Comparative Study

Milaine Vya Anne D. Orbe, Keff Jhonmar B. Baut, Daryl Andre C. Crisologo, Toby Irvin Karfendi, and Victorina L. Chivinda

Corresponding author: Ryan Ray M. Mata, RN, MN, rmmata@adventisthealth-mnl.com
School of Nursing, Manila Adventist College

Abstract

Disasters and their impact on people's lives are arising. Such scenarios lead to disaster preparation of people in various organizations and institutions. However, limited studies deal with the influence of disaster awareness on preparedness, especially with allied health and business college students. Anchoring in the Protective Action Decision Model, this study aimed to examine the relationship between disaster awareness and preparedness of college students and to determine the difference in their preparedness based on their age, program, and gender in a faith-based private higher education institution in Metro Manila.

A descriptive-correlational, comparative design of quantitative research was utilized. Samples were drawn using stratified random sampling comprising 240 students from different departments answering a self-constructed and validated survey questionnaire. Data gathered were analyzed using SPSS version 21. Statistical tools used to answer the research questions include frequency, percentage, mean, Pearson correlation, independent sample t-test, and one-way ANOVA.

Results revealed that college students have high disaster awareness ($M = 3.63$) and are moderately prepared for disaster ($M = 2.91$). There is a statistically significant relationship between disaster awareness and preparedness ($r = .568$, $p < .001$). Moreover, disaster preparedness significantly differs according to gender ($t(184.160) = -2.91$, $p = 0.004$) but not with the age and course of college students.

Disaster awareness has an important role in the preparedness towards disasters of college students. Further, female college students are considerably prepared when disasters occur. Future research priorities and basic recommendations for improving disaster preparedness in the school setting are identified.

Keywords: *disaster awareness, disaster preparedness, college students, higher education institution*

Disasters and the associated social and economic impacts are rising (Emergency Database [EMDAT], 2018; Southard, 2017). The last decade has witnessed the highest number of impacts from disasters, and 2015 – 2017 were the hottest years ever (World

Meteorological Organization [WMO], 2017). In the report on disaster year in review 2019 released by the Center for Research on the Epidemiology of Disaster [CRED] (2020), worldwide, an estimated 11755 people are killed by natural disasters affecting 95 million

others and costing nearly 130 billion US dollars.

The Asia Pacific region has experienced the highest number of disasters (EMDAT, 2017; Radtke, 2019), wherein the Philippines is one of the most at-risk countries (EMDAT, 2017) because it lies along both the typhoon belt and the Pacific Ring of Fire (Bollettino et al., 2018; Domingo & Manejar, 2018). Hence, its islands are regularly impacted by floods, typhoons, landslides, earthquakes, volcanoes, and droughts (Bollettino et al., 2018). For instance, before the end of 2017, typhoons like Vinta and Urduja left the Philippines with more than three hundred dead and missing and billions worth of damages. A similar scenario happened before the end of 2018 wherein tropical depression Usman left 126 dead people and 4 billion worth of agricultural crops and infrastructure were damaged due to the floods and landslides (Domingo & Manejar, 2018).

In the local setting, the college under study is located near Manila Bay and Makati City, one of the key cities transected by the West Valley Fault (Philippine Institute of Volcanology and Seismology [PHIVOLCS], 2015). Most student, faculty, and staff population comes from the vicinity of the institution and in the different areas in Metro Manila, or the National Capital Region. This area experienced floods during typhoons and occasional earthquakes.

Given the above scenarios, the need to augment disaster preparedness is vital. Disaster preparedness is defined as the knowledge and capacities developed by governments, professional response and recovery organizations, communities, and individuals to effectively anticipate, respond, and recover from the impacts of likely, imminent, or current hazard events or conditions (National Disaster Risk Reduction and Management Council [NDRRMC], 2011).

In a general view, it is widely acknowledged that schools play an important role in providing awareness amongst students and parents (Natividad, 2019). Akumu (2013) described disaster awareness as having knowledge and skills on disaster management that can help one identify and mitigate disaster occurrences. Gerdan (2014) pointed out in their study that awareness and preparedness towards disasters vary depending on the characteristics of individuals within the community and characteristics of communities across space.

Previous studies reported inconsistent results regarding disaster awareness, such as high level among nursing students (Cho, 2018) whereas low level for higher education students (Ozkazanc & Yuksel, 2015). On the other hand, most of the studies on disaster preparedness reported inadequately prepared or with low to moderate levels of preparedness. It includes different populations such as household Filipinos (Bollettino et al., 2018), registered nurses (Labrague et al., 2016; Nilsson et al., 2016; Oztekin et al., 2016; Tzeng et al., 2016), nursing students (Cho, 2018; Schmidt, 2011), and college students (Natividad, 2019; Park, 2019; Tkachuck et al., 2018).

Although research in this area is increasing, yet there is still limited research on understanding disaster awareness and, more importantly, students' preparedness with different programs in allied health and business in the Philippine context. Hence, this study seeks to examine further the relationship between disaster awareness and preparedness among college students with different programs. The following specific research questions were addressed:

Research Question 1: What is the level of disaster awareness of the respondents?

Research Question 2: What is the extent of disaster preparedness of the respondents?

Research Question 3: Is there a significant relationship between disaster awareness

and preparedness of the respondents?

Research Question 4: Is there a significant difference in disaster preparedness of the respondents when grouped according to age, program, and gender?

Theoretical Framework

This study is anchored in Lindell and Perry's Protective Action Decision Model (2012). The model has the following major stages: environmental and social context, psychological processes, situational impediments and facilitators, and feedback. These stages are further broken up in the following way. Within environmental and social context are sub-stages: environmental cues, social cues, information sources, channel access and preference, warning messages, and receiver characteristics; and within psychological processes: pre-decision processes (exposure, attention, and comprehension), perceptual processes (of the environmental threat, alternative protective actions, and social stakeholders), and protective action decision making processes (Lindell & Perry, 2012). In this present study, students' characteristics and disaster awareness are both included in the receiver characteristics, whereas disaster preparedness is the behavioral response.

Methodology

Research Design

The study utilized a descriptive-correlational, comparative quantitative design of research to assess the level and extent of disaster awareness and preparedness of the respondents and consequently to examine any significant relationship between these main variables and to determine any significant difference in disaster preparedness based on the respondents' characteristics: age, program, and gender.

Population and Sampling Technique

The samples were drawn from a total population of 601 using stratified random sampling technique, which comprised 240 college students enrolled for the first semester of the academic year 2018 – 2019 from the different departments (see Table 1) in a faith-based private higher education institution located in Metro Manila. The Yamane formula was used to get the desired sample size. Majority of the respondents were 20-21 years old ($n = 94$) and predominantly belonged to females ($n = 151$). One respondent did not indicate a response to the item of age. Sample sizes for each stratum (i.e., program) were obtained using the Stratified Sample formula. $\text{Strata sample size} = \text{Entire sample} / \text{Total population size} \times \text{Layer size}$.

Table 1

Distribution of the Respondents by Course

Courses	Total Population	Sample Size	Actual
BS Accountancy	57	23	23
BS Business Administration	58	23	23
BS Medical Laboratory Sciences	21	8	8
BS Midwifery	64	26	26
BS Nursing	139	55	55
BS Pharmacy	16	6	6
BS Physical Therapy	117	47	47
BS Radiologic Technology	129	52	52
Total	601	240	240

Instrumentation

The data collection tool used for this current study was a self-constructed survey questionnaire based on the literature review, which has three parts.

Students' demographic information. College students were asked to provide information about their age, course, and gender.

Disaster awareness. This portion of the survey questionnaire contains 20-items; the Cronbach's alpha was 0.91. All items were scored on a Likert scale of 1 to 5 (1 = *not familiar at all*, 2 = *not as familiar*, 3 = *somewhat familiar*, 4 = *very familiar*, and 5 = *extremely familiar*).

Disaster preparedness. This section of the survey questionnaire contains 15 items and the response options on a 4-point Likert scale ranging from 1 = *never*, 2 = *rarely*, 3 = *seldom*, and 4 = *very often*. The Cronbach's alpha was 0.71.

The self-constructed survey questionnaire was validated by 5 experts receiving a content validity index of 0.84. In addition, a pilot study was conducted in order to test its reliability.

Data Gathering Procedure

Permission to conduct the study was secured from the college administrators. Upon approval, researchers started distributing survey questionnaires to the respondents. Once returned, the questionnaire was checked for the completeness of answers. Lastly, the questionnaire was kept safe in a cabinet at the research office.

Data Analysis

The data were analyzed using SPSS version 21. To address the first and second research questions, descriptive analysis such as mean score was used to assess the reported level and extent of college students' disaster

awareness and preparedness. To address the third research question, Pearson product-moment correlation coefficient was used to determine the relationship between disaster awareness and preparedness. To address the fourth and last research question, an independent sample t-test and one-way analysis of variance (ANOVA) were used to determine the significant difference in disaster preparedness based on the respondents' characteristics: age, program, and gender.

Ethical Considerations

The ethics review committee at Manila Adventist College approved this study on July 19, 2018, with an approval number of 2018-14. Respondents consented using a cover letter accompanied each survey containing information about the purpose, risks, benefits, confidentiality, contact information, and the voluntary nature of the study.

Results

Level of Disaster Awareness

Presented in Table 1 is the overall mean for disaster awareness of college students. They have a high level of disaster awareness ($M = 3.63$). Respondents reported very high ($M = 4.24$) in the item which states "*a natural disaster such as typhoons, floods, tsunamis storm surge, and earthquakes can occur anytime*". On the other hand, low level is reported ($M = 2.25$) in the item which states "*damaged areas can't be a reservoir site for possible aftershocks which can be more severe*." These results indicate that students are very familiar that any disasters may happen anytime and least familiar about areas with damage can be a reservoir site.

Table 2*Level of Disaster Awareness of the Respondents*

Statements	Mean	Interpretation
1. A natural disaster such as typhoons, floods, tsunamis, storm surge, and earthquakes can occur anytime.	4.24	Very high
2. There are specific action responses during a disaster event	4.15	High
3. The country has been experiencing numerous disastrous events in a year (e.g. an average 20 typhoons/year)	4.10	High
4. As a result of a disaster, more possible disastrous events may likely to follow.	4.08	High
5. A small kit with emergency supplies must be brought always if evacuation is necessary.	4.04	High
6. Preserving or keeping food safe after a disaster should be taught in disaster seminars.	4.00	High
7. The Philippines ranks among the most disaster-prone country in the South-East Asia.	4.00	High
8. The government has several seminars and forums laid out in preparation for possible new disaster that may occur in the future (e.g. "The Big One")	3.90	High
9. The Philippines, as an archipelago, puts risk during a storm surge.	3.90	High
10. The Philippines is situated in a weather pathway near the equator known as the Typhoon Belt.	3.89	High
11. The government hosts several mass simulation drills to prepare the population for future unwanted disastrous events.	3.85	High
12. Local government units and agencies has provided hotlines which can be contacted during an event of a disaster.	3.82	High
13. There is a disaster plan that has been formulated at my school.	3.57	High
14. My school hosts seminars and forums to prepare us for a disaster.	3.53	High
15. There is no message that encourage the students to takes steps to be prepared for emergency situations in the school.	3.23	Moderate
16. There is no possible dangers that can occur after a disaster.	3.21	Moderate
17. The local media has not given any information regarding preparation in disasters.	3.14	Moderate
18. There is no established specific meeting placed to reunite with my classmates and teachers	2.88	Moderate
19. The government's assigned agency has not been inspecting the vulnerability of public and private institutions in a disaster.	2.85	Moderate
20. Damaged areas can't be a reservoir site for possible aftershocks which can be more severe.	2.25	Low
Overall Mean	3.63	High

Legend: 4.21-5.00 = Very high; 3.41-4.20 = High; 2.61-3.40 = Moderate; 1.81-2.60 = Low; 1.00-1.80 = Very low

Extent of Disaster Preparedness

College students have moderate extent of disaster preparedness ($M = 2.91$), as shown in Table 2. Respondents reported being highly prepared in the two items, which state, *"I stay away from large bodies of water, especially when I hear about a new disaster may happen"* ($M = 3.48$) and *"I will evacuate calmly"* ($M = 3.38$). On the other hand, respondents reported being slightly

prepared in the item which stating *"I do not have the emergency numbers and contact details of the qualified personnel such as the local fire department, police, hospitals, and barangay officials"* ($M = 2.35$). These suggest that students are prepared to stay away from bodies of water and are calm during the evacuation. Still, they lack information of emergency contact numbers of selected personnel in charge when disasters happen.

Table 3

Extent of Disaster Preparedness of the Respondents

Statements	Mean	Interpretation
1. I stay away from large body of waters, especially when I hear about a new disaster may happen.	3.48	Highly prepared
2. I will evacuated calmly.	3.38	Highly prepared
3. I practice how to drop to my hands and knees, cover my head and neck with my arms, and hold on to any sturdy furniture until the shaking stops.	3.22	Moderately prepared
4. I follow the way leading to the river during a storm	3.21	Moderately prepared
5. In an event of an earthquake, I will stay near glass windows, outside doors and walls.	3.05	Moderately prepared
6. If my house has been slightly destroyed after a typhoon, I will go inside my house right away.	3.04	Moderately prepared
7. I participate in the disaster plan that has been formulated by my school.	2.98	Moderately prepared
8. I attend seminars about being prepared for a disaster hosted by my school.	2.92	Moderately prepared
9. I do not participate in the practice drills hosted by my school.	2.79	Moderately prepared
10. I do not stay home whenever there are announcements by the government through their social media accounts about dangerous disasters that may happen.	2.72	Moderately prepared
11. I will not leave immediately even if I have been told to do so.	2.68	Moderately prepared
12. I attend seminars and forums laid out by the government, in partnership with several non-government offices for more knowledge.	2.63	Moderately prepared
13. I participate in government-hosted mass simulation drills in preparation for future disastrous events.	2.61	Moderately prepared
14. I have not obtained the established specific meeting place to reunite with other students and teachers.	2.60	Moderately prepared
15. I do not have the emergency numbers and contact details of the qualified personnel such as the local fire department, police, hospitals, and barangay officials.	2.35	Slightly prepared
Overall Mean	2.91	Moderately prepared

Legend: 3.26-4.00 = Highly prepared; 2.51-3.25 = Moderately prepared; 1.26-2.50 = Slightly prepared; 1.00-1.25 = Not prepared

Relationship between Disaster Awareness and Disaster Preparedness

Table 3 presents the result of Pearson product-moment correlation coefficient between disaster awareness and preparedness. It revealed a direct, moderate, and positive relationship between the respondents' awareness and preparedness on disaster ($r = .568$, $p < .001$), which is statistically significant. This data indicates that the higher the awareness on the disaster, the higher also the extent of preparedness by the respondents.

Table 4

Relationship between Disaster Awareness and Disaster Preparedness of the Respondents

	r	p-value	Interpretation
Disaster Awareness	.568**	.001	Significant

Note. ** Correlation is significant at the 0.01 level

Difference in Disaster Preparedness when in terms of Age, Course, and Gender

One-way analysis of variance was conducted to compare disaster preparedness based on the age group and programs of the respondents. Table 4 shows no significant difference in disaster preparedness between the age group of the respondents ($F = 2.83$, $df = 2,236$, $p = 0.06$). This suggests that regardless of the college students' age, they have the same disaster preparedness.

Table 5

Difference in Disaster Preparedness of the Respondents in terms of Age

Age	N	M	F	Sig.	I
20-21 y/o	94	2.83	2.83	0.06	NS
17-19 y/o	76	2.97			
22-36 y/o	69	2.95			
Overall	239				

Note. N – Population; M – Mean; F – F-value; I – Interpretation

As shown in Table 5, no significant difference is identified between the various programs in terms of their preparedness for disasters ($F = 1.71$, $df = 7,232$, $p = 0.11$). This indicates that disaster preparedness is the same for all the programs.

Table 6

Difference in Disaster Preparedness of the Respondents in terms of Course

Program	N	M	F	Sig.	I
Nursing	55	2.95	1.71	0.11	NS
Radiologic Technology	52	2.76			
Physical Therapy	47	2.88			
Midwifery	26	3.05			
Accounting	23	2.98			
Business Administration	23	2.97			
Medical Laboratory Science	8	2.84			
Pharmacy	6	2.94			
Overall	240				

Note. N – Population; M – Mean; F – F-value; I – Interpretation

An independent sample t-test was conducted to compare disaster preparedness between males and females. As shown in Table 6, female college students reported significantly higher disaster preparedness ($M = 2.97$) compared with male college students ($M = 2.80$), ($t (184.160) = -2.91$, $p = 0.004$). This result suggests that females are more prepared during disasters compared to males.

Table 7

Difference in Disaster Preparedness of the Respondents in terms of Gender

Gender	N	M	t	df	Sig.	I
Female	151	2.97	-2.91	184.16	.004	S
Male	88	2.80				

Note. N – Population; M – Mean; t – t-value; df – Degree of Freedom; I – Interpretation; S – Significant

Discussion

In the current study, the researchers investigated reports of disaster awareness and preparedness of college students. Overall, they reported a high level of disaster awareness. It denotes that these college students are highly aware of disasters. This result contradicts a previous study that documented that higher education students have low disaster awareness (Ozkazanc & Yuksel, 2015). On the other hand, in the study of Cho (2018), nursing students reported high disaster awareness. Benaben et al. (2019) pointed out that the more information obtained on disasters, the higher level of awareness is also acquired.

Overall, college students were moderately prepared regarding disaster preparedness, which is consistent with the study of Natividad (2019), wherein university students at Batangas reported a moderate to a great extent. However, previous studies reported low to moderate preparedness among registered nurses (Labrague et al., 2016; Labrague et al., 2018; Nilsson et al., 2016; Oztekin et al., 2016; Tzeng et al., 2016). Based on the aforementioned results, one possible reason is where the students, faculty, and staff live. According to Bollettino et al. (2018), Filipino households living in the regions most impacted by typhoons have highest levels of preparedness. Another possible aspect to consider is the integrating of disaster education in the senior high school, wherein some of the students were graduates. Additionally, college students are mandated to enroll in the National Service Training Program (NSTP) on their first year, where they were reviewed and re-oriented of the different disaster-related concepts. Another reason to consider besides these program offerings is that the institution is providing yearly disaster-related awareness programs and drills such as earthquake and evacuation to the students during chapel convocation which most likely result in a high

level of disaster awareness and moderate preparedness.

Several studies highlighted the effectiveness of disaster-related programs such as awareness campaigns, simulations, training, and drills as interventions to increase disaster awareness and preparedness (Craft, 2019; Jasper et al., 2013; Nazli et al., 2015; Tkachuck et al., 2018). However, Rañeses et al. (2018) commented that "being prepared" here refers to being aware of the disasters that may occur instead of being prepared for an actual disaster.

The relationship between disaster awareness and preparedness has been reported in previous studies (Gerdan, 2014; Park, 2019). Important results of this study reveal that disaster awareness has a moderate and positive relationship to disaster preparedness. This indicates that the higher the awareness of disaster, the higher the preparedness. Turan et al. (2017) pointed out that education is crucial in providing information to individuals and turning this information into behaviors. Therefore, highlighting the importance of disaster awareness will also improve students' preparedness regardless of their programs. Evidently, this result supports the Protective Action Decision Model of Lindell and Perry (2012). To further elaborate on the similarities of the framework to the study, the initial perception or the 'awareness' from certain factors such as environmental cues, social cues, warnings and characteristics of the receiver creates a basis for the activation of one's protective action decision making that would tangibly be reflected on a person's preparedness through their behavioral responses (e.g., obtain information on phone numbers to contact during a disaster, join in disaster drills, listen to communication devices, prepare a backpack kit, etc.)/ Lindell and Perry further elaborates that the sequence within the model goes "on and on" in a feedback loop like fashion, as one continues

to search for more cues or information. In addition, as this sequence goes back and forth, the model presents a goal of long-term adjustments in preparedness, improving appropriate disaster responses over time. As experience correlates to awareness, this increases a persons' adjustment adoption. Though the demographic variable has no reliable adaptation predictors, assessment of these variables should continue.

Difference in mean ratings of disaster preparedness was found based on gender, but not with age and programs of college students. Specifically, female students reported being significantly more prepared than their male counterparts. Previous research documented that females are reported to have lesser preparedness than males (Mohammad-pajoooh & Aziz, 2014; Sobrio et al., 2016). Whereas, in one study, females are more likely to take protective action than males (Silver & Andrey, 2014). One possible explanation is that females pay more attention during programs or drills. With respect to the age of the college students, one potential reason to consider is their experience on floods, typhoons, and earthquakes. Additionally, most of them are living within the area of the institution and around Metro Manila. Another possible reason is the yearly awareness program and drills provided by the institution. Hence, regardless of age, the same reported disaster preparedness is present. Several studies mentioned that children and adolescents need particular attention in planning disaster and emergency preparedness because they are most likely to be affected psychologically, socially, and academically (Blake & Fry-Browns, 2018; Pratt, 2018). In addition, young ones are less likely to take protective actions for themselves (Silver & Andrey, 2014).

In terms of program, the literature review documented only the nursing and midwifery students but limited studies for pharmacy

and business students. In addition, most of the previous researches focus on registered nurses in different specialty areas and settings (Labrague et al., 2018). This current study provides significant baseline information regarding the disaster preparedness of college students in the allied health and business programs. It is worth noting that business students have high preparedness, possibly because of the programs and drills they received from the institution. According to Ozkazanc and Yuksel (2015), "it is a well-known fact that good quality education will bring success in the fight against disaster" (p. 752).

Limitations

Several limitations in the current study should be noted. First, it is conducted at one private higher education institution limiting the generalizability of the results. Another is the unequal distribution of the samples as observed in terms of gender and programs of college students suggesting a cautious interpretation of the results. Specifically, concerning gender, females were overrepresented, and males were underrepresented since more females were enrolled during the said academic year. On the other hand, when programs are considered, there was an under-representation of the pharmacy and medical laboratory science since both were newly offered programs. The use of a self-constructed questionnaire is another limitation that posed a possible bias of the response. Lastly, the statements included in the self-constructed questionnaire only underwent face and content validity but did not undergo exploratory and confirmatory factor analysis which may create better dimensions.

Conclusion and Recommendations

This study aimed to examine the relationship between disaster awareness and preparedness of college students. Consequently, to determine differences in disaster preparedness based on students'

selected characteristics. In general, college students who are enrolled in this particular private higher education institution have high disaster awareness with moderate preparedness towards disaster. Disaster awareness provides an important role in the preparedness of students during disasters. Moreover, disaster preparedness significantly differs according to gender but not with the age and program of college students.

Given the results, the recommendations of this study are as follows: maintain regular school-based disaster-related programs such as awareness campaigns, training, and

drills spearheaded by the administrators in collaboration with the school health nurses. Contact details of personnel in charge may be included during programs and posted in the school building. A replication of the study in multiple and other setting, using a larger sample size and different group of student also needs to be considered. In addition, to check the validity of the questionnaire using exploratory and confirmatory factor analysis. Moreover, to include other factors such as psychological and social factors that may affect disaster preparedness and conducting a qualitative study focusing on disaster preparedness based on gender.

References

- Akumu, M. (2013). *Disaster awareness and preparedness of secondary schools in Homa Bay County, Kenya*. Unpublished PhD project, University of Nairobi.
- Benaben, F., Sakurai, M., & Tapia, A. (2019, January). Introduction to the minitrack on disaster information, technology, and resilience in digital government. In Proceedings of the 52nd Hawaii International Conference on System Sciences.
- Blake, N., & Fry-Bowers, E. K. (2018). Disaster preparedness: Meeting the needs of children. *Journal of Pediatric Health Care*, 32(2), 207-210. <https://doi.org/10.1016/j.pedhc.2017.12.003>.
- Bollettino, V., Alcayna, T., Enriquez, K., & Vinck, P. (2018). *Perceptions of disaster resilience and preparedness in the Philippines*. https://hhi.harvard.edu/sites/default/files/publications/prc-phillippine-report-final_0.pdf.
- Center for Research on the Epidemiology of Disaster (2020). *Disaster year in review 2019*. <https://www.cred.be/publications>.
- Cho, H. Y. (2018). The effect of disaster knowledge, disaster awareness and disaster preparedness on disaster response ability among nursing students. *한국위기관리논집*, 14, 47-58. <https://doi.org/2018.12.31>
- Craft, L. L. (2019). Active learning and disaster risk reduction: Playing the game of your life. In *Building Sustainability through Environmental Education* (pp. 166-189). IGI Global.
- Domingo, S. N. & Manejar, A. J. A. (2018). *Disaster preparedness and local governance in the Philippines*. Philippines Institute for Development Studies. Philippines.
- Emergency Database (2016). *Explanatory Notes*, EM-DAT. <http://www.emdat.be/explanatory-notes>.
- Emergency Database (2017). *Disaster Trends*. http://emdat.be/emdat_db/.
- Emergency Database (2017). *Disaster Profile: Philippines*. http://www.emdat.be/country_profile/index.html.
- Gerdan S. (2014). Determination of disaster awareness, attitude levels and individual priorities at Kocaeli University, *Eurasian*

- Journal of Educational Research*, 55, 159–176. <https://doi.org/10.14689/ejer.2014.55.10>
- Jasper, E., Berg, K., Reid, M., Gomella, P., Weber, D., Schaeffer, A., Scaeffler, A., Crawford, A., Maeley, K., & Berg, D. (2013). Disaster preparedness: what training do our interns receive during medical school?. *American Journal of Medical Quality*, 28(5), 407-413. <https://doi.org/10.1177/1062860612471843>
- Labrague, L. J., Hammad, K., Gloe, D. S., McEnroe-Petitte, D. M., Fronda, D. C., Obeidat, A. A., Leocadio, M. C., Cayaban, A. R., & Mirafuentes, E. C. (2018). Disaster preparedness among nurses: a systematic review of literature. *International Nursing Review*, 65(1), 41-53. <https://doi.org/10.1111/inr.12369>
- Labrague, L. J., Yboa, B. C., McEnroe-Petitte, D. M., Lobrino, L. R., & Brennan, M. G. B. (2016). Disaster preparedness in Philippine nurses. *Journal of nursing scholarship*, 48(1), 98-105. <https://doi.org/10.1111/jnu.12186>.
- Lindell, M. K., & Perry, R. W. (2012). The protective action decision model: theoretical modifications and additional evidence. *Risk Analysis*, 32(4), 616-632. <https://doi.org/10.1111/j.1539-6924.2011.01647.x>.
- Mohammad-pajoo, E. & Aziz, K. Ab. (2014). Investigating factors for disaster preparedness among residents of Kuala Lumpur. *Natural Hazards and Earth System Sciences Discussions* 2014, (2), 3683-3709. <https://doi.org/10.5194/nhessd-2-3683-2014>
- Nazli, N. N. N. N., Sipon, S., Zumrah, A. R., & Abdullah, S. (2015). The factors that influence the transfer of training in disaster preparedness training: A review. *Procedia-Social and Behavioral Sciences*, 192, 54-58. <https://doi.org/10.1016/j.sbspro.2015.06.008>
- National Disaster Risk Reduction and Management Council. (2011). *National disaster risk reduction management plan for 2011-2028*. http://www.ndrrmc.gov.ph/attachments/article/41/NDRRM_Plan_2011-2028.pdf.
- Natividad, M. J. B. (2019). Disaster preparedness of employees and students in an Asian private university. <https://research.lpubatangas.edu.ph/wp-content/uploads/2019/08/APJEAS-2019-6.3-006.pdf>.
- Nilsson, J., Johansson, E., Carlsson, M., Florin, J., Leksell, J., Lepp, M., Lindholm, C., Nordstrom, G., Theander, K., Wilde-Larsson, B., & Gardulf, A. (2016). Disaster nursing: Self-reported competence of nursing students and registered nurses, with focus on their readiness to manage violence, serious events and disasters. *Nurse education in practice*, 17, 102-108. <http://dx.doi.org/10.1016/j.nepr.2015.09.012>
- Ozkazanc, S., & Yuksel, U. D. (2015). Evaluation of disaster awareness and sensitivity level of higher education students. *Procedia-Social and Behavioral Sciences*, 197, 745-753. <https://doi.org/10.1016/j.sbspro.2015.07.168>.
- Oztekin, S.D., Larson, E.E., Akahoshi, M., & Oztekin, I. (2016) Japanese nurses' perception of their preparedness for disasters: quantitative survey research on one prefecture in Japan. *Japan Journal of Nursing Science*, 13 (3), 391–401. <https://doi.org/10.1111/jjns.12121>
- Park, J. E. (2019). A convergence study on disaster awareness, disaster preparedness, and ego-resilience of nursing students. *Journal of Convergence for Information Technology*, 9(11), 38-46. <https://doi.org/10.22156/CS4SMB.2019.9.11.038>.
- Philippine Institute of Volcanology and Seismology (2015). *Valley fault system atlas and the PHILVOCS faultfinder*. https://www.dap.edu.ph/coe-psp/innov_

- initiatives/valley-fault-system-vfs-atlas-and-the-phivolcs-faultfinder/.
- Pratt, M. M. (2018). *Adult reflections on an adolescent experience of a natural disaster: A qualitative study* (bachelor's thesis). Avondale College of Higher Education, New South Wales, Australia.
- Radtke, K., Day, S. J., Forster, T., Himmelsbach, J., Korte, L., Mucke, P., Thielborger, P., Weller, D., Bruck, S., Karmann, L., Ludwig, S., Margenfelf, C., Schultz, & Simon, S. (2019). *World Risk Report 2019*. Bündnis Entwicklung Hilft.
- Rañeses, M. K., Chang-Richards, A., Richards, J., & Bubb, J. (2018). Measuring the level of disaster preparedness in Auckland. *Procedia engineering*, 212(1), 419-426. <https://doi.org/10.1016/j.proeng.2018.01.054>.
- Schmidt, C. K., Davis, J. M., Sanders, J. L., Chapman, L. A., Cisco, M. C., & Hardy, A. R. (2011). Exploring nursing students' level of preparedness for disaster response. *Nursing Education Perspectives*, 32(6), 380-383. <https://doi.org/10.5480/1536-5026-32.6.380>.
- Silver, A., & Andrey, J. (2014). The influence of previous disaster experience and socio-demographics on protective behaviors during two successive tornado events. *Weather, Climate, and Society*, 6(1), 91-103. <https://doi.org/10.1175/WCAS-D-13-00026.1>.
- Sobrio, C., Bayas, K. C., Castro, N., & Bitgue, K. A. V. (2016). Holy Cross of Davao College criminology students' crisis and disaster response preparedness: Basis for designing a college crisis response program. *UIC Research Journal*, 19(2). <https://doi.org/10.17158/525/>.
- Southard, N. (2017). *The socio-political and economic causes of natural disasters* (bachelor's thesis). Claremont McKenna College, California, United States of American.
- Tkachuck, M. A., Schulenberg, S. E., & Lair, E. C. (2018). Natural disaster preparedness in college students: Implications for institutions of higher learning. *Journal of American college health*, 66(4), 269-279. <https://doi.org/10.1080/07448481.2018.1431897>.
- Turan, M., Bulut, Y., Öztürk, G., & Göktekin, Z. (2017). The knowledge and behavior levels of the students taking disaster awareness training: The example of Tekirda province, Turkey. *Nepal Journal of Environmental Science*, 5, 57-60. <https://doi.org/10.3126/njes.v5i0.22716>.
- Tzeng, W.C., et al. (2016) Readiness of hospital nurses for disaster responses in Taiwan: a cross-sectional study. *Nurse Education Today*, 47, 37-42.
- World Meteorological Organization (2017). 2017 is set to be in top three hottest years, with record breaking extreme weather. <https://public.wmo.int/en/media/pressrelease/2017-set-be-top-three-hottest-years-record-breakingextreme-weather>.

Appendix

Disaster Awareness Statements	Extremely familiar (5)	Very familiar (4)	Somewhat familiar (3)	Not as familiar (2)	Not familiar at all (1)
1. A natural disaster such as typhoons, floods, tsunamis storm surge, and earthquakes can occur anytime.					
2. There are specific action responses during a disaster event					
3. The country has been experiencing numerous disastrous events in a year (e.g. an average 20 typhoons/year)					
4. As a result of a disaster, more possible disastrous events may likely to follow.					
5. A small kit with emergency supplies must be brought always if evacuation is necessary.					
6. Preserving or keeping food safe after a disaster should be taught in disaster seminars.					
7. The Philippines ranks among the most disaster-prone country in the South-East Asia.					
8. The government has several seminars and forums laid out in preparation for possible new disaster that may occur in the future (e.g. "The Big One")					
9. The Philippines, as an archipelago, puts risk during a storm surge.					
10. The Philippines is situated in a weather pathway near the equator known as the Typhoon Belt.					
11. The government hosts several mass simulation drills to prepare the population for future unwanted disastrous events.					
12. Local government units and agencies has provided hotlines which can be contacted during an event of a disaster.					
13. There is a disaster plan that has been formulated at my school.					
14. My school hosts seminars and forums to prepare us for a disaster.					
15. There is no message that encourage the students to takes steps to be prepared for emergency situations in the school.					
16. There is no possible dangers that can occur after a disaster.					
17. The local media has not given any information regarding preparation in disasters.					
18. There is no established specific meeting placed to reunite with my classmates and teachers					
19. The government's assigned agency has not been inspecting the vulnerability of public and private institutions in a disaster.					
20. Damaged areas can't be a reservoir site for possible aftershocks which can be more severe.					

Disaster Preparedness Statements	Never (1)	Rarely (2)	Seldom (3)	Very Often (4)
1. I stay away from large body of waters, especially when I hear about a new disaster may happen.				
2. I will evacuated calmly.				
3. I practice how to drop to my hands and knees, cover my head and neck with my arms, and hold on to any sturdy furniture until the shaking stops.				
4. I follow the way leading to the river during a storm				
5. In an event of an earthquake, I will stay near glass windows, outside doors and walls.				
6. If my house has been slightly destroyed after a typhoon, I will go inside my house right away.				
7. I participate in the disaster plan that has been formulated by my school.				
8. I attend seminars about being prepared for a disaster hosted by my school.				
9. I do not participate in the practice drills hosted by my school.				
10. I do not stay home whenever there are announcements by the government through their social media accounts about dangerous disasters that may happen.				
11. I will not leave immediately even if I have been told to do so.				
12. I attend seminars and forums laid out by the government, in partnership with several non-government offices for more knowledge.				
13. I participate in government-hosted mass simulation drills in preparation for future disastrous events.				
14. I have not obtained the established specific meeting place to reunite with other students and teachers.				
15. I do not have the emergency numbers and contact details of the qualified personnel such as the local fire department, police, hospitals, and barangay officials.				

Author Biography

Ryan Ray M. Mata, RN, MN is a faculty of the Senior High School and School of Nursing at the Manila Adventist College. He served Adventist Medical Center Manila for 10 years as a charge nurse before joining the academe. He is an active member of several nursing specialty organizations locally and internationally.

Milaine Vya Anne D. Orbe, Keff Jhonmar B. Baut, Daryl Andre C. Crisologo, Toby Irvin Karfendi, and Victorina L. Chivinda were Bachelor of Science in Nursing students at Manila Adventist College.

Determinants of Hand Hygiene Compliance Among Nurses

Lundy Heun; Jaira Monique B. Layson
 Ric Tyrone P. Macias; Frildah A. Vongula
 Portia Mae V. Zubiri; Mafel C. Falcatan PhD(cand), RN
School of Nursing, Manila Adventist College

Abstract

Nurses have the most interaction or exposure with different patients, making them susceptible to carrying pathogens to their patients, thus nurse's hand hygiene compliance should be imperative.

This study aimed to determine the relationship of the environmental, personal, and organizational factors to the hand hygiene compliance of nurses. It will explore common practices of hand hygiene, the compliance of nurses to the WHO 5 Moments of hand hygiene, and also the possible significant difference on the compliance level of nurses to hand hygiene based on length of service and area of duty. Descriptive Correlational research design was utilized and convenience sampling was the sampling method used. There were 105 nurse respondents who answered the revised questionnaire used from previous researches adapted from the WHO guided by the "5 Moments of Hand Hygiene" and all were retrieved.

Based on the results of the study, the researchers accept the null hypotheses since the study shows no significant relationship between the following factors: Environmental (p-value= 0.87), Personal (p-value= 0.96) and Organizational factors (p-value= 0.33) to the nurses' level of hand hygiene compliance. Furthermore, there was no significant difference when the respondents were grouped according to their length of service (sig.0.56) and their area of duty (sig. 0.511). Our study showed that Moment 2 (Before clean technique) and Moment 5 (after touching patient's surroundings) gained the highest compliance.

The nurses, nursing students and other health care providers can use this knowledge to improve themselves concerning their lack of adherence to the protocol concerning hand hygiene.

Keywords: *hand hygiene, compliance, nurses, World Health Organization, 5 moments of hand hygiene, environmental factors, organizational factors, personal factors*

Heun, Layson, Macias, Vongula, and Zubiri were students of Manila Adventist College School of Nursing.

Mafel C. Falcatan PhD(cand), RN is an associate professor and the dean of the School of Nursing at Manila Adventist College.

Certified Public Accountant Review School of Manila Adventist College

Jovelyn S. Fabellar, BSA V; Leo Ray T. Gabica, BSA V
Alfonso S. Bestoyong, CPA, MBA
School of Business, Manila Adventist College

Abstract

The attendance to a review school is one of the factors that cause the dramatic decline in the licensure examination passing rate for Certified Public Accountants (CPA) over the years (source). However, there is a greater challenge for Seventh-day Adventist reviewees because of the absence of review school that could cater to their needs. In response to this problem, this study aims to determine the viability and feasibility of establishing an Accounting Review School primarily for Seventh-day Adventists and secondary for non-Adventist reviewees at Manila Adventist College, Pasay City.

Bachelor of Science in Accountancy students in Adventist and non-Adventist schools situated near Manila Adventist College were the sample of this study using stratified sampling technique. Included in the research instruments are surveys in the form of questionnaire, interviews, and observations. Other data were gathered from books, magazines, articles, dissertations, and also through the internet. The researchers used descriptive and exploratory research design and stratified sampling technique to obtain the sample size. The data gathered were be tallied and tabulated manually and the analysis of data was done through the use of financial ratios to determine the profitability, liquidity, and stability of the proposed venture.

Keywords: *Adventist, certified public accountant, review school*

Jovelyn S. Fabellar, and Leo Ray T. Gabica were Bachelor of Science in Accountancy students at Manila Adventist College.

Perinatal Cultural Beliefs and Practices of Women in Selected Municipalities of Laguna, Philippines: A Qualitative Research

Ruby C. Gentolia, R.M.; Leny T. Lagonoy, R.M.
 Gemarlyn C. Sahagun, R.M.; Mhacy Mae C. Sipat, R.M.
 Maria Carmela L. Domocmat, PhD
Midwifery Department, Manila Adventist College

Abstract

Culture has a significant influence in the manner women care for themselves during the perinatal period. The beliefs and practices these women hold may even have devastating effect to their own health and the unborn fetus. Although numerous studies exist about cultural beliefs and practices around the globe, there is a dearth of literature exploring the beliefs and practices of women during pregnancy, childbirth, and postnatal period in the southern part of Luzon.

This study aimed to identify the beliefs and practices of women during pregnancy, childbirth, and postpartal period in Laguna, Philippines. Anchored in the theory of Normative Social Behavior, the study employed the descriptive qualitative research design. Sixteen participants were interviewed face-to-face utilizing purposive sampling technique. To ensure trustworthiness of the data the following Lincoln and Guba's criteria were used: triangulation, member check, peer debriefing, expert check, prolonged engagement, and reflexivity.

Three themes emerged in the cultural beliefs and practices of women during pregnancy, which include (1) protecting baby's welfare, (2) promotion of pregnancy, and (3) safety against bad elements. The cultural beliefs and practices during childbirth has two themes namely (1) facilitating factors in childbirth and (2) myths on activities that promote comfort. Lastly, two themes emerged in the cultural beliefs and practices of women during the postpartum. It includes (1) food and activity that promote maternal welfare and (2) myths on food and activity that promote the child's welfare.

Keywords: *childbirth, cultural beliefs and practices, pregnancy, postnatal care*

Ruby C. Gentolia, Leny T. Lagonoy, Gemarlyn C. Sahagun, and Mhacy Mae C. Sipat are registered midwives.
 Dr. Maria Carmela L. Domocmat is a professor at Manila Adventist College

Cultural Awareness and Sensitivity Among Nursing Students

April Rose B. Credo, BSN IV
 Nathalia Joyce M. Gathercole, BSN IV
 Mac B. Maribao, BSN IV
 Lawrence L. Purpura, BSN IV
 Carolyn Grace S. Salvan, BSN IV
 Estefania C. Zatula, BSN IV
 Lynette R. Sulit, RN, MAN, MAEd
School of Nursing, Manila Adventist College

Abstract

In globalized nursing practice, it is crucial for nursing students to have high levels of cultural awareness and sensitivity considering their direct interaction with patients. The objective of this study is to measure the level of cultural awareness and sensitivity of the respondents from a tertiary institution in Pasay City where this study was conducted. Guided by Madeleine Leininger's Transcultural Nursing Theory, this descriptive-correlational design of quantitative research used census sampling of 77 respondents who participated in answering a standardized questionnaire. Data gathered were analyzed using SPSS data analysis. Statistical tools used to answer the research problems were T-test, one-way Anova and Pearson's Correlation. The study revealed that respondents have moderate level of cultural awareness and high level of cultural sensitivity with overall means of 3.07 and 3.85, respectively. Significant differences ($p < 0.05$) were found between cultural awareness and sensitivity when respondents were grouped according to year level regardless of the sex and nationality. However, there was no significant relationship between cultural awareness and cultural sensitivity when respondents were grouped according to sex, year level, and nationality. In conclusion, the study revealed that the higher the level of education of the respondents, the more they become culturally aware and sensitive. This study recommends that the institution should keep engaging the respondents in activities and programs that signify cultural differences to enhance their cultural awareness and sensitivity. The recommendations also include that a further study should be conducted on a larger population with classification according to their nationality.

Keywords: *Cultural Awareness, Cultural Sensitivity*

April Rose B. Credo, Nathalia Joyce M. Gathercole, Mac B. Maribao, Lawrence L. Purpura, Carolyn Grace S. Salvan, and Estefania C. Zatula were Bachelor of Science in Nursing students at Manila Adventist College.

Effects of Community-Based Exercises on Selected Outcome Measures of Chronic Stroke Patients

Diane Melisse S. Yumul, BSPT V; John Carlo O. de Jesus, BSPT V
Jellaine Nicole M. Tan, BSPT IV; Bon Marco N. Lustestica, BSPT IV
Clint C. Laborde, RPT, PTRP, MPH, MSPhysio, DrPh
Physical Therapy Department, Manila Adventist College

Abstract

Community-based rehabilitation (CBR) is often the main approach to provide access for community-dwelling individuals who lack access in rehabilitation services especially in low-income and middle-income countries. However, there is little known study in the Philippines in proving the effects of community-based exercises in persons with chronic stroke. Provision of access will offer good functional outcome in performing activities of daily living inside the community by contributing improvements in physical function, cardiorespiratory endurance, balance and mobility which are beneficial for motor recovery and decreasing risk of secondary complications following a stroke. The purpose of this study was to determine the effectiveness and safe community-based exercises in chronic stroke patients anchoring on Schenkman Integrated Framework for Decision-making in Neurologic Physical Therapist Practice emphasizing plan of care under patient management model that focuses in goal-directed therapy improving the patient's motor function. A random sampling was used in the study and was utilized in 30 chronic stroke patients of CBR in the province of Rizal and were divided into experimental group and control group. The participants of both groups were assessed for pretest using selected outcome measuring tools such as Functional Independence Measure (FIM) for physical function, Modified Borg Rating of Perceived Exertion Scale for cardiorespiratory endurance, Berg Balance Scale for balance, and Stroke Rehabilitation Assessment of Movement (STREAM) for mobility. After the pre- assessment, the experimental group underwent community-based exercise intervention for eight (8) weeks and the control group was provided health education lecture for 1 day before the pretest. Post-assessment test was executed for both groups after eight (8) weeks. The participants were given the right to refuse to participate in the study. The result revealed that both community-based exercises and home education have positive results after post-test of physical function, cardiorespiratory endurance, balance, and mobility for each group with more explicit better findings on the experimental group with large clinical effect. However, there is no significant difference occurred after pre- and post-tests between the groups. Nonetheless, community-based exercise is still vital for both patient and physical therapist as this serves as a monumental relationship in acquiring the effective quality of life for the patients and to also foster their social participation in the community. It is recommended that future studies may investigate on bigger population size of chronic stroke patients with no prior physical rehabilitation intervention to prevent certain bias and false negative results.

Keywords: *cerebrovascular accident, motor function, rehabilitation*

Diane Melisse S. Yumul, John Carlo O. de Jesus, Jellaine Nicole M. Tan, and Bon Marco N. Lustestica were Physical Therapy students at Manila Adventist College.

Dr. Clint C. Laborde is the head of the Physical Therapy Department at Manila Adventist College.

Knowledge and Experience on Sexual Harassment in the Workplace among Radiologic Technologists

Axell Jan T. Ilagan; Alex Marie F. Novicio
Raisa Yzabel B. Reyes; Divina H. Salvame,
Luciano Angelo M. Tabora; Reyamar R. Ulangco
Pablito C. Hilario, RRT

Radiologic Technology Department, Manila Adventist College

Abstract

Sexual harassment at the workplace is a manifestation of deep-rooted patriarchy prevailing in the larger society, encouraging power based discriminatory practices and in turn creating hostile work environment. Sexual harassment is now recognized as a potential problem for most organization. This research paper explores the knowledge and experience on sexual harassment in the workplace among registered radiologic technologists within selected private and public hospitals around Metro Manila, Philippines. Anchored in the Social Cognitive Theory, descriptive comparative research design is employed. The research instrument used in this study is a validated self-constructed questionnaire and convenience sampling technique is the sampling strategy used among the 124 respondents. The statistical treatments used include frequency and percentage, mean and standard deviation, and independent samples t-Test. Findings reveal that majority of the radiologic technologists have high knowledge on sexual harassment. Particularly there is very high knowledge on the responsibilities of the employers when sexual harassment occurs. However, the respondents have very poor knowledge on the specific republic act number and the penalty of the harasser. On the experiences on sexual harassment, there is an overall very low experience. However, among the types of sexual harassment, being told a joke that is something sexually about the person and turning work discussion on something sexual were the most experienced sexual harassment. There is a need to improve the knowledge of the respondents on the details of the sexual harassment act to protect the radiologic technologists on possibly experiencing any sexual harassment.

Keywords: *experience, knowledge, sexual harassment*

Axell Jan T. Ilagan, Alex Marie F. Novicio, Raisa Yzabel B. Reyes, Divina H. Salvame, Luciano Angelo M. Tabora, and Reyamar R. Ulangco were Bachelor of Science in Radiologic Technology students at Manila Adventist College.

Pablito C. Hilario is faculty in the Radiologic Technology Department at Manila Adventist College.

Organizational Commitment and Job Satisfaction of Registered Nurses in a Private Tertiary Hospital in Pasay City

Ernesto G. Franche Jr.; Jimvan L. Guadalupe
Rishel R. Ramirez; Saadiya A. Said;
Vanchai Hul; Just Macabuhay
Lynette Sulit RN, RM, MAN
School of Nursing, Manila Adventist College

Abstract

Nurses are the heart of healthcare. As a crucial stakeholder in healthcare delivery, ensuring their welfare is vital in the effective management of health systems. Anchored in the Three-Component Model by Meyer, Two-Factor Theory by Herzberg, and Hierarchy of Needs by Maslow, this descriptive-comparative, descriptive-correlational study aimed to assess the level of organizational commitment and job satisfaction of nurses during the COVID19 pandemic. A sample of 77 nurses from the target hospital participated in the study using convenience sampling. Privacy and autonomy were ethical considerations observed in this study. Obtained data were processed using the SPSS version 23. Study results revealed that majority of nurses were 30 years old and below, females, unmarried, and has an experience of both below 5 years and 5-10 years. Organizational commitment was found to be good with a particular inclination towards the affective subscale. A good extent of job satisfaction was observed, with notable poor remuneration scores. Older and married nurses were found to be significantly more satisfied with their jobs. Correlational statistics has shown a strong direct positive relationship between organizational commitment and job satisfaction. Findings reflected a need to boost organizational commitment which predicted job satisfaction. Enhancing focus on providing satisfactory and timely compensation can help address the issue with remuneration. Recommendations for future research include study replication on a wider sample, comparative study on identified parameters, and integration of recent qualitative studies on COVID19-related factors.

Keywords: *job satisfaction, nurses, organizational commitment*

Ernesto G. Franche Jr., Jimvan L. Guadalupe, Rishel R. Ramirez, Saadiya A. Said, and Vanchai Hul were nursing students at Manila Adventist College.

Lynette Sulit is an associate professor in the School of Nursing at Manila Adventist College.

GJ Car Rental: A Feasibility Study

Just Macabuhay

Jahnstela R. Lumalang, MBA, CPA, LPT

Accountancy Department, Manila Adventist College

Abstract

The study aimed to determine the feasibility of a car rental business in Puerto Princesa City given the increasing demand vis-à-vis the limited number of car rental services available. The research utilized interactions, surveys, interviews and observation to gather, classify and present data. Survey questionnaires were administered to all thirty-three car rental business owners in the city. The proposed business has Php10,587,158.00 total capitalization. After formulation and applying the various business tools, in its first year, with total operating expenses of Php2,369,849.00, it projected a total revenue of Php4,438,224.00 and positive income of Php1,200,476.00. Thus, the business is projected to be feasible. The study utilized management, marketing and financial tools to achieve an efficient business model, including: product description, demand and supply analysis, marketing and sales strategy; operations and technical study, technical process and process flow chart; organization and human resource study. A strategic framework was formulated consisting of the mission, vision, objectives, Key Result Areas (KRA), Key Performance Indicator (KPI), strategic evaluation and contingent and alternative plans. In conclusion, the study showed that based on the data gathered and after applying the different business, marketing and financial tools, the researcher was able to formulate a car rental business model that is feasible, profitable and competitive with the existing market. A study of the feasibility of a car rental business offering one or more other types of vehicles in addition to those offered by the proposed business is proposed.

Keywords: *car rental business, car rental puerto princesa, feasibility car rental business*

Just Macabuhay graduated with a Bachelor's degree in Accountancy from Manila Adventist College. She is a resident of Puerto Princesa City, Palawan.

Jahnstela R. Lumalang is the head of the Accountancy Department at Manila Adventist College.



The premier, Christ-centered and
research-oriented institution of learning