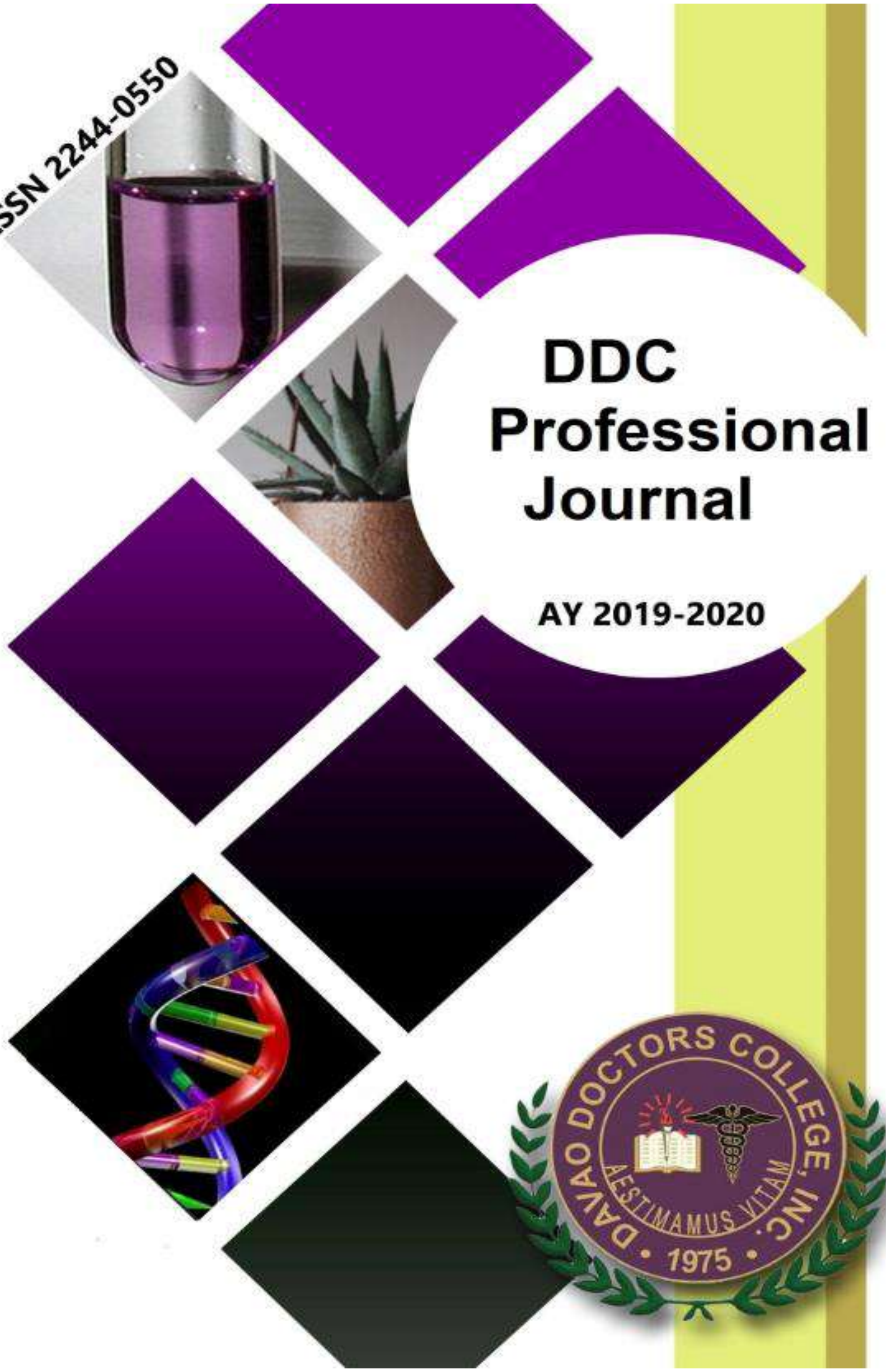
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CONTENTS

Web 2.0 Technologies And Web-Based Library Resources' Application To Teaching-Learning Methodologies: Basis For An Institutional Policy

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Abstract

Web 2.0 technologies and web-based library resources enhance the teaching-learning activities and create a more engaging and innovative classroom experience. This study aimed to formulate an institutional policy that a Higher Education Institution (HEI) in Southern Philippines may adopt based on an analysis of the utilization of web 2.0 technologies and web-based library resources in the teaching-learning methodologies of the said HEI. The research was done through non- experimental quantitative research design utilizing descriptive research technique using frequency, percentage, and mean as statistical tools. Using a reliable and validated researchers-prepared questionnaire, the survey was conducted to 330 student respondents conveniently selected inside the library. The study revealed a moderate extent of web 2.0 technologies and web-based library resources application to teaching-learning methodologies in the participating institution. Among the web 2.0 tools, YouTube and Facebook emerged as highly used while ProQuest e-journals for the web-based library resources were highly applied but not comprehensive. A majority of the faculty members claimed unfamiliarity with the available e-books from the library. The focus group discussion revealed that this was due to: lack of awareness, lack of competency, and complacency. The researchers recommend an institutional policy framework to integrate the use of these resources into the curriculum.

Keywords: Web 2.0 technologies, Web-based library resources, Descriptive, Southern Philippines

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Introduction

Web 2.0 technologies are used in all aspects of communication. These gave exciting opportunities and novel challenges for educators as schools use these technologies to build communities, in the process melting away and redrawing the old boundaries between public and private schools, in-school and out-of-school youth, and youth and adult culture (Light & Polin, 2010). Web 2.0 technologies are becoming more popular in the lives of both faculty and students, faculty members and instructional designers have begun to explore their use in teaching-learning methodologies or formal education. The research found out that most students had little prior experience with relevant technologies and that many struggled to see the value of using web 2.0 tools for learning and teaching. Also, the result highlights the inherent tensions between web 2.0 and educational practices (Bennett, Bishop, Dalgarno, Waycott, & Kennedy, 2012).

The occasional tension between web 2.0 and traditional educational practices continues. Nonetheless, despite such tensions, web 2.0 is seen as a means of refreshing the teaching strategy through a new type of teacher-student interaction. Web 2.0 enables a faculty to provide a virtual space for the users to download and upload information, communicate and relate. The use of these technologies in the educational activity enhances the learning process, increases the teachers' efficiency and promotes the students' creativity, collaboration, and communication skills.

The existing web 2.0 applications facilitate learning and knowledge exchange, better prepare young people for the future, and bring together people from various places with diverse experiences. They provided teachers, pupils/students, and parents with opportunities to exploit their full potential (Chicioreanu, Burcea, & Wodala, 2015).

Many academicians incorporated the utilization of web 2.0 technologies in teaching and learning. The use of these technology platforms is being driven by the rise of affordable handsets (Mutula, 2013) even as the erratic power supply; poor internet connectivity, poor ICT infrastructure, etc. may have slowed down the adoption and utilization of web 2.0 technologies in teaching and learning among third-world countries (Okello-Obura & Ssekitto, 2015). In the Philippines, Buan (2010) revealed in her study that students found web 2.0 technologies comfortable to use for research, as well as for interaction with peers and teachers. They express that these tools facilitate online collaboration, support social interaction, provide easy access to information, encourage self-direction, and promote critical thinking and communication skills. She recommended that educators utilize these tools in teaching to improve the learning process and for schools to provide an environment that enables teachers and students to access web 2.0 tools.

Similar technologies that are deemed useful for faculty members are library databases or web-based library resources. Faix (2014) considered library databases and other online search engines as classroom technologies that are commonly used but rarely scrutinized by stakeholders, i.e., librarians, teachers, and students. Consequently, online database interfaces' search options and results screens can have a dramatic influence over these researchers, affecting the ways that they think about searching or doing their researches. Moreover, Ahmed (2013) revealed that generally, faculty members were not satisfied with the level of university subscribed e-resources due to a limited number of titles, access and internet speed constraints. These constraints generally affect the use of e-resources in public universities. However, these constraints were mainly related to the poor IT infrastructure and limited access to e-resources, which consequently result in low satisfaction among faculty members.

While the existing literature is replete with endorsements on the use of web 2.0 technologies and web-based library resources to enhance the teaching-learning activities and create a more engaging and innovative classroom experience, the use by the faculty members in a Higher Education Institution (HEI) in Southern Philippines of these resources was observed to be rather limited. Few of them made use of YouTube resources, and others were also using the Facebook group as a learning platform. Hardly any were using e-journals in their syllabi. Since no formal study looked into the extent and application of web 2.0 tools and web-based library resources used in the teaching-learning process; hence, this study.

This study was anchored on the Technology Acceptance Model (TAM), one of the most cited models that permit prediction of the process of user acceptance of information systems (Park, Roman, Lee, & Chung, 2009). Based on the usage of computer systems by managers and professionals, the TAM is used to predict acceptance or resistance to end-user systems. Web 2.0 tools and web-based library resources are a system with end-users, i.e., virtual patrons, who will either accept or reject it as an information system.

Acceptance of an information system results when a user finds a system useful and easy to use to the extent it offers significant performance gains (Davis, 1989). The TAM provides a framework for determining the acceptance of the faculty members in using the web 2.0 tools and web-based library resources offered. In this study, acceptance equates to meeting the needs of patrons using the resources into their teaching-learning process. Therefore, when applying the TAM, it is predicted that faculty who are more satisfied with their sources and services of the web 2.0 tools and web-based library resources have achieved acceptance of the information system.

The study used the Input-Process-Output (IPO) model as its conceptual framework. The input box contained the web 2.0 technologies as indicated with Facebook, YouTube, Twitter, Email, Wikis, Instant Messaging and Podcast. This also included the web-based library resources, indicated with e-books and e-journals. The process box contained the processes used in gathering and analyzing data, such as surveys, data analysis, and focus-group discussion. This study hoped to come up with an institutional policy as the output of this research.

This study sought to determine the extent of web 2.0 technologies and web-based library resources' application into the teaching-learning methodologies. Specifically, the study aimed to:

1. determine the extent of web 2.0 technologies application into the teaching-learning methodologies;
2. determine the extent of web-based library resources application into the teaching-learning methodologies; and
3. formulate institutional policies to ensure the integration of web 2.0 technologies and web-based resources in the curriculum.

Methods

The study used non-experimental quantitative research using the descriptive method of research to determine the extent of web 2.0 tools and web-based resources' application into the teaching-learning methodologies. The descriptive survey involves the description, recording, analysis, and interpretation of the present situation and this allows the completion of the goals of science which is the systematic description based on the occurrence of facts (Amante & Atienza, 2008).

This study was conducted in one of the Higher Education Institutions in Southern Philippines during the first semester of School Year 2018-2019. The data-capture instrument used in this study was a questionnaire formulated by the researchers. Prior to its use, the questionnaire was subjected to validity and reliability tests by three experts who gave it a mean validity score of 4.05 (or a descriptive rating of *Very Good)* and a reliability score of 0.72, which means it is acceptable. It was administered to 330 student respondents, who were all above 18 years old, and were conveniently selected from the college population of the participating institution. The sample size of 330 students was calculated using Slovin's formula.

To further validate the data, the researchers conducted a focus group discussion involving ten purposively selected faculty-users of web 2.0 tools and web-based library resources. The study utilized Frequency, Percentage, Standard Deviation and Mean in processing the data.

Measures to protect the privacy and confidentiality of respondents were observed in the conduct of the study. The respondents were informed about their rights to clarify the questions being asked, to criticize the way the questions were asked and can decline from answering some of the questions. Respondents were also informed and assured that the data collected for this study will be strictly used for academic purposes only. Moreover, it was explained to the respondents that the participation in this study was voluntary and they can withdraw anytime without being asked to provide reasons for declining to participate in the study.

Results and Discussion

Presented in Table 1 is the extent of web 2.0 technologies application into the teaching-learning methodologies showing the summary of the respondents' responses having an overall mean of 3.34, described as *Moderate*. This result means that the application of web 2.0 tools is sometimes applied. The results suggest that not all faculty members are using these technologies as part of their teaching-learning platforms or methodologies. Results further revealed that among the tools, *YouTube* (3.97) is used highly followed by *Facebook* (3.78). Although further results of this study yielded moderate are *Twitter* (2.88), *Email* (3.17), *Wikis* (3.00), Instant *Messaging* (2.79), and *Podcast* (2.70); the majority of the student respondents highly agreed that *Web 2.0 technologies improve the quality of teaching of my instructor* (3.56)*; Web 2.0 technologies enhance my experience* (3.62); *Web 2.0 technologies are easy to use* (3.67), and *Web 2.0 technologies are beneficial for my studies* (3.64). This finding is highly suggestive that the use of these technologies enhances the learning process, increases efficiency and promotes the students' creativity, collaboration, and communication skills as affirmed by Chicioreanu, Burcea, and Wodala (2015). Also, Tyagi (2012) pointed out that the majority of the faculty members have been using web 2.0 tools for the three primary purposes; web-based teaching and research; for interactive learning features; and to keep themselves up to date on the related topic of interest. As such, the faculty attitude and their perceived behavioral control are strong predictors to their intention to use web2.0.

Another research finding that supports the result of this study is that by Martin- Monje (2014) who discovered that students who used web 2.0 based materials, e.g., forums, collaborative glossaries, wikis, among others, instead of traditional EFL (English as a Foreign Language) resources achieved better results in the entrance examination. Relatively, web 2.0 tools in EFL increase motivation in students, a crucial aspect for the achievement of good scores in the English section. Subsequently, these technologies indeed create an innovative classroom experience that makes students more engaged in the teaching-learning process.

The results mentioned above were further validated by the selected program chairs/faculty members during the focus group discussion conducted. The majority of them found the usefulness of these tools, but only a few have utilized them. Also, other virtual learning environments came out during the discussion such as Edmodo, Easyplus, School rock, Classmarker, among others.

Among the web 2.0 tools, YouTube and Facebook emerged as highly applied. This result affirmed previous research findings that YouTube videos have unique educational potential**,** and provide an outlet for creative expression (Bromley, 2009); found positive gains in student outcomes as a result of the integration of video technology in instruction (Jones & Cuthrell, 2011). Similarly, the result of this study also concurred with several types of research on Facebook used as part of the teaching strategy. Page and Webb (2013) explored how Facebook can facilitate learning. The goal of their research was to find ways of engaging the students in the whole dissertation process, by encouraging them to share ideas and work together on research methods training activities and dissertation-related issues and problems. Their findings revealed that Facebook could be a useful teaching tool for research methods. It can enhance the student's learning experience and improve their understanding, resulting in an overall improvement in students' dissertation grades.

Moreover, da Silva et al. (2014) also found out in their study that if properly used, Facebook stimulates the search for knowledge and enables the exchange of information. In like manner, another study that concurred the results of the current study was done by Souleles (2012). He tried embedding Facebook in the structure of an undergraduate visual communication study unit. Results revealed that students identified a range of educational benefits relating to peer-to-peer but also teacher-student support. Noted challenges came out such as student attitudes and perceptions of what should or should not occur with the Facebook group when used for teaching and learning. The latest study by Vanek, King, and Bigelow (2018) also found out through the process of building social presence (SP) in Facebook, learners asserted identities, which were affirmed by classmates, and legitimized their contributions. This legitimization resulted in rich, interactive learning experiences in the group. This finding has implications for using social media in classes with transnational newcomers. Another interesting study by Oprea, Alupoaie, Tufă, and Drăghici (2014) found out that the use of Facebook presentations during lectures influences learning outcomes such that students participated well during the discussion.

Subsequently, another study affirming the results of the research is done by Alias, Siraj, Daud, and Hussin (2013). Their findings confirmed that Facebook-based learning is effective to enhance creativity among Islamic Studies students in the secondary education setting in Malaysia. In like manner, Lin, Hou, Wu, and Chang (2014) analyzed learners' cognitive processing patterns in a collaborative problem-solving teaching activity that integrates Facebook discussion tools and simulation-based teaching software. The results indicate that students' network troubleshooting abilities improved throughout the study.

Technology tools if rightly used create a more engaging and innovative classroom experience. As such, students are more interested in the learning process as these tools influenced them to think critically and creatively. Hence, teacher-student engagement is more effective. This learning process is allowing students to relate what they have learned to their real lives, encourage critical thinking and nurture self-motivation ("Educating educators with social media", 2011). However, Akçayır (2017) found out that privacy concern was the main factor why some faculty members are not using social networking sites (SNS). Although, nearly half of the faculty members who possessed an account reported that they use SNS for educational purposes.

Table 1. The extent of web 2.0 technologies application into the teaching-learning methodologies

Parameters	SD	Mean	Verbal Description
1. My instructor uses the following Web 2.0 Technologies for instructional purposes:			
a. Facebook	1.25	3.78	High
b. YouTube	1.15	3.97	High
c. Twitter	1.41	2.88	Moderate
d. Email	1.31	3.17	Moderate
e. Wikis	1.27	3.00	Moderate
f. Instant Messaging	1.34	2.79	Moderate
g. Podcast	1.29	2.70	Moderate
2. Web 2.0 technologies improve the quality of teaching of my instructor.	1.03	3.56	High
3. Web 2.0 technologies enhance my experience.	1.05	3.62	High
4. Web 2.0 technologies are easy to use.	1.12	3.67	High
5. Web2.0technologiesarebeneficialformystudies.	1.16	3.64	High
Total Average	**1.22**	**3.34**	**Moderate**

Shown in Table 2 is the extent of web-based resources application into the teaching-learning methodologies. It shows that the responses of the respondents generated an overall mean score of 3.39, described as Moderate. This means that these web-based resources are sometimes applied. Results revealed that among the resources available, *ProQuest e-journals* are often employed (3.61), this suggests that these are often required by teachers in the class. However, other resources rated moderate, *Ebrary e-books* (3.33), *Open Access Journals* (3.30) and *Open Access E-Books* (3.13). Also, the following indicators have Moderate ratings: *improve the quality of teaching of their instructors* (3.35); *enhance their experience* (3.40); *easy to use* (3.44); *beneficial for their studies (*3.47). The results were further validated by the selected program chairs/faculty members during the focus group discussion conducted. Though the majority concurred on the relevance of these resources in the teaching-learning process, they affirmed that these resources were not extensively used. Among the web-resources mentioned, they were only using ProQuest journals but not comprehensively. It is surprising to note that they were not able to try Ebrary e-books yet, and very few of them have attempted to open access e-books and e-journals. Three contexts came out during the discussion as to why some faculty members were not using these technologies: lack of awareness, lack of competence in using the database, and complacency. Some of the faculty was not aware as to the benefits of these resources into their lessons, and some were just not aware that these resources are readily available. Also, some of them were not technologically competent in using these resources while others were merely contented on what they were using or employing in their teaching methodologies.

The result of this study is supported by the study of Carpenter (2012) on the research behavior of Generation Y doctoral students, which revealed that e-journals dominate across all subject disciplines; although they got frustrated on the authentication of access to and licensing limitations on subscription-based resources.

Generation Y doctoral students are not keen users of new technology applications in their research and prefer those that do not challenge existing research work practices. It is noted that although the journals are often applied, still there is a room for improvement. Silton (2014) outlined best practices as to .how to increase the usage of e-journals. These include raising the visibility of e-journals on the library's website, using third-party services such as discovery tools and apps to create additional access points, facilitating outreach to faculty, and analyzing usage data.

This study revealed that e-books are moderately applied. This finding implies that these are not fully utilized by the faculty members and students. Ashcroft (2011) found that there is a need for libraries to raise awareness about the books they offer and how they offer them. This assertion affirms the significant role of librarians having accurate knowledge about their users' concerns, which can be complex over the spectrum of e-books, to obtain the best deal. Also, Slater (2010) explained why e-books have yet to assume a significant place in academic library collections. Patrons do not use e-books because they find the experience of using e-books incongruous with their knowledge of using other electronic resources, and many of the unexpected limitations they encounter when using e-books are not inherent to the format. Most often, there are purposefully imposed limitations tied to digital rights management techniques.

Meanwhile, Oduwole and Oyewumi (2010) presented the reasons why web-based resources are not fully utilized due to researchers' inadequate time for research because of their busy schedule, poor internet access, and inadequate information retrieval skills. The study recommends training or retraining of respondents on the use of electronic resources as well as improvement in information technology and communication infrastructure and extension of internet services. It was also emphasized by Kim (2011) that users across academic disciplines utilize different information sources based on the resource's usefulness and relevance. Users from arts and sciences disciplines are much more likely to use university library website resources and printed materials than business users who heavily rely on commercial websites. In other words, they have different preferences, which then challenge the librarians on how to motivate their customers to use the library resources over the resources from the internet.

Table 2. The extent of web-based resources application into the teaching-learning methodologies

Parameters	SD	Mean	Verbal Description
1. My instructor uses the following Web-Based Resources for instructional purposes::			
a. ProQuest E-Journals	1.36	3.61	High
b. Ebrary E-books	1.30	3.33	Moderate
c. Open Access Journals	1.29	3.30	Moderate
d. Open Access E-books	1.21	3.13	Moderate

2. Web-based library resources improve the quality of the teaching of my instructor.	1.12	3.35	Moderate
3. Web-based library resources enhance my experience.	1.11	3.40	Moderate
4. Web-based library resources are easy to use.	1.11	3.44	Moderate
5. Web-based resources are beneficial for my studies.	1.24	3.47	Moderate
Total Average	**1.22**	**3.39**	**Moderate**

From the foregoing, the researchers deemed that the findings of this study tend to support the initial observation that while the use of web 2.0 technologies and web-based resources have been recommended for use by several educational experts, their actual utilization among the faculty of the subject institution is only moderate. Among the reasons given is lack of awareness, lack of competence in using the tools, and complacency. This implies that the investment of the subject institution in making available these tools to the faculty may not have been optimized. Further, this implies that policy initiatives may be needed to infuse an “institutional push” on the use of these tools in the classroom and to put in place programs that will inform and enable the faculty on the use of these tools. The subject HEI may consider the following policy initiatives to ensure the integration of web 2.0 technologies and library databases in the course curriculum:

- Program Chairs shall ensure that library web-based resources are integrated into the course syllabi of all professional subjects.
- Program Chairs handling research subjects shall ensure that 80% of Review of Related Literature sources shall be cited from library databases, i.e., EBSCO, ProQuest, Gale, among others. For web 2.0 technologies, faculty members may be given discretion on which to use.
- The library shall facilitate a training program on the proper use of these technologies. Training schedules shall be conducted per department or college before the start of the semester or school year.
- The Program Chairs shall require that research proposals and papers shall be supported by a certification by the Chief Librarian that in-text citations and references have been complied with before these are allowed to proceed to the proposal and final oral defense.

These policy initiatives may become the nucleus of an institutional program to enhance the use of web 2.0 technologies and web-based resources among faculty and staff of the school.

Conclusion and Recommendations

The moderate extent of web 2.0 technologies application into teaching-learning methodologies is indicative that faculty members need training on the use of these technologies to ensure engaging classroom discussions. In like manner, the moderate extent of web-based resources application into teaching-learning methodologies is highly suggestive that faculty members are less aware of the available library resources. Hence, a training program on how to use and integrate library web-based resources into the course syllabi is recommended. As the institution has heavily invested in library databases, a proposed policy on integrating the use of these resources in the curriculum should be implemented. To operationalize this, an institutional program entitled “Proposed Policy Framework on the Integration of Library Database in the Course Curriculum” presented as an Appendix in this paper is recommended for implementation.

The study further found out that these technologies and resources are indeed useful or beneficial to the teaching-learning activities, as affirmed by faculty members. However, it was noted that these were not comprehensively used. Hence, the role of the library to intensify its marketing campaign on the use of these resources is crucial. Librarians should liaise with faculty members on the possible resources that can be used in their subjects. Selective Dissemination of Information (SDI) should be regularly employed, such that librarians should alert program chairs on the new electronic resources available. The strong information literacy program, therefore, should be forced.

Future research may also be conducted that will determine the utilization rate of all resources of the library such as print resources, multimedia resources, among others. A focus- group discussion with librarians as to why there is underutilization of library resources may be organized. Moreover, for effective policy implementation, strong support from the school administration, program chairs, and faculty members should be obtained. Proper communication, both informal and formal, such as through a memorandum order, could be helpful. Finally, a forum among faculty, librarians and administrators may be conducted to jointly explore these concerns in a collegial, multi-sectoral manner.

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Appendix

I. Title: Proposed Policy Framework on the Integration of Library Databases in the Course Curriculum

II. Rationale

Technology creates a more engaging and innovative classroom experience that makes students more interested in the learning process if the correct tools are used. It is recognized as an instructional tool. However, not all faculty members are comfortable with technology than their students; struggle to seamlessly integrate a growing list of technology tools into their regular curriculum.

As the availability of digital resources increased exponentially, higher education institutions, in particular their libraries, have heavily invested in electronic resources and made them accessible via web portals. Underutilization of library web portals is a common concern among academic libraries. A lack of rigor in curriculum and usability were significant causes for underutilization, along with the fit between tasks and the portal. Also, having instructors advocate for the usage of the portal was the most agreed-upon recommendation for promoting use (Chen, 2012).

To increase student engagement, faculty members should use the learning resources available from the library. These resources can be more effective using their institution's library tools, and by requesting the librarian's assistance to employ these functions in online research guides and course syllabi. Examples of technology-based capabilities range from current awareness services, e-reserves, and journal finding applications to smart linking functions that can be built into library catalogs, licensed databases, course syllabi, and tailored research guides (Fernekes, Skinner, & Shepherd, 2004).

As shown in the findings of this current study, most of the web-based library resources, in particular, the databases subscribed by the HEI were not fully maximized. Three contexts came out during the discussion as to why some faculty members were not using these technologies: lack of awareness, lack of competence in using the database, and complacency. Hence, an institutional policy on the integration of these resources in the teaching-learning approaches was proposed. Also, librarians should actively collaborate or liaise with the faculty members as to their instructional needs.

III. Proposed Policy Framework

Policy and Implementing Guidelines for Integrating Web-Based Library Resources in the Curriculum

1. Scope

This work instruction provides guidelines on how to integrate web-based resources and web 2.0 technologies into the program curriculum.

For easy understanding, the following terms are defined:

Web 2.0 technologies refer to the freely available technologies from the web that is used as an instructional tool by faculty members, i.e., YouTube, Facebook, among others.

Web-based library resources refer to the library databases subscribed by the library available via the web using security authentication measures, i.e., ProQuest, Ebrary, among others. These also refer to the open-access databases aggregated and made accessible to the customers.

2. Policy

2.1 Program Chairs shall ensure that all course syllabi of professional subjects have integrated library web-based resources. Program Chairs handling research subjects shall ensure that 80% of Review of Related Literature sources shall be cited from library databases, i.e., EBSCO, ProQuest, Gale, among others. For web 2.0 technologies, faculty members may be given discretion on which to use.

2.2 The library shall facilitate a training program on the proper use of these technologies. Training schedules shall be conducted per department or college before the start of the semester or school year.

2.3 The Program Chairs shall ensure that no student- and teacher-researchers are allowed to proceed to the proposal and final oral defense without evidence signed by the librarian that in-text citations and references have complied.

3. Implementing Guidelines
    3.1 Faculty members shall indicate in their course syllabi teaching-learning methodologies that will compel students to use library databases, i.e., reading response, reflection paper, and literature review, among others.
    3.2 Faculty members shall indicate references cited from ProQuest, EBSCO, Gale and other databases available.
    3.3 Faculty members shall ensure that all students know the authentication security of these systems to provide remote access.
    3.4 In reviewing the course syllabi, Program Chairs shall ensure that these guidelines have been followed.
    3.5 The librarian shall sign the course syllabi and the approval sheet of the final manuscript as evidence of the optimal utilization of library sources.
    3.6 Smartboards are provided in classrooms so teachers can access web sources direct in their classes.

4. Faculty Capability-Building Program

Title: Training-Workshop on “Course Syllabi Writing: Citing Relevant Resources”

Training Description/Deployment

This program intends to capacitate faculty members on the integration of the library databases in their course syllabi through proper reference citation; and to introduce techniques on searching relevant resources using Boolean operators, truncation, and wildcards. Target participants are the faculty members of the Higher Education Department. The training workshop will be conducted before the start of the semester in Room 208- Internet Section, with a duration of four hours.

Lecture Topics

- LibGuides on ProQuest, Ebrary, Gale, and Philippine E-Journal
- Proper Reference Citation
- Proper Searching Techniques

A Path Analysis of Meaningful Work Experiences of Nurses as Estimated by Burnout, Grit, and Self-Awareness

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Abstract

This study estimated the causal relationships of burnout, grit, and self-awareness towards meaningful work experiences of nurses. Using survey questionnaires, data were gathered from 80 purposively-selected, currently-practicing registered nurses who were also enrolled in the Master of Arts in nursing program. The data from these respondents were then run through bootstrapping to 200 bootstrap samples. Path analysis was used to identify the best-fitting causal model as examined by the following goodness of fit indices: Chi-square/degrees of Freedom, Root Mean Square of Error Approximation, Tucker-Lewis Index and Comparative Index. The best-fitting model identified suggests that grit and burnout have positive and negative direct causal effects on meaningful work experiences, respectively. This result opens up the need for healthcare institutions and administrators to institute programs directed towards enhancing the grittiness of nurses and on reducing the perennial problem of burnout that these nurses suffer from.

Keywords: Social Science, Burnout, Grit, Self-Awareness, Meaningful Work Experiences, Path Analysis, Southern Philippines

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Introduction

The determination of what makes the experience of working as nurses to be meaningful has been a subject of numerous studies in recent years (Abdullah, Atefi, Mazlom, & Wong, 2014; Asegid, Belachew, & Yimam, 2014; Baxter, Jack, Pfaff, & Ploeg, 2013; Brown, Cummings, Fraser, Muise, & Wong, 2012). This has been the case because of the nursing shortage (American Association of Colleges of Nursing, 2017; Business Mirror Editorial, 2017; Asegid et al., 2014). and high nurse turnover rates (Roots, 2018; Dent, 2017; Nursing & Midwifery Council, 2017) have been on the rise globally.

Of all the reasons as to why this phenomenon exists, it has been mostly regarded that nurses leave their jobs due to "intolerable pressures" in the workplace (Gallagher, 2017) such as poor management and support, lack of upward mobility, underpayment, understaffing and burn out (Johnson, 2015). The growing problem of nursing shortage has serious implications for the quality of medical care rendered to patients and the health of nurses (Stalpers, Van Der Linden, Kaljouw, & Schuurmans, 2017; Ball, Murells, Refferty, Morrow, & Griffiths, 2014). As a result of these considerations, studies have been made to analyze the relationship of meaningful work with engagement, burn out (Gómez-Salgado, Navarro-Abal, López-López, Romero-Martín, & Climent-Rodríguez, 2019), grit (Cavanaugh, Valiant, & Loftin, 2018; Jordan, Ferris, Hochwarter, & Wright, 2016), self-awareness

(Martela & Pessi, 2018; Askarizadeh, Poormirzaei, & Bagheri, 2017), and, some personality traits such as resilience and empathy (Rees, Breen, Cuasack, & Hegney, 2015) to positively impact nurses in their working conditions.

Scholars have shown that an individual's identification of meaningful work experience is an influential driver for positive work engagement and job performance (van Wingerden, & van der Stoep, 2017; Tong, 2017). Grit has been identified to affect burn out (Cavanaugh, et.al, 2018; Jordan, et.al, 2016), and self-awareness as a precursor to realize meaningful work (Steger, 2017; Atkinson, Gathright, Clardy, Thrush, & Messias, 2018). However, what constitutes meaningful work experiences for nurses, and, consequently, determining whether the negative effects of burnout and the probable influences of possessing grit and self-awareness correlate with having meaningful working experiences as a nurse is yet to be explored.

With the emerging importance of meaningful work for work-related motivation, commitment, and overall well-being, it has the potential to address the nurses turn over and reduce the nursing shortage. The proponents of this research aimed to determine how burnout, grit, and self-awareness correlate with meaningful work experiences of nurses and, in turn, to explore a causal model that best fits the meaningful work experiences of these respondents. Particularly, this study was conducted with the full intention of filling the gap on what has been known and on what has not been previously known about burnout, grit, and self-awareness, and its relationship with what constitutes meaningful work experiences for nurses.

This research study has been organized in the following manner: Presented in the first part of this paper is the introduction of the study, which contained a short background of the study that gave an overview of how this study came to be, and how this study was organized. Such a section was followed with the statement of the problem and the theoretical framework of the study, allowing the readers to determine the hypothesized causal relationships of the variables being investigated. Presented after this part is the methods section of the study, wherein the details about the selection of the participants, measures employed, and the procedures undertaken were highlighted. This section was trailed by the Results and Discussion of the study and, consequently, the discussion presenting what model best constitutes meaningful work experiences for nurses.

Objectives

It is in this context that the researchers intended to explore a causal model that best fits the meaningful work experiences of nurses. Specifically, it sought to answer the following questions:

1. What is the degree of burnout of nurses in terms of:
   1.1 Personal Burnout;
   1.2 Work Burnout; and
   1.3 Client Burnout?
2. What is the level of the grit of nurses in terms of:
   2.1 Interest; and
   2.2 Perseverance?
3. What is the level of self-awareness of nurses in terms of:
   3.1 Reflection; and
   3.2 Rumination?
4. What is the level of meaningful work experiences of nurses in terms of:
   4.1 Positive Meaning;
   4.2 Meaning-Making through Work; and
   4.3 Greater Motivation?
5. Is there a significant relationship between meaningful work experiences and:
   5.1 Burnout;
   5.2 Grit; and
   5.3 Self-Awareness?

6. Do burnout, grit, and self-awareness significantly predict meaningful work experiences?
7. What is the causal relationship of the nurses' burnout, grit, and self-awareness towards their meaningful work experiences?
8. What model best fits the meaningful work experiences of nurses?

Conceptual Model

Understanding what makes the experience of working for nurses to be meaningful as estimated by burnout, grit, and self-awareness had never been explicitly presented in a single theory before. However, there have been various studies and concepts of some theories that support the existence of the correlations among these variables. Meaningful work experience occurs when an employee perceives his working experience as important, fulfilling and purposeful (Steger, 2017; van Wingerden, & van der Stoep, 2017). The degree of how meaningful work depends on the cognitive valuation of work as significant and meaningful by an employee. As such, the employee's self-awareness of what to him is significant and meaningful increases the valuation of his work experience and the likelihood to work for his end goal (Brown & Lent, 2017; Schoenfeld, Segal, & Borgia, 2017).

Furthermore, meaningful work experiences directly affect job performance and work engagement (van Wingerden, & van der Stoep, 2017; Tong, 2017), and are mediated by a person's workload and support system (Ahmed, Majid, & Zin, 2016; van Woerkom, Oerlemans, & Bakker, 2015) As outlined in the revised Job Demands-Resource Model (revised JD-R Model), any demand and any resource may affect employees' health and well-being. Job demands are any physical, social, or organizational aspects of the job that require sustained physical or mental effort and are therefore associated with certain physiological and psychological costs which include but are not limited to burn out, interpersonal conflict, and job insecurity. To help overcome the job demands, employees utilize their job resources. Job resources are any physical, social, or organizational aspects of the job that may do any of the following: (a) be functional in achieving work goals; (b) reduce job demands and the associated physiological and psychological costs; (c) stimulate personal growth and development (Schaufeli & Taris, 2013). These job resources can be work resources (i.e organizational support, manager feedback) and personal resources (i.e. self-reliance, optimism, character trait) (Huang, Wang, & You, 2016). Grit, which is a character trait, has been identified in various studies not only to have an inverse relationship with burn out (Dam, Perera, Jones, Haughy, & Gaeta, 2018; Halliday, Walker, Vig, Hines, & Brecknell, 2016) but also to have a direct relationship with meaningful work (Hodge, Wright, & Bennett, 2017; Sheldon, Jose, Kashdan, & Jarden, 2015; Abuhassàn & Bates, 2015).

Thus, when put into perspective, the concepts of grit and self-awareness are understood as constructs that positively correlate with meaningful work experiences. However, the degree as to how this correlation transpires is further understood to be directly affected by feelings of burnout towards one's self, work, and clients. Concurrently, the degree of burnout can be also believed to directly, negatively correlate with what constitutes meaningful work experiences is for nurses.

Methods

Participants

The researchers employed the alternative model's approach to structural equation modeling. In this study, three causal models were developed to determine the interrelationship of burnout, grit, and self-awareness, and meaningful work experiences. These models were then tested for the best fit based on the data obtained from 80 respondents selected through a purposive sampling technique. These respondents were registered nurses who were currently practicing as clinical nurses in different healthcare institutions in Southern Philippines for at least a year. They were also at the same time Master of Arts in Nursing students. The data from these respondents were then run through bootstrapping to 200 bootstrap samples. The data gathering was done from April to May 2018.

Measures

The researchers used four adapted questionnaires for this study, and these sets of questions were presented under a single questionnaire which had four parts. The first part, adapted from the Copenhagen Burnout Inventory (Kristensen, Borritz, Villadsen, & Christensen, 2005), contained a total of 19 test questions that assessed the level of burnout of the respondents in terms of personal burnout, work burnout, and client burnout (Cronbach's alpha: 0.83). The second part, adapted from the Rumination-Reflection Questionnaire (Trapnell & Campbell, 1999), consisted of a total of 23 questions that assessed the level of self-awareness of the respondents in terms of reflection and rumination (Cronbach's alpha: 0.86). The third part of the questionnaire, adapted from the 12-Item Grit Scale (Christensen & Knezek, 2014), contained a total of 18 questions that assessed the level of the grit of the respondents in terms of interest and perseverance (Cronbach's alpha: 0.92). Lastly, the fourth part of the questionnaire, adapted from the Work and Meaning Inventory (Steger, Dik, & Duffy, 2012), comprised a total of 12 questions which assessed the level of meaningful work experiences of the respondents in terms of positive meaning, meaning-making through work, and greater motivation (Cronbach's alpha: 0.95).

Procedures

Afterward, the consent of the respondents who met the criteria for the participant selection for this study was then obtained. The researcher-made questionnaires, which were validated by experts in the field of research, were then distributed, at first, to the ten respondents who consented to participate in the pilot study. After establishing the internal consistency of the questionnaire used, the actual data gathering was commenced thereafter. A total of 80 consenting respondents were asked to complete the survey questionnaire. The data from the answered questionnaires were collated, analyzed, and interpreted afterward.

Calculation of the mean values was done to determine the levels of burnout, grit, self-awareness, and meaningful work experiences of the respondents. Consequently, Pearson r moment correlation was used to determine the presence of a significant relationship between burnout, grit, and self-awareness with meaningful work experiences. As for determining if burnout, grit, and self-awareness significantly predict meaningful work experiences, linear regression analysis was utilized.

Lastly, path analysis using structural equation modeling was utilized to identify the best fitting causal model as examined by the following goodness of fit indices: Chi-square/degrees of Freedom, Root Mean Square of Error Approximation, Tucker-Lewis Index and Comparative Index. In identifying the best fitting model, all the indices must consistently fall within acceptable ranges. Chi-square/ degrees of freedom value should be below 3, with its corresponding p-value greater or equal to 0.05. Root Mean Square of Error Approximation value must be less than 0.05 and its corresponding PCLOSE value must be greater or equal to 0.05. The other indices such as Normed Fit Index, Tucker-Lewis Index, Comparative Index and Goodness of fit index must all be greater than 0.95. Model re-specification strategies were also employed, testing a priori, theoretically meaningful complications and simplifications of the model, until the best fitting model was obtained. In generating the models presented in the following sections of this research work, a trial version of the IBM SPSS AMOS v18 was used. The data gathering was conducted from April to May 2018.

Results and Discussion

Degree of Burnout of Nurses in Terms of Personal, Work, and Client Burnout

Presented in Table 1 is the degree of burnout of the respondents in terms of personal, work, and client burnout. According to the tabulated data shown, the respondents had the highest mean score of 3.21 in the parameter: *feeling tired* under the category of personal burnout, which was interpreted as *sometimes* – meaning, the respondents sometimes felt that they were tired and weary. Meanwhile, the item that received the lowest mean score of 2.23 is the parameter: *thinking of not being able to take it anymore*, which was interpreted as *seldom.* Moreover, *personal burnout* had an overall categorical mean score of 2.69 – a score which also happens to be the highest categorical mean score among personal, work, and client burnout. This mean score was described as *sometimes* – meaning, the respondents sometimes had feelings of personal burnout.

These findings show similarity with the findings of Wang, Liu, & Wang (2015) which stated that full-time nurses in Tianjin, China have moderate levels of emotional exhaustion and depersonalization, and a high level of reduced personal accomplishment – a finding which consequently goes in congruence with the study of Rushton, Batcheller, Schroeder, & Donohue (2015) which stated that burnout involves reduced personal accomplishments.

On the other hand, in the work burnout, the item that received the highest mean score of 2.76 is the *feeling emotionally exhausted,* which was interpreted as *sometimes* – meaning, the respondents sometimes feel emotional exhaustion from their respective lines of work. Meanwhile, the item that received the lowest mean score of 1.99 is *having enough energy for family and friends during leisure time*, which was interpreted as *seldom* – meaning, the respondents seldom have the energy for their family and friends because of being burnt-out from their work. Overall, the categorical mean score of *work burnout* is 2.27, which was described as *seldom* – meaning, the respondents seldom had feelings of burnout from and because of work. These findings go in congruence with the findings of Ermak (2014), stating that nurses struggle with physical, mental, and emotional exhaustion at work.

Moreover, in the client burnout, the respondents had the highest mean score of 2.38 in the parameter: a *feeling of giving more than one can get back when working with clients*, which was interpreted as *seldom* – meaning, the respondents seldom felt that they gave more than what they got back from working with their clients. Meanwhile, the item that received the lowest mean score (1.79) was the parameter: *getting tired of working with clients*, which was interpreted as *never* – meaning, the respondents never felt being burnt-out or never got tired of working with clients. Overall, the categorical mean score of *client burnout* was 2.07 – a score which also happens to be the lowest categorical mean score among personal, work, and client burnout. This mean score was described as *seldom* – meaning, the respondents seldom felt burnout from dealing with clients.

These findings suggest that, amidst being burnt-out from and because of personal and work reasons, the participating nurses seldom felt being burnt-out from working with their clients – a sign which further insinuates that nurses truly are notoriously known for being selfless; that, amidst the existence of other stressors, they put others first before their selves (Ericksen, 2018; Ermak, 2014).

Overall, the respondents had a mean score of 2.38 for their *degree of burnout*, which was described as *seldom* – meaning, the participating nurses seldom felt being burnt-out, in general. It is noteworthy, however, to consider that the categorical mean score of *personal burnout* (2.69) in this study is much higher compared to the categorical means score of *work burnout* (2.27) and *client burnout* (2.07) – a finding which insinuates that the respondents feel being burnout more from personal reasons rather than from work. This information consequently agrees with the findings published by Herbert (2017) which stated that personal stress is a better predictor of burnout compared to work stress as personal stress negatively affects work roles more than work stress, and exposure to long-term personal stress negatively affects employees' health outcomes.

Table 1. Degree of Burnout of Nurses in Terms of Personal, Work, and Client Burnout

Indicator	Mean	Descriptive Level
Personal Burnout		
Feeling tired	3.21 H	Sometimes
Feeling physically exhausted	2.99	Sometimes
Feeling emotionally exhausted	2.73	Sometimes
Thinking of not being able to take it anymore	2.23 L	Seldom
Feeling worn out	2.49	Seldom
Feeling weak and susceptible to illness	2.49	Seldom
Categorical Mean Personal Burnout	2.69	Sometimes
Work Burnout		
Feeling emotionally exhausted	2.76 H	Sometimes
Feeling burnt out	2.46	Seldom
Feeling frustrated	2.06	Seldom
Feeling worn out at the end of the working day	2.25	Seldom
Feeling exhausted in the morning at the thought of another day at work	2.14	Seldom
Feeling that every working hour is tiring	2.21	Seldom

Having enough energy for family and friends during leisure time	1.99 L	Seldom
Categorical Mean Work Burnout	2.27	Seldom
Client Burnout		
Finding it hard to work with clients	2.14	Seldom
Finding it frustrating to work with clients	1.93	Seldom
Having one's energy drained from working with clients	2.14	Seldom
Feeling of giving more than one can get back when working with clients	2.38 H	Seldom
Getting tired of working with clients	1.79 L	Never
Wondering how long I will be able to continue working with clients	2.04	Seldom
Categorical Mean Client Burnout	2.07	Seldom
Overall Mean Burnout	2.34	Seldom

Legend: 5 – Always (4.20 – 5.00), 4 – Often (3.40 – 4.19), 3 – Sometimes (2.60 – 3.39), 2 – Seldom (1.80 – 2.59), and 1 – Never (1.00 – 1.79)

Level of Grit of Nurses in Terms of Interest and Perseverance

Shown in Table 2 is the level of the grit of the respondents in terms of interest and perseverance. The respondents regarded their *aim to be the best in the world at what they do* as the highest-scoring indicator under grit, which attained a mean score of 4.23 – which means the respondents *always* aimed to be the best in the world in whatever they do. Meanwhile, the respondents regarded *being distracted by new ideas and projects from previous ones* as the lowest-scoring indicator, which garnered a mean score of 3.09 – meaning, the respondents *sometimes* got distracted by ideas that they are not accustomed to or used to be. Overall, the categorical mean score of *interest* was 3.73 – a score which also happens to be a lower categorical mean score than the categorical mean of perseverance. This score was described as *often* – meaning, the respondents often had an interest and ambition in – or, in other words, these nurses manifest their grit through being particularly good at – everything that they do, and in overcoming setbacks and distractions while doing so. In general, these results concur with the published information by The Sentinel Watch (2018) which stated that nurses – particularly, nurse leaders – have risen to the management or executive level mainly because they've had the ambition to advance their careers and leave the bedside, and these nurses do this by working hard to raise the status quo for their colleagues and patients, while all the while considering that nurses with ambition are very likely to develop a specialty in the long run.

On the other hand, the highest factor under the category perseverance that garnered the highest mean score (4.39) was the parameter: *achieving something of lasting importance is the highest goal in life* – meaning, the nurses *always* sought to achieve something meaningful – of lasting importance – as their highest goal in their respective lives. Meanwhile, the parameter *having a difficulty maintaining focus on projects that take more than a few months to complete* obtained the lowest mean score among all the parameters (2.90), which suggests that, as interpreted, the participants *seldom* held back by the difficulty in maintaining their focus on projects that take more than a few months to complete. Moreover, the categorical mean score of *perseverance* was 3.76 – a score which also happens to be a higher categorical mean score than the categorical mean of interest. Moreover, this score was described as *often* – meaning, the respondents often persevere in achieving their goals and in accomplishing these goals at the soonest time possible. These results agree with the information published in an article about time management for nurses which stated that in achieving goals or tasks, nurses tend to and are advised to minimize distractions and not let these interruptions slow them down because interruptions, for them, can derail even the most precise schedule ("Important time," 2016).

Overall, the respondents had a mean score of 3.75 for their *level of grit*, which was described as *often* – meaning, the participating nurses often embody the value of grit, or being generally passionate, in achieving to become the best in the world in what they do, in achieving what they want to attain, and in being driven in doing so. The fact that these nurses want to achieve something of lasting value and intends to do so with perseverance and about accomplish it time-boundedly is a fact that concurs with the information published by Lucas (2015) which posited that nurses' perseverance manifested through developing organizational skills and patience allows them to flourish in all the tasks that get piled up during their shifts. In this way, these nurses, in turn, eliminate many of the normal stressors that others might not be able to overcome.

Table 2. Level of Grit of Nurses in Terms of Interest and Perseverance

Indicator	Mean	Descriptive Level
Interest		
Aiming to be the best in the world at what I do.	4.23 H	Always
Overcoming setbacks to conquer an important challenge	3.98	Often
Being distracted by new ideas and projects from previous ones	3.09 L	Sometimes
Being ambitious	4.08	Often
Having my interests change from year to year	3.33	Seldom
Not being discouraged by setbacks	3.71	Often
Categorical Mean Interest	3.73	Often
Perseverance		
Having been controlled with a certain idea or project for a short time but later lost interest	3.09	Sometimes
Being a hard worker	4.33	Always

Setting a goal but later choose to pursue a different one.	3.24	Sometimes
Having a difficulty maintaining focus on projects that take more than a few months to complete	2.90 L	Seldom
Finishing whatever I begin	4.20	Always
Achieving something of lasting importance is the highest goal in life	4.39 H	Always
Thinking one's achievement is overestimated	3.34	Seldom
Achieving a goal that took years of work	3.65	Often
Being driven to succeed	4.36	Always
Being interested in a new goal every few months	3.73	Often
Being diligent	4.10	Often
Categorical Mean Perseverance	3.76	Often
Overall Mean Grit	3.75	Often

Legend: 5 – Always (4.20 – 5.00), 4 – Often (3.40 – 4.19), 3 – Sometimes (2.60 – 3.39), 2 – Seldom (1.80 – 2.59), and 1 – Never (1.00 – 1.79)

Level of Self-Awareness of Nurses in Terms of Reflection and Rumination

Presented in Table 3 is the level of self-awareness of the respondents in terms of reflection and rumination. In the reflection category, the item that received the highest mean score (4.13) was *exploring my "inner" self* – meaning, when interpreted, the nurses always explored their inner selves as part of being self-aware. Meanwhile, the item that received the lowest mean score (4.13) was *exploring my "inner" self* – which means, when interpreted, the nurses *always* explored their inner selves as part of being self-aware. The item that received the lowest mean score (2.28) was *not being appealed by philosophical or abstract thinking* – which means, when interpreted, the nurses were *seldom* not attracted to philosophical or abstract thinking when reflecting. In particular, the categorical mean score of self-awareness in terms of reflection was 3.13, which was described as *sometimes*. This finding suggests that the respondents, in general, sometimes contemplate or do introspection on their lives and sometimes gets fascinated by the act of meditation or self-analysis. This fact that nurses explore their "inner selves" is echoed in the findings of Linette & Bryant (2017) wherein, in their study about healthcare providers who manage their stress through meditation, nurses have found the act of self-assessment and meditation as essential, as the majority of these nurses verbalized creation of a safer work environment, reduction of the risk of burnout and staff turnover, and increase in the emotional, physical, and overall satisfaction for both staff and patients as some of the benefits they obtained after prolonged engagement with meditative practices.

As for the category rumination, the tabulated data show that the item that received the highest mean score (3.26) was *playing back* *over my mind how I acted in a past situation* – which means, per descriptive interpretation, that the respondents *sometimes* playback over their mind's how they acted in past situations. Meanwhile, the respondents collectively rated *focusing on aspects of me I wish I'd stop thinking about* as the lowest-garnering indicator, which had a mean score of 2.76. This suggests that the respondents *sometimes* focus on aspects of themselves that they wish they'd stop thinking about. Moreover, the categorical mean score of self-awareness in terms of rumination was 2.98. This result, when described, indicates that the respondents *sometimes* ruminate on thoughts repeatedly, even focusing on things that they wish they'd stop thinking about. These findings of rumination reflect those who have been studied by Vandevala, Pavey, Chelidoni, Chang, Creagh-Brown, and Cox (2017) wherein healthcare providers – nurses included – have been found to ruminate effectively, which, in turn, was found to mediate the relationship between ICU stressors, burnout, depression, and risk of psychiatric morbidity, such that increased ICU stressors. Besides, this greater affective rumination was found to be associated with greater burnout, depression, and risk of psychiatric morbidity for this group of people.

Overall, the respondents had a mean score of 3.06 for their *level of self-awareness.* This result suggests that the participating nurses *sometimes* are self-aware, or they *sometimes* mentally rehash the things about themselves – or explore their "inner" selves – and about the things that they have done in the past.

Table 3. Level of Self-Awareness of Nurses in Terms of Reflection and Rumination

Indicator	Mean	Descriptive Level
Reflection		
Exploring my "inner" self.	4.13 H	Always
Looking at my life in philosophical ways	3.93	Often
Meditating on the nature and meaning of things	3.94	Sometimes
Not caring for introspective or self-reflective thinking	2.59	Seldom
Being fascinated by my attitudes and feelings about things	3.58	Often
Analyzing why I do things	3.78	Often
Not caring much for self-analysis	2.43	Seldom
Not being a meditative type of person	2.59	Seldom
Not being appealed by philosophical or abstract thinking	2.28	Seldom
Not considering contemplating about one's self as a fun	2.40 L	Seldom
Being "deep", introspective type of person	2.71	Sometimes
Being very self-inquisitive by nature	3.19	Sometimes

Categorical Mean Reflection	3.13	Sometimes
Rumination		
Ruminating or dwelling over things that happen to one's self for a long time afterward	3.00	Sometimes
Playing back over my mind how I acted in a past situation	3.26 H	Sometimes
Rehashing in my mind recent things I've said or done	3.21	Sometimes
Keep going back to what happened long after an argument or disagreement is over with	3.14	Sometimes
Not wasting time re-thinking things that are over and done	3.03	Sometimes
Reflecting on episodes in my life that I should no longer concern myself with	2.90	Sometimes
Spending a great deal of time thinking back over my embarrassing or disappointing moments	2.81	Sometimes
Not ruminating or dwelling on myself for very long	2.83	Sometimes
Putting unwanted thoughts out of my mind	2.96	Sometimes
Finding it hard to shut off thoughts about myself	2.86	Sometimes
Focusing on aspects of myself I wish I'd stop thinking about	2.76 L	Sometimes
Categorical Mean Rumination	2.98	Sometimes
Overall Mean Self-Awareness	3.06	Sometimes

Legend: 5 – Always (4.20 – 5.00), 4 – Often (3.40 – 4.19), 3 – Sometimes (2.60 – 3.39), 2 – Seldom (1.80 – 2.59), and 1 – Never (1.00 – 1.79)

Level of Meaningful Work Experiences of Nurses in Terms of Positive Meaning, Meaning-Making through Work, and Greater Motivation

Shown in Table 4 is the tabulated data about the level of meaningful work experiences of the respondents in terms of positive meaning, meaning-making through work, and greater motivation. As for the positive meaning category, the participating nurses regarded *working effectively in a collaborative team setting with others to complete a set of tasks* as the highest-scoring indicator, garnering a mean score of 4.55. This result suggests that nurses *always* deem that collaboratively working with others as an efficient way to accomplish tasks and achieve goals. Meanwhile, the respondents regarded *having the ability to keep calm in a heated situation and work with the people involved to form a constructive and positive way forward* as the lowest-scoring indicator under positive meaning, garnering a mean score of4.14. This result suggests that the nurses only *often* can be calm amidst being in a heated situation at work to find a positive, beneficial way to move forward. Overall, the positive meaning category had a total mean score of 4.28, which suggests that the respondents *always* see positive meaning in working with co-workers and with patients in the practice of their profession. These findings all concur with the findings of Babiker, et al. (2014) wherein health care professionals find working with colleagues as immensely beneficial and should be done constantly, as teamwork positively affects patient safety and outcome.

On the other hand, as for the meaning-making through the work category, the participating nurses regarded *embodying mode of strength, capability, and competence* as the highest-scoring indicator, garnering a mean score of 4.25. This result suggests that nurses *always* embody the values of strength, capability, and competence whenever they work with clients and co-workers. Meanwhile, the respondents regarded *having the ability to interpret a range of information and draw out the key issues of concern and their implications about a specific task* and *demonstrating innovativeness and creativeness when performing workload* as the lowest-scoring indicators under positive meaning, garnering a mean score of4.14. These results suggest that the respondents *often* can draw out relevant issues of concern from a variety of information about their work and, consequently, make implications out of those issues thereafter. Also, the respondents *often* demonstrate innovativeness and creativeness whenever they work and perform their duties as nurses. Overall, the meaning-making through the work category had a total mean score of 4.19, which insinuates that the respondents *often* find meaning through their work and in the practice of their profession as clinical nurses.

The fact that the participating nurses in this study primarily stated that they found meaning in working through *embodying mode of strength, capability, and competence* – values that can and are developed during mentoring – is something that goes in congruence with the findings of Malloy, et al. (2015) wherein nurses from five countries (Canada, India, Ireland, Japan, and Korea) found meaning in their work through and in relationships, compassionate caring, identity, and in a mentoring culture that they had while they were still starting in being clinical nurses. Also, it has been concluded in the study that nursing leaders and a culture of mentorship play an important role in fostering meaningful work and developing hardy employees.

Meanwhile, as for the greater motivation category, the participating nurses regarded *inspiring the feeling of diligence and teamwork* as the highest-scoring indicator, garnering a mean score of 4.38. This result suggests that nurses *always* advocate the concepts of diligence and teamwork in their workplace. On the other hand, the nurses regarded *using multiple sources and materials to research specific topics and extracting relevant information [from those sources]* as the lowest-scoring indicator, garnering a mean score of 4.19. This result suggests that nurses *often* use various sources and references to research specific topics and, consequently, extract important information from these materials as a means for motivation.

The results presented above collectively agree with the findings of Babiker, et al. (2014) wherein health care professionals find working with colleagues – or the value of diligence and teamwork – as immensely beneficial and should be done constantly, as teamwork positively affects patient safety and outcome. Also, seeking learning opportunities such as researching topics and extracting relevant information from the searched information is a key factor that motivates nurses in their career as new learning has been deemed by nurses as rewarding for their career, in general (Dzaher, 2017).

Overall, the respondents had a mean score of 4.26 for their *level of meaningful work experience.* This result suggests that the participating nurses *always* find meaning in their work experiences, primarily through working effectively in a collaborative team setting with others to complete a set of tasks; embodying mode of strength, capability and competence; and inspiring the feeling of diligence and teamwork in the workplace.

Table 4. Level of Meaningful Work Experiences of Nurses in Terms of Positive Meaning, Meaning-Making through Work, and Greater Motivation

Indicator	Mean	Descriptive Level
Positive Meaning		
Working effectively in a collaborative team setting with others to complete a set of tasks	4.55 H	Always
Structuring a logical and engaging presentation, tailored to the audience and present with clarity and confidence	4.20	Always
Having the ability to interact with a range of people in different roles from clients to frontline staff to senior management	4.21	Always
Having the ability to keep calm in a heated situation and work with the people involved to form a constructive and positive way forward	4.14 L	Often
Categorical Mean Positive Meaning	4.28	Always
Meaning-Making through Work		
Having the ability to interpret a range of information and draw out the key issues of concern and their implications about a specific task	4.16 L	Often
Upholding what is expected of a civil servant and pride in one's work	4.19	Often
Demonstrating innovativeness and creativeness when performing workload	4.16 L	Often
Embodying mode of strength, capability, and competence	4.25 H	Always
Categorical Mean Meaning-Making through Work	4.19	Often
Greater Motivation		
Advocating continuous learning and self-development	4.35	Always
Inspiring the feeling of diligence and teamwork	4.38 H	Always

Stimulating various tools and techniques to manage time, accomplishing specific task and goals	4.30	Always
Using multiple resources and materials to research specific topics and extracting relevant information [from those sources]	4.19 L	Often
Categorical Mean Greater Motivation	4.30	Always
Overall Mean Meaningful Work Experiences	4.26	Always

Legend: 5 – Always (4.20 – 5.00), 4 – Often (3.40 – 4.19), 3 – Sometimes (2.60 – 3.39), 2 – Seldom (1.80 – 2.59), and 1 – Never (1.00 – 1.79)

Test of Relationship of Burnout, Self-Awareness, Grit and Meaningful Work Experiences

Presented in Table 5 is the test of the relationship between the levels of burnout, self-awareness, and grit, and the level of meaningful work experiences of the respondents. According to the tabulated data shown, the test of the relationship between the level of self-awareness and the level of meaningful work experiences of nurses had an overall *p*-value score of 0.206. This result signifies that there is no relationship between the level of self-awareness and the level of meaningful work experiences of the respondents. Specifically, these findings state that being self-aware does not necessarily mean that a nurse would not find his or her work experience as meaningful, nor does it mean that being self-aware has a direct effect on the meaningful work experiences of these nurses.

On the other hand, the test of the relationship between the degree of burnout and the level of meaningful work experiences of the respondents had an overall *p*-value score of 0.010. This result signifies that there is a relationship between the degree of burnout and the meaningful work experiences of the respondents. Furthermore, the Pearson r result of the aforementioned variables had an r value result of -0.287, signifying that the degree of burnout of the respondents is directly, negatively correlated with their level of meaningful work experiences. These results further suggest that those who have high degrees of burnout most likely possess low levels of meaningful work experiences while those who have low degrees of burnout most likely possess high levels of meaningful work experiences.

These findings concur with the findings of Wang, et al., (2015) which stated that full-time nurses in Tianjin, China have moderate levels of emotional exhaustion and depersonalization, and a high level of reduced personal accomplishment – a finding which consequently goes in congruence with the study of Rushton, et al. (2015) which stated that burnout involves reduced personal accomplishments.

Conversely, the test of the relationship between the level of grit and the level of meaningful work experiences of the respondents had an overall *p*-value score of 0.000. This result signifies that there is a relationship between the level of grit and the meaningful work experiences of the respondents. Furthermore, the Pearson r result of the aforementioned variables had an r value result of 0.476, signifying that the level of the grit of the respondents is directly, positively correlated with their level of meaningful work experiences. These results further suggest that those who have high degrees of grit most likely possess high levels of meaningful work experiences as well, while those who have low degrees of grit most likely possess low levels of meaningful work experiences correspondingly.

This positive correlation between the level of grit and the level of meaningful work experiences of these nurses concurs with the information published by Lucas (2015) which posited that nurses' perseverance manifested through developing organizational skills and patience allows them to flourish in all the tasks that get piled up during their shifts. In this way, these nurses, in turn, eliminate many of the normal stressors that others might not be able to overcome, thereby finding satisfaction and meaning in their respective work.

Table 5. Test of Relationship between the Levels of Burnout, Grit, and Self-Awareness on Meaningful Work Experiences

Indicator	Meaningful Work Experiences		
	Overall	**Decision**	**Interpretation**
Burnout	**-.287** **.010**	**Reject Ho**	**Significant; Negative Correlation**
Grit	**.476** **.000**	**Reject Ho**	**Significant; Positive Correlation**
Self-Awareness	.143 .206	Accept Ho	Not Significant

Note: Pearson r values appear on the first rows; p values appear on the second rows, Significant at p-value≤ .01

Test of Prediction of Burnout, Self-Awareness, and Grit towards Meaningful Work Experiences

Table 6 shows the test of prediction results of the variables burnout, self-awareness, and grit towards meaningful work experiences. Among the three variables, burnout and grit garnered a *p*-value of .000, making these factors as significant predictors of meaningful work experiences.

In other words, the regression weight for burnout and grit in the prediction of meaningful work experiences is significantly different from zero at the 0.01 level (two-tailed). Thus, for every amount increase in burnout, the value of meaningful work experiences significantly decreases by 0.344, and, for every amount increase in grit, the value of meaningful work experiences significantly increases by 0.50. These results were consistent with the findings of previous studies (Abuhassàn & Bates, 2015; Hodge, Wright, & Bennett, 2017; Lucas, 2015; Sheldon, Jose, Kashdan, & Jarden, 2015; Wang, et al., 2015).

Meanwhile, self-awareness had a *p*-value of .867, making it an insignificant predictor of meaningful work experiences. This finding negates the position of various authors who collectively stated that the employee's self-awareness of what to him is significant and meaningful increases meaningful work experiences (Brown & Lent, 2017; Schoenfeld, et al., 2017).

Collectively, these findings were apparent in the results of the regression analysis wherein 34.4% of the variance of meaningful work experiences were explained by the three independent variables as indicated by R^2 = 0.344. The available result explains 34.4% of the variance of meaningful work experiences. This means that 63.6% can be attributed to other factors aside from burnout, self-awareness, and grit.

Table 6. Test of Prediction of Burnout, Self-Awareness, and Grit towards Meaningful Work Experiences

	Meaningful Work Experiences		
	p-value	Beta (Standardized)	Interpretation
Burnout	**.000**	**-.344**	**Significant**
Self-Awareness	.867	.016	Not Significant
Grit	**.000**	**.509**	**Significant**

Note: R = 0.586, R^2 *= .344, F = 13.259, p-value = .000*

Tests of Hypothesized Model 1

Figure 1 presents the first hypothesized model in this study, reflecting a direct relationship of exogenous on the endogenous variables. Based on the results, a total of 37% of the variance of meaningful work experiences is explained by the combined influence of burnout, self-awareness, and grit. This further suggests that 63% can be attributed to causes other than these factors.

The model depicts that grit (β=0.50) has a significant direct contribution to the attainment of meaningful work experiences for nurses. Burnout (β=-0.34), moreover, also has a direct effect, albeit a negative one, towards the attainment of meaningful work experiences for the respondents. These findings suggest that, in this model, for the amount increase in grit, the attainment of meaningful work experiences also significantly rises by 0.50. Conversely, for every amount increase in burnout, the attainment of meaningful work experiences also significantly decreases by 0.34. However, self-awareness was found to have no significant effect on the meaningful work experiences in this model, garnering a p-value > 0.05.

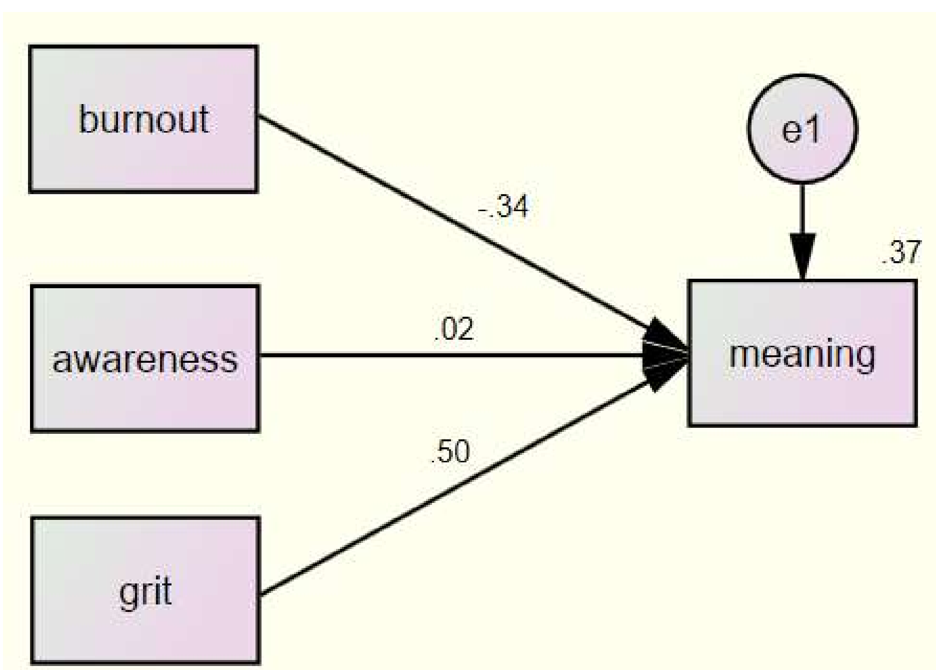

Figure 1. Hypothesized Model 1

Table 7 presents the results of the goodness of fit measures for Hypothesized Model 1. The results revealed that the model fit values were not within the range of the indices criteria as shown by CMIN/DF > 3.0; P < 0.05; NFI, TLI, CFI, and GFI < .95; and RMSEA greater than 0.08, with a PCLOSE less than 0.05. This implies that the model does not fit the data.

Table 7. The goodness of fit measure of causal model 1

INDEX	CRITERION	MODEL FIT VALUE
CMIN/DF	< 3	3.247
P-value	> .05	.021
NFI	> .95	.773
TLI	> .95	.635
CFI	> .95	.818
GFI	> .95	.942
RMSEA	< .95	.169
PCLOSE	> .05	.042

<u>Tests of Hypothesized Model 2</u>

Figure 2 presents the results of the hypothesized Model 2. Based on the results, a total of 35% of the variance of meaningful work experiences can be explained by the combined influence of burnout, self-awareness, and grit. This further suggests that 65% can be attributed to causes other than these factors.

The model further depicts that grit (β=0.51) has a significant direct contribution to the attainment of meaningful work experiences for nurses. Furthermore, burnout (β=-0.34) also has a direct effect, albeit a negative one, towards the attainment of meaningful work experiences for the respondents. These findings suggest that, in this model, for the amount increase in grit, the attainment of meaningful work experiences also significantly rises by 0.51. Conversely, for every amount increase in burnout, the attainment of meaningful work experiences also significantly decreases by 0.34.

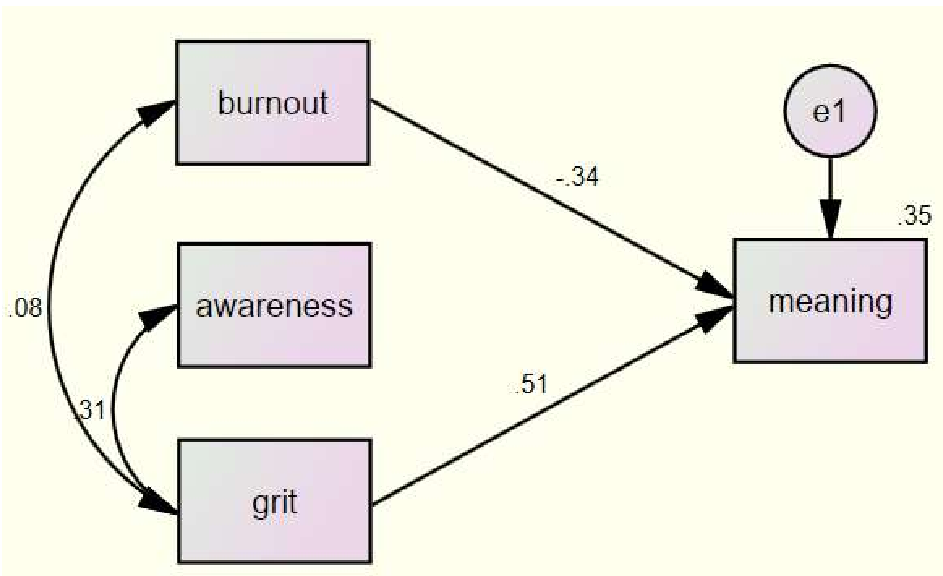

Figure 2. Hypothesized Model 2

The results of correlation analysis between grit and self-awareness and grit and burnout are shown in Table 9. It can be noticed that, on one hand, the p-value for the correlation between grit and burnout is greater than 0.05 and its correlation coefficient is 0.08. This means that there is no significant relationship that exists between grit and self-awareness in this model.

On the other hand, it can be noticed that the correlation analysis between grit and self-awareness revealed a p-value of < 0.05 and a correlation coefficient of 0.31, reflecting a direct, positive relationship between the two variables.

Table 9. Correlation between grit and burnout and grit and self-awareness in Hypothesized Model 2

INDEPENDENT VARIABLES	R	P
Grit <--> Burnout	0.08	.472
Grit <--> Self-Awareness	0.31	.008

The model fitting was calculated as being highly acceptable as presented in Table 10. The chi-square divided by the degrees of freedom is 0.425 with the probability level of 0.654. This indicates a very good fit of the model to the data. This result is also strongly supported by the RMSEA index of 0.000, with its corresponding PCLOSE-value of 0.705. Likewise, the other indices such as NFI, TLI, CFI, and GFI were found to consistently indicate a good fit model as their values all within their respective criteria.

Table 10. The goodness of fit measure of causal model 2

INDEX	CRITERION	MODEL FIT VALUE
CMIN/DF	< 3	.425
P-value	> .05	.654
NFI	> .95	.980
TLI	> .95	1.093
CFI	> .95	1.000
GFI	> .95	.995
RMSEA	< .95	.000
PCLOSE	> .05	.705

Tests of Hypothesized Model 3

Figure 3 presents the results of Hypothesized Model 3. It can be observed in the model that a total of 37% of the variance of meaningful work experiences can be explained by the combined influence of burnout, self-awareness, and grit. This further suggests that 63% can be attributed to causes other than these factors.

The model further depicts that grit (β=0.50) has a significant direct contribution to the attainment of meaningful work experiences for nurses. Furthermore, burnout (β=-0.34) also has a direct, negative effect on the attainment of meaningful work experiences for the respondents. These findings suggest that, in this model, for the amount increase in grit, the attainment of meaningful work experiences also significantly rises by 0.50. Conversely, for every amount increase in burnout, the attainment of meaningful work experiences also significantly decreases by 0.34.

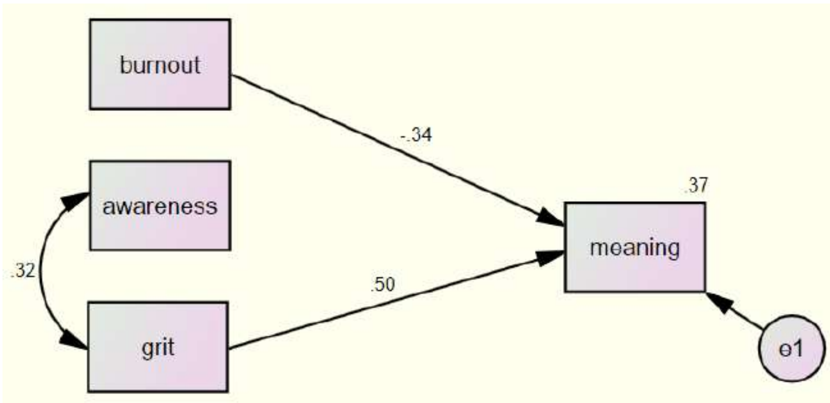

Figure 3. Hypothesized Model 3

The results of correlation analysis between grit and self-awareness are shown in Table 11. It can be noticed that the correlation analysis between grit and self-awareness revealed a p-value of < 0.05 and a correlation coefficient of 0.32, reflecting a direct, positive relationship between the two variables.

Table 11. Correlation between grit and self-awareness in Hypothesized Model 3

INDEPENDENT VARIABLES	R	P
Grit <--> Self-Awareness	0.32	.007

The model fitting for the Hypothesized Model 3 was also calculated as being highly acceptable as presented in Table 12. The chi-square divided by the degrees of freedom is 0.425 with the probability level of 0.654. This indicates a very good fit of the model to the data. This result is also strongly supported by the RMSEA index of 0.000, with its corresponding PCLOSE-value of 0.705. Likewise, the other indices such as NFI, TLI, CFI, and GFI were found to consistently indicate a good fit model as their values all within their respective criteria.

Table 12. The goodness of fit measure of causal model 3

INDEX	CRITERION	MODEL FIT VALUE
CMIN/DF	< 3	.455
P-value	> .05	.713
NFI	> .95	.968
TLI	> .95	1.088
CFI	> .95	1.000
GFI	> .95	.991
RMSEA	< .95	.000
PCLOSE	> .05	.771

Best Fit Model of Meaningful Work Experiences

This study estimated the causal relationships of burnout, grit, and self-awareness towards meaningful work experiences of nurses. Out of the three hypothesized models that were presented, the Hypothesized Model 3 proved to be the best fitting model of meaningful work experiences with grit, burnout, and self-awareness as its exogenous variables. Particularly, the third causal model possessed the best model fitness that represents the attainment of meaningful work experiences for nurses, with the goodness of fit statistical data falling within the acceptable range of different indices.

Moreover, the third hypothesized model showed that grit and burnout have a linear causal relationship with meaningful work experience. Hence, both grit and burnout directly affect and predict the nurses' perception of how meaningful their work experience is. These findings imply that nurses who have a higher sense of grit would most likely find meaning in their work. Such finding is also consistent with the results of Hodge, et. al., (2017); Sheldon, et al., (2015) and Abuhassàn and Bates (2015). Likewise, the results suggest that a nurse experiencing higher levels of burnout would perceive his work less meaningful – a fact which has been supported by previous studies (Ahmed, et al., 2016; Tong, 2017; van der Stoep, 2017; van Wingerden, & van Woerkom, et al., 2015).

Further, the model also showed that there is a significant correlation between grit and self-awareness. This finding suggests that the degree of interest and perseverance that a nurse has can be influenced by the extent of self-awareness such a nurse also possesses. This result may even imply that being passionate and perseverant requires a certain degree of self-awareness – that is, having a high degree of self-awareness translates to having higher degrees of passion and perseverance. Moreover, this can also mean that the causal relationship between grit and meaningful work experiences can be affected by the degree of self-awareness a nurse possesses. These results have been supported by the findings of Armstrong, Van der Lingen, Lourens, and Chen (2018), and, Kannangara, et al. (2018).

The consensus of these findings suggests that the degree of burnout felt by nurses negatively affects how these nurses perceive their working experience and to what extent do they find meaning in their respective works. On the other hand, this model also demonstrates that grit has a direct, positive impact on the attainment of meaningful work experiences of nurses. This suggests that grit – or an individual's interest towards and perseverance in achieving a certain goal – positively influences the way a nurse deems his or her experience in working as meaningful. Also, the model showed that there is a significant correlation between grit and self-awareness, reflecting a covariance between the two variables.

Thus, the feelings of interest and perseverance – or grit – of nurses must be supplemented, supported, and enhanced to promote these nurses' positive meaning, meaning-making through work, and greater motivation in the workplace. To this end, it is recommended by the proponents of this research that personal and professional development programs should be conducted for nurses by their respective administrators to support their quest towards finding meaning into one's work. This can be done through the provision of a series of behavioral-based seminar-workshops which will enhance the sense of focus, positive attitude, perseverance, and the challenge of nurses (McAneny, 2019). Instilling the trait of grit among nurses can also be materialized through providing a systematic mentor-mentee relationship wherein novice nurses, in particular, will be subjected to an orientation program where their sense of focus, positive attitude, perseverance, and the challenge will be applied, tested, and supervised through a series of lectures and clinical exposures to various fields of practice in nursing in an institution, supervised by another staff nurse who will be serving as mentors to these novice nurses. This scheme will open up an avenue wherein positive reinforcements may be provided to these novice nurses, and any concerns related to their sense of grit may be addressed and acted upon accordingly by their respective mentors. Besides, in consideration of the existence of the correlation between grit and self-awareness as depicted by the causal model, part of the sessions which will be conducted in this proposed orientation program would be the addition of a psychological assessment intended to discover and enhance the self-awareness of staff nurses.

However, it is also noteworthy that grit, as a trait, is not something that can be possessed after just completing a series of lectures or seminar-workshops. Rather, it is something that needs to be nurtured even at a young age. And, in the context of nursing, research has posited that it is also immensely beneficial to consider constructing and planning for the delivery of instruction in nursing schools in such a way that the grit of nursing students may be enhanced (Harris, Rosenberg, & O'Rourke, 2014).

On top of enhancing grit among nurses, the perennial concern about burnout among nurses needs to be addressed as well, especially considering that, according to the hypothesized model 3, burnout has a direct, negative causal relationship with meaningful work experiences. According to Laschinger and Fida (2014), this can be addressed by providing programs intended to develop and build authentic leadership skills and psychological capital to nurses, since burnout is significantly related to poor mental health and job dissatisfaction. Additionally, gearing nurses with leadership skills and enhanced psychological capital have been found to protect new nurses from negative early career work experiences, burnout included (Laschinger & Fida, 2014). This benefit from supporting nurses is also reinforced by the news published by Ford (2018) which stated that the provision of administrative support to nurses can, at the end of the day, improve patient care because nurses feel energized when they are supported, omitting, in turn, the risk of workplace burnout.

All of these undertakings are of paramount importance because, with the looming problem that healthcare institutions of today have about the increasing nursing workforce shortage, it is essential to find ways to enhance something that can make nurses stay in an organization. Grit, in this regard, is a trait in which the hospital administrators can maximize upon because of its positive causal relationship with meaningful work experiences, and, consequently, burnout is something that these administrators can actively act upon as well (Buchan, 2016; Ford, 2018; Horkey, 2015; Spence Laschinger, & Fida, 2014).

It is, however, worthy to mention that this research work has its limitations. For one, this study made use of data obtained from 80 purposively-selected respondents only. Although the bootstrapping process was utilized to assign measures of accuracy to sample estimates, it would have been better if the actual samples reached the minimum number required to satisfy the assumptions for the sample size for structural equation modeling and path analysis (or at least 200 participants), and that a randomized selection process of samples was observed to limit bias and to enhance the generalizability of the findings of this study. Another area of improvement of this study is the utilization of full structural equation modeling to depict what model best fits meaningful work experiences as estimated by grit, burnout, and self-awareness and their respective indicators.

Lastly, it is similarly imperative to consider that, despite being the best fitting model, only a total of 37% of the variance of meaningful work experiences can be explained by the combined influence of burnout, self-awareness, and grit in the third causal model. This further implies that 63% can be attributed to causes other than these factors, opening up a possibility of further investigation on what best influences meaningful work experiences for nurses.

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Image Acceptability of Aloe Vera (*Aloe barbadensis*miller) - Saluyot (*Corchorusolitorius*linnaeus) Extract as an Alternative for Commercial Ultrasound Gel

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Abstract

One of the negative side-effects experienced by patients undergoing ultrasound procedure is skin irritation caused by the gel used as coupling agent. This study aimed to test whether a natural and organic ultrasound gel produced from *saluyot* leaves and aloe vera can approximate the imaging quality of the ultrasound gel being currently used without the skin irritation commonly experienced by patients. It presents the process undertaken to formulate the gel as well as the different tests the gel was subjected to, including anti-microbial, toxicity, and animal testing. When the organic gel was used in an ultrasound procedure to visualize the liver and thyroid organs, the results yielded moderately acceptable image quality. The researchers concluded that the aloe vera – *saluyot* extract can be used as an alternative to commercial gel but more studies are recommended to address concerns related to viscosity and the preservation of the mixture to attain a longer shelf-life.

Keywords: Health, *Saluyot*, Aloe vera, Ultrasound Gel, Southern Philippines

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Introduction

Ultrasound, also known as sonography, is a diagnostic imaging system that uses high-frequency sound waves to diagnose medical conditions and to show live images of different structures in the body. It is a diagnostic imaging unit that uses non-ionizing radiation that allows minimal risk compared to diagnostic imaging that uses ionizing radiation (Green et al., 2017). Commercial ultrasound gels are used as coupling agents in ultrasound to produce quality images. Despite the quality images the commercial ultrasound gel provides, it can cause dermatitis or contact urticaria because of its inorganic nature (Chasset et al., 2016). This study aims to produce an alternative ultrasound gel that utilizes organic compounds to lessen irritations as a result of synthetic commercial ultrasound gels without affecting image quality.

A few alternatives for commercial ultrasound gel are shampoo, water, guar gum, betadine, cornstarch, gelatin, and surgical lube (Salmon, Bissinger, Muller, & Gebreyesus, 2015). The use of these products was considered costly and impractical for an alternative ultrasound gel. Besides, they can give potential damage to the transducers. Moreover, guar gum and gelatin's availability were inadequate that gives an impression of being not a feasible alternative for commercial ultrasound gel. Lastly, water's viscosity is insufficient which leads to a decreased amount of efficiency of sound waves transmitted through the tissues. Two of the alternative acoustic gels: Saluyot (*Corchorusolitorius)* and Aloe Vera (*Aloe barbadensis Miller)* extract provide promising results. *Corchorusolitorius* has potential use as an antibacterial agent against infection of *Corynebacterium diphtheria, Staphylococcus aureus, Bacillus cereus, Staphylococcus epidermidis*, and *Kocuriarhizophila* (Zakaria, 2006).

One undergraduate study (Alipio et al., 2018) proved that *saluyot* extract is a feasible alternative to ultrasound gel without compromising image quality. However, while *saluyot* extract exhibited potential for use as an ultrasound gel, its watery consistency is deemed a major drawback as it is unable to adhere to the skin as well as that of a commercial gel. Thus, in this study, aloe vera will be added to the mixture to provide adequate viscosity which will be easier for the sonographers to apply the gel to the patient's skin without affecting the quality of the image. The aloe vera contains healing properties, ultraviolet, and gamma radiation protection, anti-inflammatory action, anti-aging effect, antiviral and antitumor activity (Surjushe, Vasani, & Saple, 2008).

The overall aim of the study is to determine whether a mixture of aloe vera sap and *saluyot* extract is a feasible alternative to commercial ultrasound gel. It takes off from the findings of a previous undergraduate research from the Radiologic Technology program mentioned earlier which concluded that, while *saluyot* extract exhibited a potential as an alternative to a commercial ultrasound gel, its water consistency had to be improved. The researchers theorized that such improvement can be attained by mixing saluyot extract with sap from aloe vera. The researchers hoped to produce an alternative ultrasound gel with organic components to lessen the contamination acquired from the use of commercial ultrasound gel and to minimize the irritation of the patient's skin. If proven safe to animals and humans, the product will be further developed into a marketable product that may be useful to the Philippine Healthcare Industry.

Aloe Vera

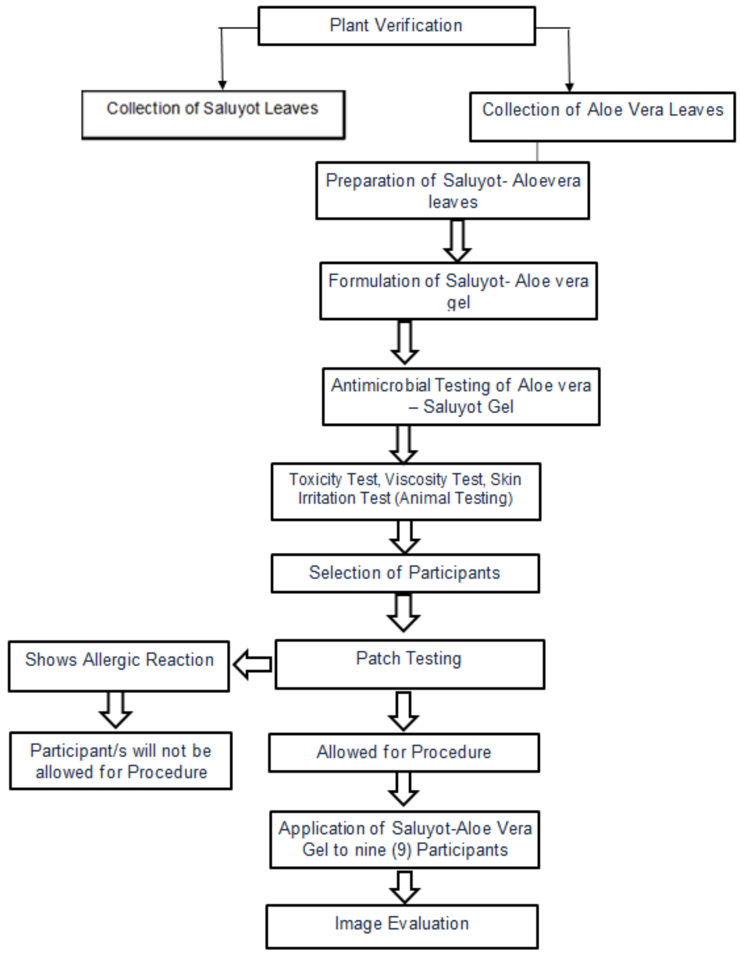
The aloe vera (*Aloe barbadensisMiller)* plant has been known and used for centuries for its health, beauty, medicinal and skincare properties. The aloe plant has long, triangular, fleshy leaves that have spikes along the edges contains Anthraquinones/anthrones. It contains vitamins A (beta-carotene), C, and E which are antioxidants- neutralizes free radicals. It contains 8 enzymes: aliiase, alkaline phosphatase, bradykinesia, cellulase, lipase, carboxypeptidase, catalase, and peroxidase. Bradykinase helps to reduce inflammation when applied to the skin topically while others help in the breakdown of sugars and fats. It also contains anthraquinones which are phenolic compounds traditionally known as laxatives. It is also a natural product that is frequently used in smoothing skincare products such as after-sun lotions (Reuter, Stump, Franke, & Jocher et al., 2008). Furthermore, aloe vera has a potential analgesic activity which is widely used to treat certain ailments (David, 2006). Aloe vera gel is one of the ingredients in ultrasound gel to provide fast pain relief for it contains hormones such as Auxins and gibberellins that have healing and anti-inflammatory actions (Surjushe, et al., 2008, Al, Villaverde, Munin, Aimbire, Albertini, 2010, & Sekar, 2017).

Saluyot *(Corchorusolitorius L.)* Plant and Leaves

Jute (*Corchorusolitorius L.*) is a member of Tiliaceae plant family and is found in the Mediterranean area. The leaves of this plant, called moroheiya, are rich in antioxidants which include phenols, glutathione, α-tocopherol, β-carotene, vitamin E, and vitamin C (Islam, 2013). These also contain minerals, fatty acids, and other vitamins (Zeghichi, Kallithraka, & Simopoulos, 2003). The *saluyot* extract has long been used as a remedy in many cultures as a laxative, in creams for skincare, and as a treatment for a wide range of diseases, respectively. *Saluyot* leaves contain polysaccharides that are known to increase skin hydration (Kanlayavattanakul, Rodchuea, & Lourith, 2012). *Saluyot* leaves contain antibacterial and antifungal properties that are useful in the treatment of diseases that may be a result of infection. (Semra, Colak, Savaroglu, 2007).

Methods

The study utilized a quasi-experimental design in its attempt to describe, analyze, and evaluate the feasibility of aloe vera - *saluyot* extract for an alternative to commercial ultrasound gel. There were nine participants for this study. The respondents were at least 18 years of age and were physically healthy at the time of the study. Sex, body habitus, and lifestyle were excluded as variables of the study. The selection of the participants was not inclusive in groups such as children, pregnant women, people with disabilities, and malnourished people. The study used *Mean* to determine the level of image acceptability when visualizing the liver and the thyroid. Moreover, *Mann Whitney U* was used to determine if there was a significant difference in the level of image acceptability between the aloe vera – *saluyot* extract and the commercial ultrasound gel. The study focused only on the visibility of the image after using the combined aloe vera – *saluyot* extract and the commercial ultrasound gel to the participants utilizing the ultrasound machine. The sonographic procedure was only limited to thyroid and liver scans.



Schematic Diagram of the Procedures of the Study

Results and Discussion

Table 1. Level of Image Acceptability between Aloe Vera – *Saluyot* Extract and the Commercial Gel

Gel	Mean	Description	Interpretation
Aloe Vera – *Saluyot* extract			
Liver	1.5	Moderate	The images are moderately acceptable
Thyroid	2.1	Moderate	The images are moderately acceptable
Commercial Gel			
Liver	1.6	Moderate	The images are moderately acceptable
Thyroid	2.1	Moderate	The images are moderately acceptable

Table 1 presents the level of image acceptability between aloe vera – *saluyot* extract and commercial gel. The result generated a *moderately acceptable* image in visualizing the liver and thyroid organ using both the commercial gel and the aloe vera – *saluyot* extract.

Table 2. Skin Test Result between the Aloe Vera – *Saluyot* Extract and the Commercial Gel

Type of Gel	Location	Remarks
Aloe Vera – *Saluyot* Extract	Liver	No skin irritation
	Thyroid	No skin irritation
Commercial Gel	Liver	No skin irritation
	Thyroid	No skin irritation

Table 2 presents the result of skin test between the aloe vera – *saluyot* extract and the commercial gel. It shows that the aloe vera – *saluyot* extract did not cause skin irritations; therefore, it is safe to apply on human subjects.

Table 3. Significant Difference in the Level of Image Acceptability between the Aloe Vera – *Saluyot* extract and the Commercial Gel

Indicator		Z	Sig.	Decision	Interpretation
Level of Image Acceptability	Liver	0.704	0.482	Not significant	Accept
	Thyroid	0.685	0.546	Not significant	Accept

Alpha =0.01

In table 3, when the aloe vera – *saluyot* extract and the commercial gel were applied to visualize the liver, it generated a p value of 0.482 which yielded no significant difference when any of the gels were applied, accepting the null hypothesis. The same result also yielded no significant difference when both gels were applied in the thyroid area, thus accepting the null hypothesis. This means that the aloe vera – *saluyot* extract can be used as an alternative to ultrasound gel. The visibility of the image using aloe vera – *saluyot* extract is at par with the commercial gel. In the absence of the commercial gel, the aloe vera – *saluyot* extract can be used as ultrasound or acoustic gel.

Conclusions and Recommendations

The result showed no significant difference between the commercial gel and the aloe vera – *saluyot* extract when used to visualize both liver and thyroid organs. Both gels generated moderately acceptable image acceptability. This means that aloe vera – *saluyot* extract can be used as an alternative to ultrasound gel, especially in places where access to medical supply is limited and where aloe vera and *saluyot* plants are commonly abundant, such as rural areas. The aloe vera – *saluyot* extract is safe on human subjects. The skin test result showed that the aloe vera – *saluyot* extract did not cause any skin irritations on human participants.

Though the study was able to establish that the aloe vera – *saluyot* extract can be used as an alternative to ultrasound gel because visibility of the image is at par with the commercial gel, the addition of the aloe vera did not solve the water consistency problem. The concoction is not as viscous as compared to the commercial gel, consequently, if the aloe vera – *saluyot* extract is to be used commercially, the productivity of the sonographer would be lessened as scanning the patient becomes more challenging. Since the aloe vera – *saluyot* extract is not as viscous as the commercial gel, it would require more frequent application of this organic mixture to a particular area during an ultrasound procedure which can cause longer scanning time.

The researchers recommend that further studies be conducted to explore solutions to the viscosity problem as well as to develop methods to preserve the mixture and prolong its shelf-life using other organic compounds. These are needed before the fullscale use of the aloe vera – *saluyot* extract mixture may be contemplated.

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Davao Central 911 Rescuers: Professional Quality of Life and Self Care Technique

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Abstract

This study explored the quality of life of the Emergency Medical Technicians (EMT) of Davao Central 911 in terms of compassion satisfaction, burnout and compassion fatigue and identified the self-care techniques of Davao City EMTs. This is based on data generated from the administration of a structured questionnaire to and interview of 86 EMTs using standardized tests, the Professional Quality of Life (ProQOL) test, and the Self-Care Technique Checklist to establish baseline results that underwent further validation via focus group discussion of a purposively selected group of participants. The study utilized an explanatory sequential mixed method design and purposive sampling. The results revealed that the respondents have high compassion satisfaction, average burnout, and low compassion fatigue. It also identified the following self-care techniques practiced by the respondents: physical, psychological, emotional, spiritual, relationship, and professional, the most often practiced of which was professional (or workplace) self-care. The researcher concluded that letting EMTs establish further interpersonal relations with other people, especially family members and friends, will improve the mental health of EMTs. The more extensive use of self-care techniques and the promotion of holistic self-care practices coupled with regular physical examination of EMTs are recommended to obviate mental health issues from adversely affecting the operational effectiveness of individual EMTs and enhance their quality of life as healthcare professionals.

Keywords: Social Sciences, Clinical Psychology, Sequential Explanatory, Mixed Methods Research Design, Southern Philippines

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Introduction

One of the healthcare professionals that can easily count as a modern-day unsung hero is the Emergency Medical Technician (EMT). The day to day life of an EMT is spontaneous and varied. Daily, EMTs face different challenges as they respond to urgent calls for help from victims of car accidents, unscheduled childbirth, traumatic incidents, and crime scenes, among many other circumstances. When responding to calls, they are expected to perform quickly since the cases they handle, more often than not, need immediate action. EMTs, like emergency responders, such as fire-fighters, work in a field that regularly involves traumatic events, placing them at risk of becoming victims themselves (Cacciatore, Carlson, Michaelis, Llimek, & Steffan 2011; Tuckey & Hayward, 2011).

The demanding and stressful nature of the EMTs job cannot be overemphasized. EMTs commonly experience several issues due to exposure to different disasters that affect them because it is difficult for them to avoid being involved emotionally (Corpuz et al, 2019). Their experiences of working with critically-injured individuals often lead to psychological disturbances. As a result, EMTs experience symptoms of Post- Traumatic Stress Disorder (PTSD) such as intrusive memories about the event, flashbacks, nightmares, physical tensions or agitation, emotional numbness, and the desire to avoid talking or thinking about the traumatic event. The inherent need to meet societal expectations add to the pressure. Oftentimes, EMTs hesitate from seeking help because there are societal expectations and idealizations of people in this profession as heroes who are always strong and tough, both mentally and physically. This potential psychological imbalance that can be experienced by these professionals point to the urgent need to investigate mental wellness and the causes of psychological distress among EMTs and other first responders (Lefevre, 2017).

There are also career implications. A regular worker can go on an entire career without making a life-or-death decision at work while most EMTs cannot go through a single day without making one. EMTs are typically the first to respond in the event of a medical emergency, which, by itself, is already a demanding job, to say the least. EMTs commonly spend years as first responders before moving on to administrative positions in the service, by becoming directors, supervisors, trainers, or dispatchers. However, there are those who grow tired of the demanding work before they get the chance to land an administrative sinecure such that they decide to leave the service altogether to retire or find a new career path before their prime (Clawson, 1989).

This almost constant exposure to stress, trauma, and, perhaps, even career frustration, can impact on the quality of life of the EMT as a working professional. Consequently, it is important to understand the factors that influence the quality of life of these helping professionals (Thomas, 2013), especially as it pertains to their experiences of compassion satisfaction and compassion fatigue, in order to ensure their professional effectiveness as well as job satisfaction (Ray, Wong, White & Heaslip., 2013; Stamm, 2010). Compassion fatigue is comprised of two parts; secondary traumatic stress (STS) and burnout. *Burnout* is a state of physical, emotional and mental exhaustion caused by long-term involvement in emotionally demanding situations (Pines and Aronson, 1988). It is associated with feelings of hopelessness and difficulties in dealing with work or in doing one's job effectively (Stamm, 2010) resulting from prolonged exposure to job stressors that cause exhaustion, cynicism, and inefficacy (Maslach, Schaufeli, & Leiter, 2001). Together, compassion satisfaction and the two components of compassion fatigue, STS and burnout, generate a professional quality of life for helping professionals. Both the positive and negative aspects of doing one's job influence one's professional quality of life (Stamm, 2010). With a low professional quality of life, nurses and other health care providers, including EMTs, may manifest loss of self-worth and diminished productivity, and staff turnover can be affected (Boyle, 2011; Haber et al., 2013). In contrast, a high quality of life leads to a greater number of patients satisfied with their care (McHugh, Lee, Cimiotti, Sloane, & Aiken, 2011).

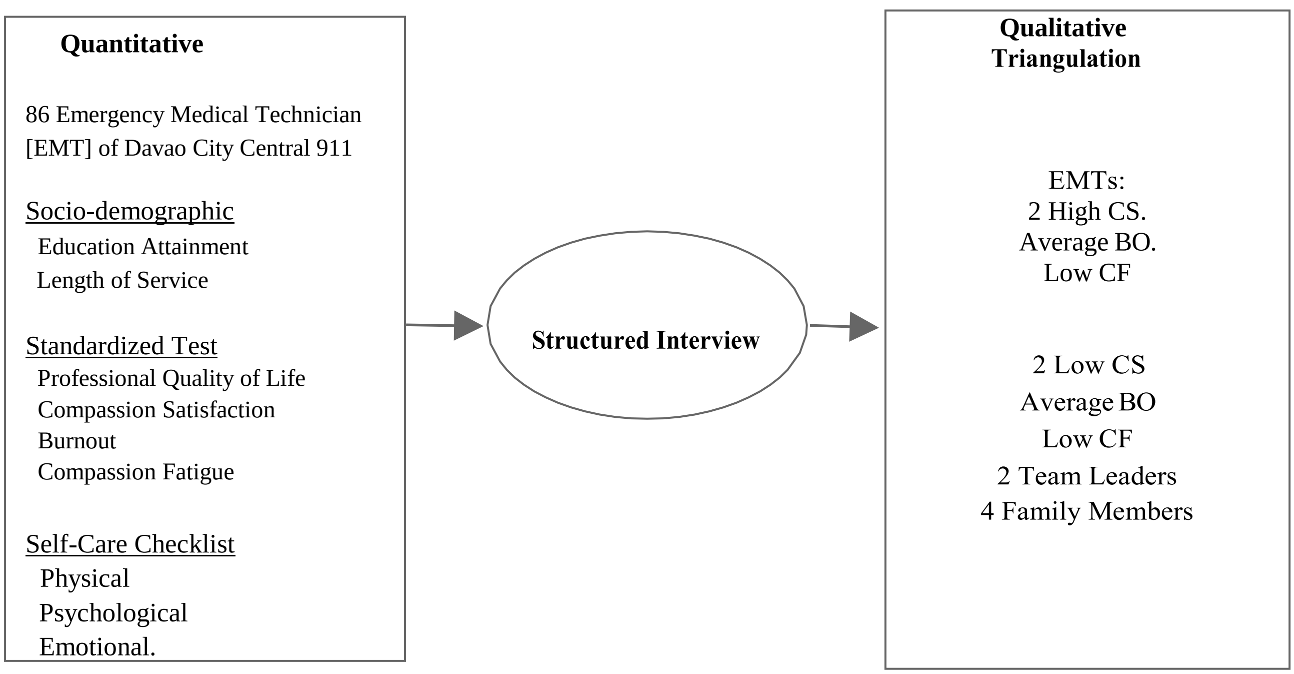
Among healthcare professionals, especially practitioners of emergency medicine, self-care has been identified as a means towards enhancing their quality of life. As it is understood in the context of the healthcare profession, the practice of self-care refers to the purposeful actions people and organizations take that contribute to wellness and stress reduction (Alkema, Linton, & Davies, 2008; Barker, 2010; Killian, 2008; Kraus, 2005). Perceptions of self-care involve the attitudes and beliefs one holds about self-care and can be influenced by a variety of environmental and personal factors. In a study to determine the relationship between perceptions of self-care and quality of life among clinical psychology doctoral students, Goncher, Sherman, Barnett, and Haskins (2013) found that perceived self-care emphasis was a significant predictor of both qualities of life and self-care practice.

The practice of emergency medicine is still in its infancy, especially in the Philippines. At the moment, there is no academic program for EMTs and most of the EMTs in the country have at least a bachelor's degree in nursing (Pinoymedic, 2017). Further, there is no EMT accreditation program in-place, and pre-hospital cares are yet to be systemized. In contrast, in Canada, one can qualify as a paramedic only after passing the Advanced Emergency Medical Care Assistant certificate examination provided by the Ministry of Health and Long-Term Care (Pinoymedic, 2017).

Because of its infancy, there is a dearth of materials, especially research studies, on the practice of emergency medicine and the profession of the EMT. This paper is intended to contribute towards the accumulation of knowledge of this profession and help correct this dearth. This paper, which examines the quality of life of EMTs, is focused on the EMTs of the Davao City Central 911. It will serve, primarily, as a foundational study that will provide information to the Davao City Disaster Risk Reduction Management Office and the Davao City Public Safety and Security Command Center that can be a basis for crafting interventions to enhance the quality of life and professional effectiveness of the EMTs of Davao City. Also, this researcher, through this study, hopes to catch the interest of the local and national government units, and encourage them to support programs for addressing the psychological concerns of first responders who are prone to compassion fatigue and burnout, as well as PTSD. It is also hoped that this study may encourage more researchers to conduct studies on emergency medicine that can lead to the formulation of intervention programs to address the needs of emergency responders and their work-*related* concerns that can affect their professional life. Lastly, this study provides the public with a glimpse of the life of an EMT and an awareness of the importance of EMTs who work round the clock to rescue people in distress. Hopefully, this awareness will lead to a realization of the public's role in helping to rescue EMTs from their stressors as they fight to regain a balance of their psychological schema.

Framework

This study is anchored on the Quality of Life model by Joseph Sirgy (1986), Self-care Theory by Dorothea Orem (between 1959 and 2001), Self-Compassion theory by Kirstin Neff (2003), and Resilience Theory by Greff, Vansteenwegen and Ide (2006), and Zauszniewski, Bekhet&Suresky (2009). It focuses on the ProQOL rating of Davao City Central 911 EMTs, their educational attainment, and length of service. Self-care techniques, compassion satisfaction, compassion fatigue, and burnout were also measured alongside the socio-demographic variables.



Sequential Explanatory Mixed Method Design

Objectives

The study aimed to determine the professional quality of life and self-care techniques of Davao Central 911 EMTs. Specifically, it sought to determine their socio-demographic profile and their clinical profile in terms of compassion satisfaction, burnout and compassion fatigue and to identify their self-care techniques.

Methods

The study utilized the Sequential Explanatory Mixed Methods research design by John W. Creswell (2014). It used a structured questionnaire the results of which were further validated through a focus group discussion. The study had two phases, the first of which was a quantitative design utilizing a survey instrument (for measuring socio-demographic variables), the ProQoL questionnaire, and Self-Care checklist. The Professional Quality of Life Scale (ProQOL) gauges what one feels concerning one's work as a helper. Eighty-six (86) EMTs participated in this phase. The second phase used a qualitative design. In this phase, the researcher distributed the grand tour questionnaire to the EMTs, Team Leaders, and Family Members.

The respondents of the study were the EMTs of Davao City Central 911. Out of 120 Emergency Medical Technicians, a total of 86 were screened using the ProQOL and Self-Care Checklist over five stations. From baseline results, a validated research grand tour questionnaire was administered. Using the purposive sampling method, the respondents were screened and selected with the following criteria: (1) The participants must have clinically significant results in the ProQOL scales of Compassion Satisfaction, Burnout, and Compassion Fatigue, and Self-Care Checklist; (2) The Emergency Medical Technicians have not gone through any psychosocial support program at the time of this study; (3) The Emergency Medical Technicians are willing to participate in this study, and that they are not under any study with a similar nature during the implementation of the study; (4) Emergency Medical Technicians need to have High Compassion Satisfaction, Average Burnout, and Low Compassion Fatigue, and; (5) The Emergency Medical Technicians will be subjected for an interview after they answered the research questionnaire for a focus group processing.

The study employed a mix of standardized tests and researcher-made questionnaires. Specifically, the following instruments were employed: the personal profile, the PROQOL and Self-Care checklist, the researcher-made Grand Tour questionnaire, and Focus Group Discussion. The research-made questionnaire was composed of personal socio-*demographic* profiles such as the name, educational attainment, and length of service of the participants. Moreover, to give meaning to the data gathered, statistical procedures were used to process the data gathered in the quantitative phase of the study. Descriptive statistics such as the mean and standard deviation, frequency, and percentage were computed for the socio-demographic profile, ProQOL scores, and Self-Care Checklist. The qualitative data, on the other hand, were transcribed and coded. The codes were organized into specific themes.

Ethical Considerations

Informed consent at the institutional level was obtained when the Chief Operating Officer of Central 911 approved the conduct of the study. At the individual-participant level, informed consent was obtained via an Informed Consent form which the participants were asked to fill-up after they were briefed. During the briefing, it was emphasized that participation in the study was voluntary and each one may withdraw anytime. During the administration of the data-capture instrument to the participants, beneficence was observed to protect the participants of the study from possible distress. The procedures were designed to minimize harm and uphold their welfare. In accordance to the provisions of Republic Act No. 10173, or the Data Privacy Act, confidentiality was observed throughout the study. The researcher observed proper management of all information provided by the participants. The participants' identity was also kept undisclosed throughout the study. The researcher maintained her integrity by avoiding manipulation, fraud, fabrication of results, and misconduct during the entire study.

Results and Discussion

Table 1. Demographic Profile of the Respondents

Profile	Frequency	Percentage
Educational Attainment Vocational	7	8.14
Bachelor's	79	91.86
Total	86	100.00
Length of Service 5 years and below	77	89.53
6 years and up	9	10.47
Total	86	100.00

Of the 86 respondents, seven EMTs have vocational degrees (8.14%), while 79 have obtained their Bachelor's Degree (91.86%). Seventy-seven (77) EMTs have less than 5 years of service (89.53 percent), while nine (9) EMTs have been in the service for more than five years (10.47%).

Table 2. The Clinical Profile of Respondents

Scores	Percentage	SD	Interpretation
Compassion Satisfaction Scale	42.18	0.11	High
Burnout Scale	28.29	0.88	Average
Compassion Fatigue	22.88	0.46	Low

The compassion satisfaction mean of 42.18 (SD=0.11) indicates that EMTs have a High Level of Compassion Satisfaction in their work. The burnout scores of 28.29 (SD=0.88) indicate average burnout. Compassion fatigue, on a final note, is observed to be low with a score of 22.88 (SD=0.46).

Table 3. Self-Care Technique Practices

Self-Care Technique	Overall Mean	SD	Interpretation
Physical Self-Care	3.77	0.21	Often
Psychological Self Care	3.03	0.62	Sometimes
Emotional Self Care	3.45	1.22	Often
Spiritual	2.83	1.00	Sometimes
Relationship	3.25	0.92	Sometimes
Workplace or Professional	3.91	0.59	Very Often

The highest result came from the workplace or professional aspect that showed a mean of 3.91 (Very Often) while the lowest result was that of the spiritual aspect with a 2.83 average (Sometimes).

Compassion Satisfaction, Burnout, and Compassion Fatigue according to the Emergency Medical Technicians

Compassion Satisfaction. With regard to compassion satisfaction, the EMTs expressed that passion for the job and social support were the key sources of strength for them. They strived to show dedication and perseverance to empower and motivate each other. Social support in the workplace was a vital part of their day. They typically began their workdays by greeting their seniors and starting their shift with a prayer. According to one respondent:

"I always give my 101% effort while treating patients, this has been part of the training with the basic and advanced skills in saving lives and also my 15-year-old experience in pre-hospital care. Thanking God and taking care of my family during day-offs and duties been a priority and playing computer games and watching movies, reading articles (WWII and pre-hospital care) and singing".

*Burnout***.** The responses of the respondents of burnout related to their motivation to do well and be more professional. This helps them avoid burnout. They were responsible for their primary care which could have a big effect on their psychological condition.

According to one respondent:

"The patience and perseverance do work despite the hardship but made us open-minded. Deductive thinking and good working relationships create an advantage in our part. By treating somebody else life, so we should always deal with our work with positivity. Work is work, so whether we have personal problems or not, we should deal with our work with professionalism. We are doing well in our job by cooperation and respect in each other."

Compassion fatigue was generally countered by the EMTs via debriefing sessions after their runs. They had also lessened compassion fatigue by managing their time both at work and at home. Leisure activities also helped them unwind. As one of the respondents stated:

"While we take time in reading and having communication with co-workers, exercise or workout, listen to music and never bring home stress in work had sustained the balance in us". Also, we extend to attend special events. But sometimes we tend to lie down and cry out ourselves in the darkness. During Day-off we tend to eat, sleep, going out and giving time to the family after work when it does not fall on-duty schedule".

Compassion Satisfaction, Burnout, and Compassion Fatigue according to the Team Leaders

Team leaders also encountered a different challenge in the workplace. Like the entire team, they were also faced with the same stressful situations at work. However, they also need to manage the entire team, not only the situations they encounter. This given, they see to it that the resolve conflicts in the team by making time to listen to everyone's sentiments and problems. They also spent time with everyone, especially during mealtime, and interact with them via meaningful conversations.

In the study of Božović and Živković (2015), they specified that establishing strong positive relations with others is a key factor when exposed to disaster. With this, working in a team must be valued, especially that they are sharing a certain identity and this makes an efficient way of managing a team.

Compassion Satisfaction, Burnout, and Compassion Fatigue according to the Family Members of the EMTs

Family members play a vital role in the professional quality of life of EMTs. As they understand the rigors of being a first responder, they also understood what they need to do to help alleviate the distress that their loved ones encounter. According to one of the respondents:

"As support, we encourage them to do what made them satisfied and complete as a person.

Themes Gleaned from the Focus Group Discussion Transcripts

Service and positive outcomes as contributors to an EMT's job satisfaction.

"I feel satisfied. The role that we perform has the kind of satisfaction that other people do not recognize." EMT 2, Group2

Sources of Burnout. "Stressors seem normal in an organization; they could be your colleagues or bosses. The usual end most common cause of stress in my job is getting reprimanded for no reason. Apart from the lack of sleep, the unresolved problems of the organization lead to my desire to leave my job. This also causes feelings of burnout." EMT 1, Group 1

Coping. "In big situations, the unit chief will conduct the debriefing. But commonly we have our debriefing in the station with the station commander." EMT 1, Group 3.

Conclusion and Recommendations

This study endeavored to look into the experiences of the EMTs of Davao Central 911 in terms of their Professional Quality of Life. Out of 120 EMTs in the organization, only 86 participated and underwent the structured questioning and the interview process. The standardized tests used in the study were also employed to gather the demographic data of the respondents. The study was conducted at the headquarters of Central 911 and its several sub-stations situated in different parts of the city. It was followed by a grand tour questionnaire. Results revealed that there were seven (7) EMTs (8.14 percent) who took the vocational course and 79 EMTs (91.86) took a bachelor's degree with a total of 86 respondents (100.00 percent). The majority in this group included 77 EMTs with less than five (5) years of service or 89.53 percent and nine (9) EMTs who worked for 6 years and above to an equivalent of 10.47 percent. With the total population of 120 current Emergency Medical Technicians, the researcher was able to retrieve 86 EMTs that revealed 71.66 percent. The scores also revealed that 42.18 percent of the respondents showed a high level of compassion satisfaction. In terms of burnout, 28.29 percent showed average burnout, while 22.88 percent showed low compassion fatigue.

The results also revealed that the self-care techniques of EMTs include physical self-care was 3.77 percent, interpreted as often; psychological self-care was 3.03 percent, interpreted as sometimes; 3.45 percent for emotional, interpreted as often; spiritual self-care was 2.83 percent, interpreted as sometimes; relationship self-care was 3.25 percent, interpreted as sometimes, and workplace or professional self-care was 3.91 percent, interpreted as very often.

Phase 2 of the study revealed the application of debriefing among Emergency Medical Technicians affects them. This demonstrated the passion for work relative to saving lives and helping people in need. Factors that encourage the Emergency Medical Technicians' positivism in work were family, friends and the people they were serving. Although their nature of work was stressful they still manage to balance their work and family time. When it comes to working, no major offenses were recorded and misunderstandings with co-workers were not recognized.

Through the Professional Quality of Life and Self-Care Practice, it was observed that Emergency Medical Technicians had high satisfaction, denoting a positive outlook despite their workload. They were able to establish their self-worth and accounted for the responsibility they bear with every rescue operation they encountered. The life of an EMT was challenging and impressive which bears great responsibility and requires an arsenal of skills needed for operational effectiveness. They were all expected to be accurate, responsive and quick in responding that was why they need to be holistically ready all the time when they were on duty.

The study of Smith et al. (2019) emphasized that Emergency Medical Technician (EMTs) highly need self-care, especially in the physical aspect, which includes exercise, getting enough sleep, acquiring good nutrition, and sticking to routinely activities, and; a psychological aspect which includes establishing quality time with friends and family, participating in peer-support programs, and continuous consultation with mental health professionals.

Some limitations of the study include the dereliction of other Central 911 units such as firefighters, Urban Search and Rescue and the K-9 unit. Future researchers may cover the other units of the Central 911, utilizing this study as a baseline or reference. In the conduct of the study, the researcher concluded that letting EMTs establish further interpersonal relations with other people, and letting other organizations conduct continuous involvement with EMTs' respective family members and friends will improve the mental health of EMTs.

The findings of this research highlight the need for a more extensive use of ProQOL and self-care technique by EMTs in the future.

Furthermore, this researcher feels that there is a need for Davao Central 911 to foster self-care practices as part of the work-life experiences of Emergency Medical Technicians that will cover their needs in a holistic manner. This program may be developed and conducted by a psychologist or a mental health professional.

Also, as a pro-active measure to obviate mental health issues from adversely affecting operations, a physician should evaluate the physical health of emergency medical technicians twice a month since poor health can lead to the development of mental health problems.

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Personality Types and Academic Strand Choice among Senior High School Students

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Abstract

This paper sought to test the assertion that one's personality type leads to a career choice. Applied to the senior high school program, employing the Theory of Career Choice of John Holland as the framework, and assuming the academic strand chosen as a surrogate for career choice, the researchers averred that the personality of a senior high school student leads to the choice of an academic strand. This study was conducted in a higher education institution in Southern Philippines that is focused on healthcare education to provide the school with a basis for crafting its institutional plan as it metamorphoses from an institution solely devoted to higher education into one that seamlessly integrates basic with higher education. The study was based on a survey of 1,494 senior high school students using a condensed version of Holland's RIASEC survey instrument. The results of the study indicated that the senior high school students of the participating institution exhibited a general uncertainty in their choices. The researchers recommend the use of the Career Decision Making Intervention (CDMI) framework as a tool to minimize the uncertainty observed and, thus, facilitate the seamless progression of students from basic to higher education.

Keywords: Senior high school, personality types, academic strand choice

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Introduction

The Senior High School program of the Philippines was designed to accommodate students who want to either pursue higher studies, go straight into the workforce after graduation, or to pursue non-academic interests, like sports or the arts. This is divided into three tracks: Academic (for those who want to pursue higher education), Technical-Vocational-Livelihood (for those seeking employment after graduation), and Sports and Arts (officialgazette, n.d.). Under the Academic track lies four strands, from which an incoming senior high school student may choose to specialize in: Accountancy, Business, and Management (ABM), Humanities and Social Sciences (HUMSS), Science, Technology, Engineering, and Mathematics (STEM), and the General Academic Strand (GAS) (official gazette, n.d.).

The move to begin specialization in Grades 11 and 12 was a way to make sure that a student became equipped with the necessary general education upon entering college so that degree programs can integrate more relevant knowledge into their curriculum (CHED, n.d.). Theoretically, the choice of an academic strand has a bearing on the choice of a degree program in higher education and, eventually, the career choice of an individual. In view of this, administrators of higher education institutions tend to factor into their planning the elements that may lead to a career choice.

John Holland, in his seminal studies that led to the formulation of his Theory of Career Choice, posits the existence of six personality types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. According to Holland, these personality types characterize a person's abilities and personal attributes. He asserts that career choice is an expression of one's personality (Holland, 1959) and sees these personality types as "adjustive orientations", which are methods of coping with daily problems as well as interests, values, interpersonal skills, and role-playing. For every personality type, there exists an environment congruent with it. Hence, if an individual was categorized as having a realistic personality type, it is likely that he or she will gravitate towards an environment in line with his or her personality. Holland postulates that individuals tend to gravitate towards environments that allow them to utilize their skills and abilities, as well as express their attitude and values (Leung, n.d).

Theoretically, then, there must be a correspondence between personality and career choice. Assuming that the academic strand chosen is a surrogate for career choice, based on Holland's theory, a correspondence must exist between the personality of a senior high school student and the academic strand chosen.

Using John Holland's Theory of Career Choice as its theoretical framework, this paper sought to establish the validity of this assertion by identifying the personality profile of senior high school students and matching this with the academic strands chosen. This study was conducted in a higher education institution in Southern Philippines that decided to participate in the Education Reform Agenda of the Philippine government by offering a senior high school curriculum. The school hoped to make use of the results of this study as a basis for crafting its institutional plan whereby the school metamorphoses from an institution solely devoted to higher education into one that seamlessly integrates basic education, i.e., the senior high school program, with higher education, i.e., undergraduate and graduate degree programs.

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Methods

The study utilized data generated by a survey of the Senior High School students of the subject institution. The researcher attempted to quantitatively analyze the data gathered from the survey using Holland's RIASEC framework.

Participants

The participants of this study were the 1,494 Grade 11 and Grade 12 students enrolled in the following strands: ABM (Accountancy, Business, and Management), HUMSS (Humanities and Social Sciences), STEM (Science, Technology, Engineering, and Mathematics), and GAS (General Academic Strand). These participants are adolescents and typified the behavioral pattern of their age group.

The adolescent years mark a significant time in human development. It is where the person considers a myriad of factors when it comes to deciding where one wants to be and who one wants to be in society. It can be a personal struggle to some or a stress-free journey for others. However, one thing is for sure: a lot of our decisions about the future rest on what we have experienced when we are younger. As children grow older, their cognition advances. Their minds become more abstract, thinking about the many possibilities that can stem from whatever negative or positive experiences they have had (Keating, 1990, as cited by Steinberg, 2002).

The difference between children and adolescent cognition is the ability of adolescents to think ahead. Whereas the thinking of children is focused on the “here and now”, adolescents can think about what is possible as opposed to limiting themselves to what is directly attainable. When it comes to making considerations about what to pursue as a career, children often base their decisions on fantasy and short-term interest as opposed to it being practical and feasible. It is in adolescence when humans can make career decisions based on abilities, talents, aptitude, performance, and opportunities (Steinberg, 2002). Corey (2010) stresses that the decisions that one goes through when it comes to making career choices are an ongoing process wherein a lot of factors that influence career decisions can emerge throughout its progression.

Western literature discusses the ongoing process of development in high school students as they begin to make decisions concerning their future. Today’s adolescents are faced with a wide array of different career and education decisions before the age of 25 (Steinberg, 2002). Besides that, a lot of emphasis is placed on the fact that what they can achieve during their years of development can have a strong effect on them when it comes to making decisions for future endeavors, whether it is in pursuit of higher education or towards a career or occupational goal.

It is emphasized that cognition is a key factor in adolescent development. The advancement of the human mind as we age is instrumental in how we develop our plans and goals for the future. A great deal of this lies in how we perceive our abilities, intellect, performance, and skills. Donald Super’s Development Theory discusses how different abilities, interests, and personalities shape individuals. In light of this, they then become qualified for several different occupations (Pietrofesa, Bernstein, Minor, & Stanford, 1980).

Amir and Gati’s 2006 study on facets of career decision-making difficulties, emphasizes the fact that indecisiveness can occur when an adolescent is considering what they want to do and who they want to be in the future. It is a complex process and the difficulties that one faces while making a career choice can have negative implications on the individual if it is not properly dealt with. There are ten categories of difficulties: lack of readiness (which includes, lack of motivation, general indecisiveness, and dysfunctional beliefs), lack of information (lack of knowledge, lack of information about the self, lack of information about career options, and lack of information in attaining additional information), and inconsistent information (unreliable information, internal conflicts within the self, and external conflicts with others). Failure to recognize these difficulties only make the career decision-making process even more complicated.

Another factor that may cause career indecisiveness is the existence of parental involvement in adolescent education. A study conducted by Blair in 2013 places emphasis on the implications of parental involvement. His study highlights how parents impose family obligations by enforcing tradition onto their children. Whether it is to live up to family expectations or to continue family career lineages, Blair states that such pressure serves the interest of the parent rather than the student. Hence, this may lead to students making choices for the sake of having a choice rather than considering the implications that this may have on them.

The decision to pursue a college degree is one that many people take into careful consideration. It is considered an instrumental field of study as it looks at the real-life decision- making faced by students and their families (Galotti & Mark, 1994). The college decision- making process is one that requires much scrutiny. In the context of the United States of America, individuals who plan on pursuing a college degree must consider several things, some of which include the idea of living away from home, acquiring student loans, and how to keep one’s social relationships despite the distance (Galotti & Mark, 1994). The college decision-making process is the first financial, educational and social choice that an adolescent will make in his or her life. In Galotti and Mark’s study on college decision-making, the researchers found that some major influences in college decision making were usually friends, family, guidance centers, and college brochures.

Another study conducted by Stewart, Macdonald, and Sischo (2006) postulates that high school students in America have become too ambitious when it comes to making decisions concerned with their occupational and education plans. They postulate that an increase in ambition has led to an increase of unrealism when it comes to making decisions concerned with the future. Schneider and Stevenson (1999, as cited by Stewart et al., 2006) argue that students' educational plans were heavily influenced by the need to attain a certain level of education to enter into their desired occupation. As such, their plans were not an accurate representation of their abilities, interests, and value (Shanahan, Hofer, and Miech, 2003 as cited by Stewart et al., 2006). An educational plan that represents the capabilities of the individual is more accurate and can lead to concrete and reasonable decisions (Clausen, 1991; Shanahan et al., 2003, as cited by Stewart et al., 2006).

A study conducted by Carrico, Murzi, and Matusovich (2016) emphasize the role of social influencers when it comes to making decisions regarding career choice. Their findings report that parents/legal guardians and teachers are major factors in influencing career path decisions (Carrico et al., 2016). The interviews conducted showed that most of the decisions regarding career choice were influenced by parental goals. The general assumption for these students was the idea to get a stable job and salary after college. Thus, the students interviewed admitted to the consideration of job stability as opposed to a genuine interest in the field (Carrico et al., 2016). As such the researchers postulate that students make career decisions based on reasons other than interest.

However, educators served as an influence on these students as well. By introducing them to certain activities, students were exposed to different career options. Carrico et al., explain further that when interest is used as the main reason for why we choose the careers we venture into, individuals turn that interest into something that was once externally supported to something that they become genuinely interested in. Additionally, educators posit that a lack of parental support can contribute to whether an individual will go to college or not (Carrico et al., 2016).

Additionally, Krumboltz's theory emphasizes that there are many factors when it comes to career decision-making. He starts by problematizing the idea that people consider different career paths at different points in their lives. Hence, the trajectory of his study is centered on the fact that genetics, the environment, learning experiences, cognitive and emotional response, and performance contribute to the different ways that people make choices (Krumboltz, 1976).

Adolescence is a crucial point in human development. With the emergence of adult-like decisions, individuals must now evaluate themselves in terms of where they think they should be in the future. Faced with such uncertainty and endless possibilities, adolescents are left at a crossroads when deciding what the next step will be after high school graduation. The complexity of career decision-making can exist in the indecisiveness of the individuals due to either intense family or social pressure or lack of information when it comes to the choices they can make. Lastly, the innate ambition to succeed can be a driving force that influences one's choice of career. Social influencers, like that of a parent or educator, can have just as much of an effect on the career decision making process as the students themselves. All in all, there is a compilation of different factors that aid students in career decision making. It can be seen as an amalgamation of personal, social, and economic factors coupled with the pressure and expectation to succeed.

Sampling Design

The study surveyed all senior high school students of the subject institution under all academic strands to accumulate as much general data as possible. Of the 2,290 students enrolled in senior high school, 1,494 participated in the survey. This implies a margin of error of about 1.5%, based on Slovin's formula.

Instruments

A condensed version of John Holland's RIASEC survey, also known as the Self-Directed Search (SDS), was utilized to obtain general information on senior high school students and their ideal career choice suited for their ideal personality type. Each student was given a 42-question survey detailing different personality activities that are in line with Holland's six personality types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. A study by Aljojo and Saifuddin in 2017 utilized the SDS in their assessment of Holland's vocational personalities in Arabic. The survey had a Cronbach's alpha of .70 which displayed good construct and discriminant validity against the work values scale.

A score of one (1) was assigned for each statement that was shaded or checked, according to its relevance to the student. For every score of 1 per statement choice, all scores were added to determine the total score for each personality type. Additionally, the researcher calculated the percentage for the highest and lowest scores based on the Interest Code, as well as the percentage for the lowest overall score. Specific scores were then assigned to each personality type i.e. R=1, I=2, A=3, S=4, E=5, C=6 to see which personality type is the most populated. Upon encoding, the researcher found that for every score of the RIASEC, 2 or more letters would have the same ranking score, i.e. R=5, I=2, A=5, S=2, E=4, C=5. For every same ranking letter, a score of seven (7) was assigned which became "ambiguous" (AM). This was added to represent those personality types that shared the same score, and, therefore, the same rank.

Data Gathering Procedure

Before data gathering commenced, the researcher conducted a pilot test with a Grade 12 ABM section to ensure that the instruments and methods used will be able to generate the desired information. The data was gathered using a condensed version of Holland's RIASEC survey. Data gathering was conducted within the campus of the participating institution. The researcher established rapport with the academic heads of the college to explain the purpose of the study. During the data gathering procedure, consent forms were distributed to inform the participants of their right to decline or withdraw. To increase productivity, the researcher employed the help of three more individuals once data encoding began. Additionally, those who participated in the study were duly compensated by the researcher.

Ethical Considerations

Before the survey was conducted, informed consent was given to debrief the participants of the purpose of the study. Since the study was conducted in a different locale, the researcher acted cordially towards the participants chosen. If the participant exhibited refusal or experienced an emotional upheaval, the researcher forfeited the procedure. Participants of the study were informed of their right to decline or withdraw their participation in the study. The researcher observed confidentiality with regards to the identity and the responses of the respondents. No third party was present while the study was being conducted.

Results and Discussion

The results obtained from the instrument used during the data gathering procedure are summarized in Table 1.

Table 1: Raw Scores and Percentages of RIASECAM Scores of All Academic Strands

Strand	**Number of Students**	**R**		**I**		**A**		**S**		**E**		**C**		**AM**	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
ABM	221	77	35%	55	25%	67	30%	126	57%	93	42%	113	42%	133	60%
STEM	857	293	34%	264	31%	230	27%	419	49%	192	22%	132	22%	429	50%
HUMSS	354	122	35%	62	18%	105	30%	163	46%	120	34%	114	34%	304	86%
GAS	62	30	50%	18	29%	23	37%	32	52%	17	27%	21	27%	29	47%
Total	**1494**	**522**		**399**		**425**		**740**		**422**		**380**		**895**	

The RIASEC survey utilized during the data gathering procedure was composed of 42 questions, each of which was designed to represent each personality type of Holland's theory (Realistic, Investigative, Artistic, Social, Enterprising, and Conventional). Due to the same ranking scores, an additional column, Ambiguous, was added to represent the personality type that held the same rank as another personality type.

Table 1 depicts the total score of each RIASEC personality type per strand. The table shows that, out of 1,494 students, 895 participants obtained ambiguous scores, either as the same ranking score or as a complete Interest Code score. Social and Realistic follow behind as the second and third highest scores, with 740 individuals for Social and 522 individuals for Realistic.

Table 2: Percentages per Strand, Arranged from Highest to Lowest

ABM		**STEM**		**HUMSS**		**GAS**	
AM	60%	AM	50%	AM	86%	S	52%
S	57%	STEM	49%	S	45%	R	50%
C	51%	R	34%	R	34%	AM	47%
E	42%	I	31%	E	34%	A	37%
R	35%	AM	27%	C	32%	C	34%
A	30%	E	22%	A	30%	I	29%
I	25%	C	15%	I	18%	E	27%

Table 2 shows each percentage per score, per strand, arranged from highest to lowest. The table shows an ongoing pattern between three Academic strands: Accountancy, Business, and Management (ABM), Science, Technology, Engineering, and Mathematics (STEM), and Humanities and Social Sciences (HUMSS). These three strands scored the highest in ambiguous, second highest in Social, and third highest in Realistic or Conventional.

Out of 221 students in the ABM strand, 60% of those individuals had ambiguous scores. The next two highest percentages were Social (57%) and Conventional (51%). It is important to note that these percentages do not represent the highest or the lowest scores but, rather, the most populated. These percentages are spread out among the ranks in the Interest Code. This means that the ambiguous scores can either be ranked first, second, or third, or it can hold two ranks in one Interest Code. However, for the actual RIASEC ranking, the scores can only hold one rank per Interest Code. There is also the possibility that it is the same ranking score as another letter and, therefore, will be counted as an ambiguous score as opposed to one single score. The percentages of 57% and 51% for Social and Conventional can be spread among the ranks in the Interest Code. They can be either ranked first, second, third or is included as an ambiguous score.

For STEM and HUMSS, both strands share the same ranking percentages. Ambiguous as the highest, 50% for STEM out of a population of 857, 86% for HUMSS out of a population of 354, Social as the second highest, 49% for STEM and 46% for HUMSS, and lastly, Realistic as the third highest score, with 34% for both STEM and HUMSS. An exception among the four strands is the General Academic Strand (GAS). Though all four strands shared the same top 3 personality types, except for ABM, GAS was the only strand wherein the highest percentage of the top 3 scores is Social at 52% out of a population of 62. Realistic was the second-highest score with 50% and ambiguous was the third-highest score with 47%.

Table 2 shows us an ongoing pattern wherein students who have chosen to pursue strands that already have some form of specialization, are unsure of the decisions that they have made. Whereas the purpose of choosing a specialized strand, as well as adding two more years of basic education, is meant to prepare these students for college, the percentages shown in the charts above reveal that students are still unsure of the decisions they are making.

Holland's theory postulates that, ideally, a person's personality is synonymous with what you want to pursue as a career. According to Corey (2014), Holland's six personality types (Realistic, Investigative, Artistic, Social, Enterprising, and Conventional) can share similarities as well as differences among each other. This can be represented in a hexagon, pictured below:

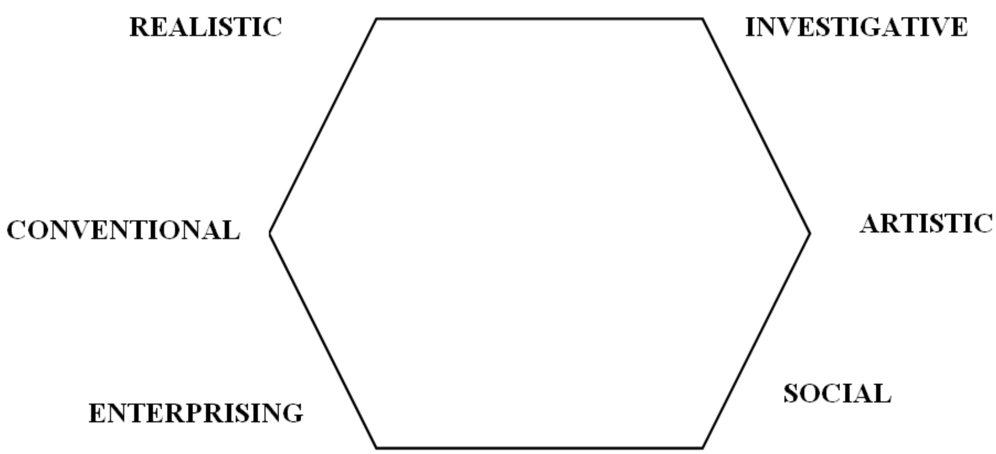

Figure 3: Holland's Hexagon depicting the relationship between the six personality types

Personality types that are in line with another share similar characteristics. Those that are two types down and are on opposite sides of the hexagon have little in common with one another. For example, the artistic personality type shares similarities with both the social and investigative personality types but has little in common with the realistic, conventional, and enterprising personality types. Note that the total number of each personality type per strand is not synonymous with the total number of participants. Each strand may have more or less of each personality type. Ambiguous is considered the most populated as it can hold more than one rank.

An Interest Code is devised to help a person see which of the six personality types describe them the most to help them make career decisions that are in line with their personalities. Though it was expected that each strand would score the highest in the personality type that it specializes in, i.e. ABM students would score the highest in Enterprising, the pattern in Figure 2 shows that the expected personality type for each strand was not the outcome. If anything, the expected personality type had the fourth-lowest percentage for each strand. In Figure 2, though Enterprising would have been the expected personality type for ABM students, it only garnered 42% out of a population of 221 students. The same can be said for STEM. Ideally, STEM students were expected to have scored the highest percentile in the Investigative personality type. However, the data shows that it is the fourth highest personality type with only 31% of the 857 students having an Investigative personality type as part of their Interest Code.

Though the expected personality types of ABM and STEM may have ranked fourth, the personality type that is similar to what was expected is included in the top three highest-ranking percentages. In the case of the ABM strand, Enterprising shares similarities with Conventional and Social. The relationship between the Enterprising and Conventional personality type is their value towards the organization, control, and efficiency. Enterprising and Social personality types are similar in that both personalities value social interaction, the desire to influence others, as well as a dislike of the set, routine activities.

For STEM, the Investigative personality type shares similarities with Realistic and Artistic. Both Investigative and Realistic personality types are similar in that they value common sense, are not openly expressive, as well as avoid interpersonal activities. However, Social differs from Investigative and it had the second-highest percentage after Ambiguous. Whereas Investigative personality types value accuracy, independence, and privacy, Social personality types prefer working with people and are openly expressive.

The HUMSS strand has an accurate ranking wherein Social is the second highest and the Realistic personality type was the third-highest. This shows that 46% of HUMSS students closely identify with the Social personality type. The General Academic Strand (GAS) was termed as the strand wherein students are still unsure of what they want to specialize in and are also the least populated, with only 62 students in its entirety. Despite that, the Social personality type scored the highest while the Realistic personality type was ranked second highest. This was the only strand that had a specific personality type as the highest percentage overall. However, its second-highest personality type, Realistic, is very different from Social. Whereas the Social personality type prefers to be expressive, they are more abstract in thinking, and prefer to work with others, the Realistic personality type value independent work, structure, and prefer to work with objects, such as machines.

Given that the participating institution is a STEM-oriented school, the results show an uncertainty among students who seem to have made already set decisions. As a STEM school, the results are telling of how spread out the personalities of STEM students are. As recipients of STEM-focused education, the third-highest personality that shared similarities with the expected personality type only garnered a percentage of 34% out of a population of 857. However, the personality type that shared the least amount of similarities with the expected personality type scored the second highest. The uncertainty of 50% of the STEM student population is telling of their students' apprehensiveness when it came to their chosen strand.

The goal of the Enhanced Basic Education Act was to ensure that students are equipped with the necessary basic education they may need upon entering higher education. While this may deliver expected results, a student equipped with enhanced basic education does not always mean that they are mentally and emotionally ready for higher education. There is more to education than the material that is being taught. Adolescent decision making is a process that may have lifelong implications if treated deliberately and with no context. It is a stage wherein adolescents make that transition from childhood to adulthood (Mann et al., 1989). In the case of the Senior High School students of the participating institution, regardless of how accurate their target population of students is, they may as well be just as unprepared for higher education as those who were not recipients of senior high school education.

What must be made clear is that career decision-making is a difficult process especially for individuals who are still doubtful as to what they want for themselves? Decision making can spawn from different areas of persuasion. Some choices made may stem from values or ideals that are family-oriented. Parent involvement in elementary and higher education plays a significant role in an adolescent's life, especially in that of a Filipino. Blair (2013) stated that parental involvement among Filipino parents in their children's education shows that, at an early age, they should fulfill familial goals and expectations. This may lead to a motivation to uphold family honor or continue the family tradition. His study highlights that while parents want their children to succeed, the pressure of family obligation serves the needs of the family rather than the student. An example was an encounter with a student after a survey session with her section, nicknamed "G". "G" had expressed her interest in wanting to pursue Psychology. However, her parents believed that she would have greater chances of success if she were to pursue Radiologic Technology, the banner program of the participating institution. Given the nature of her indecisiveness, "G" is currently enrolled in the General Academic Strand (GAS).

Awareness towards doubts and indecisiveness makes it easier for students to seek help. They also concluded that while some difficulties may be met throughout the process, individuals can exist at different points of the career decision making process. In the case of the students in the General Academic Strand (GAS), while the last three strands may have shown percentages of uncertainty as that of Ambiguous, GAS shows the personality type that they identify with the most being Social. This shows the certainty among the students as to what career aspect they would like to involve themselves in.

With the Ambiguous scores dominant in all four Academic strands, the results show a disparity among the students and their chosen strands. The ambiguity highlights uncertainty in an individual and may suggest career indecisiveness.

Conclusions and Recommendations

This study was initiated to explore how a senior high school student's personality type is related to their choice of the academic strand. Under the tutelage of a new and recently implemented education system, this study also wanted to comprehend the impact that the K-12 Act has had on the students. The general assumption in the Philippines is that the implementation of two more years of general education is to prepare Filipino students for higher education. While this may increase general knowledge for the disciplines they wish to enter into, it may not promise informed career decision making.

Being a STEM-oriented school, the participating institution places great emphasis on cultivating and educating students fit for STEM careers. However, the data shows that the STEM student population is unsure of the decisions they have made regarding their specializations. Aside from that, its second-highest scoring personality type does not share similarities with its expected personality type. This only shows how spread out the students are when it comes to considering what they would like to pursue in the future as opposed to being confident in the decisions that they have made.

The results show that the senior high school students of the participating institution are unsure of their choices when it comes to what they want to pursue when considering higher education. Additionally, the strands that were expected to score in specific personality types, scored the highest in ambiguous, further highlighting their uncertainty with the decisions they have made. Therefore, it can be postulated that regardless of the additional years of education, students may be prepared for higher education in terms of the skills, abilities, and knowledge they need for disciplines they wish to enter into, but they may be just as clueless and unsure with what to pursue.

The researchers conclude that though the students of the participating institution may have already made set decisions regarding what they wish to pursue higher education, their answers show a general uncertainty with their choices. While the additional two years of general education may prepare them for the material and the pressure that they may encounter upon entering higher education, they do not necessarily promote informed career decision-making. Prolonged general education still generates unsure decisions among the senior high school students of the participating institution.

Recommendations

The participating institution is focused on cultivating students fit for the healthcare professions. However, since the school's STEM student population shows uncertainty in their decision to enroll in STEM-oriented healthcare academic programs, the researchers propose the use of an outline called The Career Decision Making Intervention (CDMI), a framework that aims to guide students in making informed career decision-making with an emphasis on three aspects that are seen as crucial to the decision-making process among adolescents. The development of the CDMI can allow an "all hands on deck" approach to ensuring that their students are making career decisions that fit them and their interests. This allows the school to be more personal with their students, making sure that they are entering into fields that will bring meaning, fulfillment, and growth in terms of what they wish to pursue.

The CDMI is modeled after the importance of being self-aware. For students to come to terms with choices based on their own, individual thinking, they must be exposed to a program that allows them to probe into who they are and who they want to be.

Knowing what your interests allow you to consider which activities you are most likely to engage and excel in. This goes hand in hand with knowing what your abilities are. A person's capability to perform and excel in a specific skill or activity allows one to consider career areas one can be successful in. If it is in line with interests, skills, and abilities that one has, one will likely succeed in whatever career field one may choose.

Empowerment was a factor that the researchers felt of great importance. With such expectations saddled with the pressure to deliver expected excellence, students may feel as if they do not have a choice and, therefore, do not feel empowered to make their own decisions. The purpose of empowerment is to educate students about choice; the idea that they have a choice separate from what others impose upon them and centered more on what they want for themselves.

The CDMI aims to guide students, parents, school officials, and other individuals at the participating institution through the process of career decision making. The uncertainties of one's decision can make an impact on how they approach certain subjects, opportunities, and can even affect the way they perform. The framework can help students understand the implications of their decisions. It can also aid academic advisors and other school officials in identifying what they can do to ensure that these students are getting the most out of their senior high school experience. Besides equipping them with a stronger basic education, it also helps students prepare for the difficulties in higher education when it comes to pursuing their desired professions. They then become more informed individuals, not just in an academic sense, but in a personal sense as well.

A sample CDMI Framework that the school may employ is presented for consideration.

Though the idea of senior high school education is not generally seen as a new phenomenon, it is seen as such in the Philippines. A curb in the educational system can create changes in student cognition and it is imperative to understand what this new breed of students can tell us. The researchers recommend conducting further studies on other aspects surrounding the senior high school program in the Philippines. This should be done to generate meaningful, relevant, and new data surrounding senior high school education and education in general in the Filipino context. This can help broaden literature on Filipino education as opposed to relying on Western points of view. Additionally, this study can be used as a starting point for further studies on factors that predict career uncertainties, senior high school motivation in career decision making, or the correlation between personality types and career decision making. All in all, the data gathered from this study may be used by individuals who wish to contribute further information on this topic. This can also be used as a benchmark for researches on career exploration to test the certainty and readiness of Filipino senior high school students.

The researchers also recommend that school officials from the Department of Education, Commission on Higher Education, as well as other guidance centers, conduct further studies on the implications that the senior high school system has had on its past and current students. Understanding how the impact of this system has shaped and will continue to shape a Filipino student's academic journey can help these institutions identify points of weakness that they can work on and strengthen.

CAREER DECISION-MAKING INTERVENTION FRAMEWORK

ASPECT	ACTIVITY	DESCRIPTION	INVOLVED
DIFFICULTIES	Career Decision Making Difficulties Questionnaire	The questionnaire, developed by Gati et al., allows the students, the parents, the faculty, and school officials to see where students are in terms of making career decisions. The questionnaire will be distributed at an arranged testing time. This should be done per strand. This should be carried out two times per academic year, one at the beginning and one at the end.	-Guidance Counselors -Students
INTEREST	Interest inventories and career consultations	Interest inventories will be given at the same time as the CDDQ. According to what the answers generate on the inventories, school officials may arrange career consultations between students and professionals that are involved in their occupation of interest.	-School Principal -Academic Advisors -VP for Academic Affairs -Career partnerships with professionals
EMPOWERMENT	Structured Learning Experience	This will go hand in hand with interest. Given that students have expressed their interest in pursuing one or more career opportunities, this SLE will give them the chance to expose them to their desired career paths. This will be a week-long immersion that will occur once at the end of every academic year.	-Academic Advisors -VP for Academic Affairs -Career partnerships with companies and individual professionals

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Theory of Planned Behavior on Students Intention to Cheat

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Abstract

Academic cheating is considered as one of the major concerns in a healthcare education institution. The study aimed to examine the fit of models based on the Theory of Planned Behavior and to examine the extent to which the models predict the student's intention to cheat. The Theory of Planned Behavior is governed by three types of beliefs – attitude, subjective norms, and perceived behavioral control. Students' intention to cheat depends on their attitude, social pressure (e.g peer pressure), and their perception of a particular behavior or act. Based on the result, intention strengthens the positive relationship between attitude and behavior which means that the better the intention, the better the behavior that a student possesses. Moreover, attitude, subjective norms, and perceived behavioral control are significant predictors of students' cheating behavior.The model with three items were specified as factors of acceptable to good fit, x^2 (299) = 164.180, p ≤ .000, RMSEA = 0.07, CFI = 0.983, GFI = 0.948, CMIN/DF = 2.831.

Keywords: Radiologic Technology, Theory of Planned Behavior, Structural Equation Modeling, Southern Philippines

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Introduction

Academic cheating has been heralded as one of the serious problems in healthcare education institutions across the globe (Amigud et al., 2018). In fact, according to nocheating.org, statistics show that cheating among students has significantly increased during the past 50 years. Cheating has become a predominant method for students to pass a certain course (Kurtus, 2012). It has become the most common route for students who want to obtain better grades without enduring the burdens of studying, and this is also true for a healthcare education institution. According to Abdughani et al, (2018), the common reasons for cheating in the medical schools are getting better grades, lack of time to study, and want to pass the course. Because of the nature of the profession which is mainly based on trust and one where lives depend on, there should be zero tolerance for cheating (Glick, 2001). According to Bieliauskaite (2014), the attitude of healthcare providers have an impact on the quality of health care provided to their patients, therefore, academic integrity should be practiced in the school. The healthcare profession entails intricate and specialized knowledge involving a patient's life; therefore, every healthcare student must be willing to learn beyond the Grade Point Average (GPA) they earn in school. Cheating during the examination defeats the purpose of learning, applying, and creating ideas as stated in the revised Bloom's Taxonomy by Anderson (Diego, 2017).

Academic integrity is a commitment to morality, reliance, equality, courtesy, and responsibility in the process of seeking knowledge and understanding (Bultas et al., 2017). According to McCrink (2010), the terms dishonesty, cheating, and misconduct are used conversely wherein the term cheating is more often associated in relation to unethical behavior during academic activity, while, misconduct refers to unacceptable or improper behavior. Copying of answers is the most common method of cheating during the examination and peer cheating. Peer cheating is said to be a significant predictor of academic dishonesty with the students' intention to cheat (Mensah, Gbettor, & Appietu, 2016). Meanwhile, 50% and 75% of the students were engaged in cheating in their examinations and assignments, respectively (Park, Park, & Jang, 2012). Furthermore, 34% admitted to cheating more than two times (p.org, 2017). A study in Saudi Arabia confirmed that students were engaged in cheating and plagiarism despite their knowledge that cheating and plagiarism is unethical and against their religious values (Hosny& Fatima, 2014). In India, 59.3% of the students confirmed that they cheated to pass the exam, while 31.3% confirmed that they cheated to obtain a better grade (Asokan, Janani, Jessy, & Sharma, 2013). Unlu & Eroglu (2012) reported that students' level of attitude towards cheating was moderate, while Kayisoglu & Temel(2017) reported that students' present an average of attitude towards cheating who are expected to exhibit ethical behavior.

In the national context, Balbuena (2014), reported the prevalence of cheating and described the ethical dilemmas of the students wherein they view cheating as an unethical behavior but despite that, 80% of the students were engaged in the behavior more than once; while 67% and 57% of the students cheated in their examination and individual assignments, respectively. Also, with the proliferation of technology, 37% of the students plagiarized printed and online material (Balbuena, 2014). Moreover, Quintos (2017) conducted mixed-method research which attempted to determine the prevalence of academic setting and it was found out that 8 out 10 students have considered as having cheated at least once within the school year, and students have an average of six cheating techniques which they use it during examinations and papers.

Several studies (Hosny & Fatima, 2014; Balbuena, 2014, Quintos, 2017, Diego, 2017) were already made in determining the cheating behavior of the students; however, this study used the Theory of Planned Behavior by Ajzen and employed Path Analysis and Structural Equation Modelling to determine the fit of models based on the cheating behavior of students.

Theory of Planned Behavior

In 1991, Ajzen proposed the Theory of Planned Behavior wherein the behavior of an individual is best predicted by one's intention; and intentions in turn predicted by attitudes about the behavior, the subjective norms (a person's perception of performing or not performing a behavior), and the individual's perception of their control over the behavior.

The Theory of Planned Behavior is governed by three types of beliefs – attitude, subjective norms, and perceived behavioral control. *Attitude* refers to the degree to which a person has a pleasant or unpleasant assessment of the behavior. On the other hand, *intention* refers to the aspects that influence certain behavior. *Subjective norms* refer to the belief whether most people agree or disagree on a particular behavior. Lastly, *perceived behavioral control* refers to the person's perception of the values in performing the behavior. The Theory of Planned Behavior has found several applications in gambling studies, healthcare utilization, breastfeeding, safety, hormonal therapy, intention studies, substance abuse, using condoms to prevent AIDS and behavior-predicting academic misconduct among others.

Theory of Planned Behavior and Cheating

The Theory of Planned Behavior approach to students' cheating behavior can be theoretically integrated with many other accounts of behavior change: student's cheating behavior is just one of many manifestations of attitudes, norms, and perceived behavioral control affecting decisions and behavior(Ajzen & Fishbein, 2005). Furthermore, they suggested that if the intention to predict a particular behavior (e.g going to class) the proper attitude to measure to predict whether or not people will engage in the behavior is an attitude to the behavior (Dewberry & Jackson, 2018). If the intention to predict whether or not people will engage in a variety of behaviors (e.g. go to a different class, go to libraries, go to a summit, it is the attitude object that is the most important. In the case of cheating, there are several possible objects including the difficulty of the course, peer pressure, competition, willingness to pass a particular subject, and parent pressure among others. The relevance of the attitude object vary upon each student, for example, a new student may find it difficult to cope with the course because of competition from peers, but other students may find it challenging.

The study aimed to examine the fit of models based on the Theory of Planned Behavior, and examine the extent to which the models predict the student's intention to cheat. Moreover, it sought to determine if intention significantly mediates and moderates behavior, attitude, social pressure, and perceived behavioral control. Path Analysis was employed to determine the best model fit; and Structural Equation Model (SEM) was used to determine the extent to which attitude, social pressure, and perceived behavioral control, and intention predicted the cheating behavior of the students.

Methods

The study was participated by the third year and fourth year college students. The respondents were at least 18 years of age enrolled in the present academic year. The study used Path Analysis and Structural Equation Modeling. Path Analysis is a series of regression that contains only observed variables while SEM uses latent variables to include measurement error. Item parceling is a common practice in structural equation modeling where the aim is to reduce the number of parameters required for estimation (Bandalos & Finney, 2001). The respondents were given survey questionnaires based on the Theory of Planned Behavior by Ajzen (1991). The questions were constructed to elicit the needed answers for the study. Exploratory Factor Analysis and Cronbach's Alpha were performed to determine the validity and reliability of the study. Moreover, the structure of the items was examined with confirmatory factor analysis using MPlus software.

There were three parts of the questionnaire. The first part of the questionnaire pertains to the respondents' attitude. The second part of the questionnaire aimed to determine the social pressure experienced by the respondents. And lastly, the third part of the questionnaire aimed to elicit the perceived behavioral control experienced by the respondents.

Before data analysis, the Normality Test was performed to determine if the data is normally distributed if the data is not normal, data transformations were used to transform data into a normal distribution. The study employed Pearson r to determine the correlation between behavior, intention, attitude, social pressure and perceived behavioral control. Moreover, Linear Regression was used to determine if attitude, social pressure, and perceived behavioral control significantly predict intention; and to determine if intention significantly predicts the cheating behavior of the respondents. Assumptions were fulfilled such as the test of normality, parsimony, correlation, and equality of variance before performing linear regression. MedGraphV3 was used to determine whether intention significantly mediates behavior among attitude, social pressure, and perceived behavioral control. On the other hand, Stats Tool Package by Jeremy Dawson was utilized to determine whether intention significantly moderates behavior among attitude, social pressure, and perceived behavioral control. Furthermore, a series of regression or Path Analysis was performed to determine the best model fit; and SEM was used to determine the extent to which attitude, social pressure, and perceived behavioral control, and intention predicted the cheating behavior of the students.

Results and Discussion

Table 1. Theory of Planned Behavior, Mean, Standard Deviation, Correlations, and Alpha

	Mean	**SD**	**Correlation**	**Interpretation**	**Sig.**
Attitude	4.65	0.669	0.774	High	0.000
Social Pressure	4.291	0.676	0.746	High	0.000
PBC	4.279	0.627	0.743	High	0.000
Intention	4.575	0.496	0.714	High	0.000
Behavior	4.38	0.741	1		

Descriptive statistics on the scales are shown in Table 1. It includes the mean, standard deviation, and interpretation. Attitude has the highest mean score which is 4.65, followed by their intention which is 4.575. Lastly, perceived behavioral control with a mean score of 4.279 being the lowest.

Table 2. Attitude, Social Pressure, and Perceived Behavioral Control as Predictors of Intention

	R	**R Square**	**Unstandardized Beta**	**Standard Error**	**Standardized Beta**	**Sig.**
Model 1	0.86	0.739				
Constant			1.361	0.113		
Attitude			0.298	0.033	0.402	0.000
Social Pressure			0.178	0.039	0.242	0.000
PBC			0.255	0.035	0.322	0.000

Table 3. Intention as a Predictor of Behavior

	R	**R Square**	**Unstandardized Beta**	**Standard Error**	**Standardized Beta**	**Sig.**
Model 1	0.71	0.51				
Constant			-0.501	0.279	0.073	
PBC			1.067	0.061	0.000	0.000

In Table 2, attitude, social pressure, and perceived social pressure are significant predictors of intention. Meanwhile, in Table 3, it shows that intention is a significant predictor of behavior. In the study of predicting safe-lifting behavior wherein they apply the Theory of Planned Behavior, results confirmed that perceived behavioral control and intention were the strongest predictors of safe-lifting behavior. Social pressure, to a lesser degree, significantly influences intention. Attitude did not surface as significant predictors of safe-lifting behavior but did affect behavior and intent via mediating factors (social pressure and perceived behavioral control (Johnson & Hall, 2005).

Table 4. Intention as Mediating Variable on Behavior among Attitude, Social Pressure, and Perceived Behavioral Control

	Standardized Coefficients	Z	p	Interpretation
Total	0.774	5.02	0.000	Significant
Direct	0.611			
Indirect	0.222			
Indirect to Total Ratio	0.287			

According to Ajzen (1991), specific behaviors can be predicted by the strength of an individual's intention to enact the behavior intentions are thus the precursor of behavior; and the stronger the intention, the more likely it is that the behavior will occur intention is. In turn, influenced by the individual's attitude towards the behavior, their perception of social pressure to perform the behavior; and the extent to which they feel able to perform the behavior. These latter global constructs are mediated through intention with only perceived behavioral control having a possible direct effect on behavior.

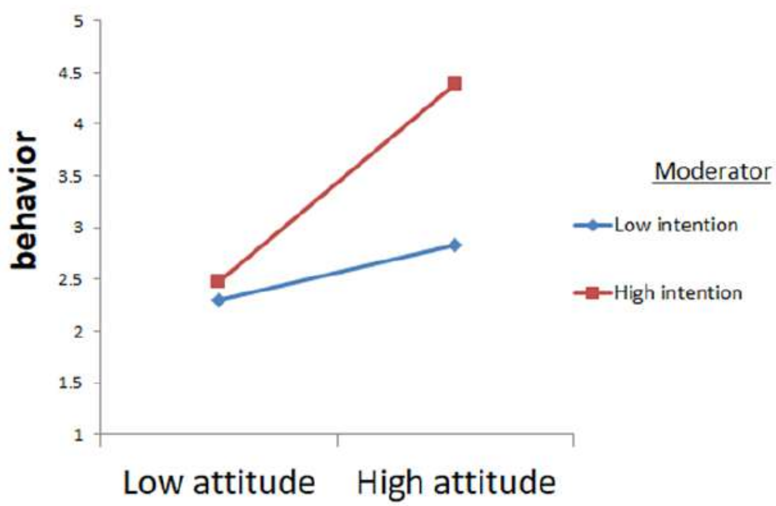

Figure 2. Intention as a Moderating Variable on Behavior among Attitude, Social Pressure, and Perceived Behavioral Control

In Figure 2, intention strengthens the positive relationship between attitude and behavior which means that the better the intention, the better the behavior that a student possesses. Despite it being perceived as unethical (Blau & Eshet-Alkalai, 2017), academic cheating has been on the rise during the past decades, with some estimates claiming that up to 90% of students who cheat (Jensen et al., 2002). In another study, 50% and 78% of the students were engaged in cheating behavior during the examination and making of assignments which is attributed to attitude and social pressure (Park et al., 2013).

<u>Hypothesized Model 1</u>

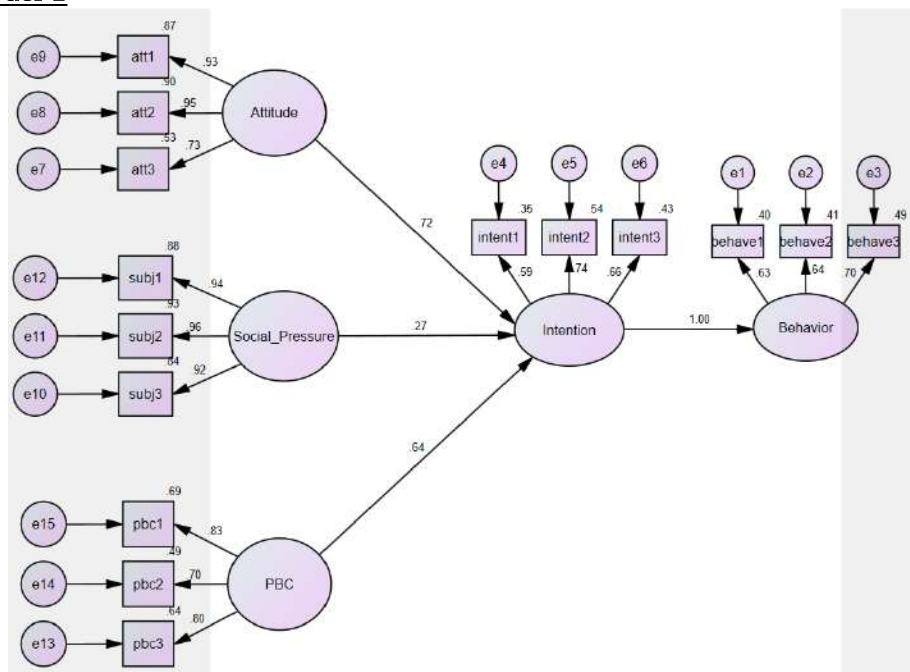

Figure 1

The structural equation model was then used to the extent to which attitude, social pressure, and perceived behavioral control, and intention predicted the cheating behavior of the students.

Item responses were treated as scale, and a weighted least means and variance (WLSMV) were used. The model with three items were specified as an unfit model because only the p-value passed the criteria for best fit model, $p \leq .000$, RMSEA = 0125, CFI = 0.815 (Hu & Bentler, 1999), GFI = 0.521, CMIN/DF = 3.881.

<u>Hypothesized Model 2</u>

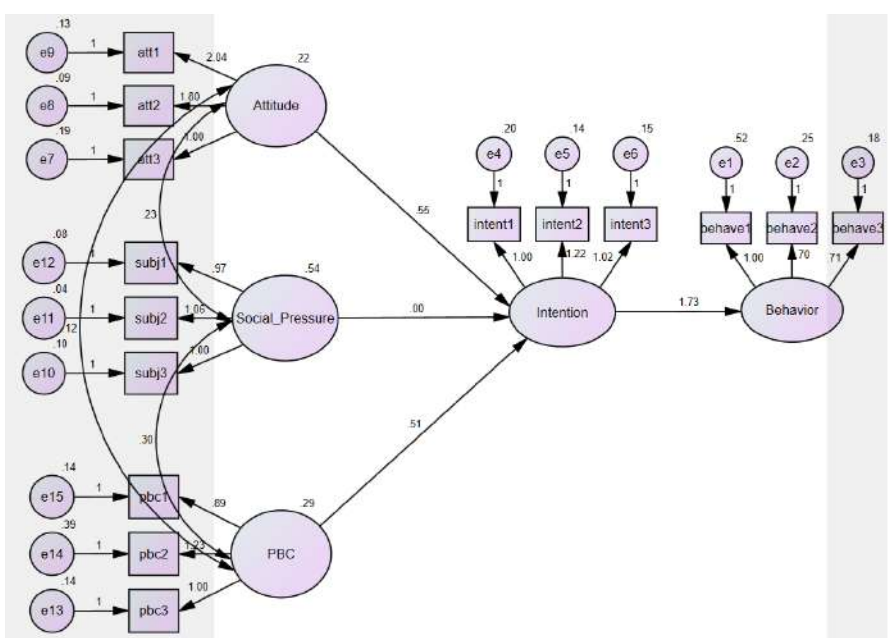

Figure 2

Since the first model did not fit the criteria of model fit. The second model was established to determine if it is acceptable to a good fit. Item responses were treated as scale, and a weighted least means and variance (WLSMV) were used. The model with three items were specified as factors of acceptable to good fit, x^2 (299) = 164.180, p ≤ .000, RMSEA = 0.07, CFI = 0.983 (Hu & Bentler, 1999), GFI = 0.948, CMIN/DF = 2.831.

Correlation lines from perceived behavioral control and attitude; from attitude to social pressure; and from social pressure to perceived behavioral control were drawn to determine if the model is a good fit. This means that 55% variance of intention can be attributed to attitude, social pressure, and perceived behavioral control, and 45% can be attributed to other factors aside from attitude, social pressure, and perceived behavioral control. Behavior is influenced by two factors- intention and perceived behavioral control. Students' intention to cheat depends on their attitude, social pressure (e.g peer pressure), and their perception of the particular behavior or act. Their behavior is influenced by their intention and their perception of cheating behavior.

Conclusion and Recommendations

The teaching of healthcare ethics in small group discussions should be intensified throughout the curriculum. It should not only focus on bioethical problems but most importantly and repeatedly with the issues of integrity, honesty, and professionalism. Moreover, the system of the conduct of examination should be fair and intensified to prevent cheating on the part of the students. There is no easy solution in addressing the problem concerning inculcating honesty to students, therefore teachers and school administrators should continue to develop a comprehensive plan and strategies to deal with the problem of cheating behavior of the students.

The quality of medical services depends on the competence of healthcare professionals. The competence of the healthcare professionals usually starts at the educational institution where knowledge, skills, and values are honed and acquired; therefore, honesty is one of the most essential tools in providing quality healthcare services. The future of healthcare services depends on preserving and restoring public trust from these professionals, but this trust must be earned and deserved.

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Awareness on Dissemination and Publication Process of the Master of Arts in Nursing Graduates of a Private Higher Education Institution in Southern Philippines: Basis for A Proposed Intervention Program

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Abstract

The process of disseminating and publishing research findings is an important part of the research process. For this reason, this study, using a descriptive research design, was conducted to determine the awareness of research dissemination and publication process of the Master of Arts in Nursing graduates of a private higher education institution in Southern Philippines. This study was conducted at different locations in Southern Philippines. Seventy-four out of the 97 Master of Arts in Nursing graduates of the College from 2014 to 2018 – all selected through purposive sampling technique – consented to participate in the full conduct of the study. A researcher-made survey questionnaire which garnered Cronbach's alpha results of Familiarity (α=.89), Priority (α=.891), Importance (α=.821) was used for the data gathering which spanned from December 2018 to April 2019. Results showed that most of the respondents were aged between 21-40 years old (74 out of 74; 100%), females (47 out of 74; 63.51%), married (37 out of 74; 50%), master's degree holders (68 out of 74; 91.89%), earning PHP 30,000 and higher (22 out of 74; 29.73%), and were affiliated with private hospitals (27 out of 74; 36.49%). The respondents had a mean of 4.19 in terms of their familiarity, 3.82 in terms of priority, and 3.88 in terms of their importance towards research dissemination and publication process. In general, it has been identified that the respondents need enrichment on knowing about the peer review process, hence an intervention program for such concern was recommended.

Keywords: Education, Dissemination, Publication, MAN Graduates, Descriptive, Southern Philippines

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Introduction

The process of disseminating and publishing research findings is an essential part of the research process. It involves the transfer of research-based knowledge to the ones that can best make use of it. Research dissemination and publication aim to increase awareness, enhance understanding, and initiate action. With this purpose brought into attention, one may argue that, indeed, the communication of research findings through dissemination and publication is one of the most important steps in the research process. In essence, research is not fully complete until the findings have been made widely available. Regardless of its importance, however, the observance of communicating research findings in the Philippines remains to be low as compared to its foreign counterparts (Panela, 2017). Similarly, such is also the observed case of the researches produced in local universities and colleges in Davao City.

To discuss briefly, disseminating evidence in nursing refers to the spreading of evidence-based nursing knowledge, research, and findings by nurses to other health care professionals or the general public. This is vital for the nursing profession because when nurses stay abreast of new evidence in their field, they can spread that information to others to ensure that the highest quality and most effective care is being delivered to patients (Gonzales, 2018).

In essence, the process of disseminating and publishing research findings is an essential part of the research process. Research dissemination and publication involve the transfer of research-based knowledge to the ones that can best make use of it. It aims to increase awareness, enhance understanding, and initiate action, making this undertaking as one of the most important steps in the research process (Polit & Beck, 2017).

In a nutshell, researchers can communicate the results of their studies in two major ways: They can talk about them or write about them. A nurse researcher might begin by presenting study results to peers. Next, this researcher might attend a research conference at which study results are discussed in an oral presentation or a poster session (Boise State University, 2018a; Boise State University, 2018b; Nieswadomy & Bailey, 2018).

As the next step, study results might be published in a journal article. If funding has been received for a research project, the researcher probably will be required to submit a written report of the study to the funding agency. Finally, many nurses are pursuing advanced degrees and will present their research results associated with their theses and dissertations (Nieswadomy & Bailey, 2018; Polit & Beck, 2017).

Although researchers have the prime responsibility of communicating the findings of their studies, other nurses and nursing organizations also bear the responsibility of seeing those research findings are distributed inside the nursing profession, to other health care professionals, and even to the general public (Nieswadomy & Bailey, 2018; Polit & Beck, 2017). Unfortunately, however, these researchers face a lot of barriers when it comes to disseminating and publishing their research findings. To align with the intention of this research undertaking, the familiarity, priority, and importance of the master's degree graduates towards research dissemination and publication processes are discussed in detail instead.

To date, the available references about the familiarity, or the degree of recognizability to or the knowledge on research dissemination and publication processes, of nurses – specifically, on deciding whether to present through an oral or through a poster presentation, preparing an article for publication, selecting a journal and choosing between refereed and non-refereed journals, sending query letters, etc. – has been limited, if not non-existent. Nevertheless, the available references about the familiarity of nurses in the field of nursing research were seemingly dichotomous, owing to the opposing ideas that these researches hold.

According to the study of Timmins (2014), it has been assessed that nurses in recent years have become increasingly familiar with the practice of research. However, these nurses still need to be motivated and must receive support from local managers and professional bodies for them to be more familiar about and increasingly engaged with the process of research dissemination, thus reducing the hiatus between academic nursing research and effective clinical research and, in turn, completing the dissemination cycle in nursing research.

Such finding which indicates that nurses are becoming more familiar with the process of dissemination and publication of research findings are also echoed in the articles of Baurile (2017) and Castro-Palaganas (2017) wherein it was collectively stated that there is no escaping the reality that nurses need to fortify the nursing profession through the conduct of research, and that, considering that nurses belong to a practice profession, research is an undeniable necessity in the development and refinement of knowledge that can be used to improve one's practice. As such, nurses have become or were compelled to become, familiar with the rigors of research dissemination and publication as it was pointed that there is a need for health research communicators, such as nurse researchers, to enhance their familiarity in communicating and, in effect, the seeking ways to utilize their research findings.

On the other hand, according to Nieswadomy and Bailey (2018), the process of communicating research findings through research dissemination and publication is faced with various impediments. Particularly, these barriers to the dissemination, publication, and, ultimately, utilization of nursing research findings in nursing practice can be attributed to a lot of factors, but predominantly, these barriers can be traced back to the nurses' lack of knowledge towards these processes, negative attitude towards research in general, lack of institutional support for research, and seeing that the research findings are not ready for use in practice. Also, based on the commentary made by Fredericks (2014) in response to the article entitled, "Engaging clinicians in research: Issues to consider" by Dunning (2013), it was assessed that many clinicians did not have the skills to be able to adequately read or interpret empirical evidence, reflecting their general unfamiliarity in the field of research.

This concern is much more complicated in the Philippines, bearing in mind that, on top of the aforementioned barriers, the familiarity of the researchers towards research dissemination and publication processes are also negatively influenced by the lack of experts that are engaged in research studies and communication of findings, and lack of or limited governmental support (Panela, 2017; Rappler.com, 2017).

This dichotomy in the opinion of nurses towards their familiarity towards research dissemination and publication is also reflected in the study of Evans, Duggan, and Boldy (2014) which explored the perceptions about nursing research of registered nurses (RNs) who were engaged in research activities at a metropolitan hospital in Western Australia. In this study, it was revealed that some of the RNs that participated in the study were experienced in the conduct of research, finding adequate support from NRCs in the workplace, whilst others experienced barriers limiting their involvement in nursing research activities – barriers which could be reduced with additional education, support, improved communication, time and opportunities to undertake research activities.

In addition, Fredericks (2014) in her commentary about the engagement of nurses in the field of research also stated that it has become apparent that many nurses are either not prepared or do not have the time to adequately engage in the research process, because many nurses are juggling heavy workloads, work long hour, and have shift work commitments; resulting in minimal opportunities for learning, applying new knowledge, or even reflecting on the day's events or activities. These concerns with the familiarity of nurses to these research processes only reflect that there is an issue with how these nurses consider dissemination and publication of research findings as important and a priority – a subject which will be further discussed in the following sections of this paper.

Moreover, up to the present time, the available references about the degree of priority that the nurses place towards the practice of research dissemination and publication have been limited, if not non-existent. This is similar to what is the case for their familiarity and degree of importance towards these research processes (Gennaro, 1996; Hutchinson & Johnston, 2004; Kajermo et al., 1998; Retsas, 2000; as cited in Nieswadomy & Bailey, 2018).

Nevertheless, the majority of the references about the degree of priority that nurses place towards the observance of communicating research findings all attest that practicing nurses did not necessarily consider the communication of research findings through oral dissemination and paper publication and research engagement, in general, as a priority (Gennaro, 1996; Hutchinson & Johnston, 2004; Kajermo et al., 1998; Retsas, 2000; as cited in Nieswadomy & Bailey, 2018).

Additionally, according to Lambert and Housden (2017), it was shown that nurse practitioners (NPs), for instance, we're interested in contributing to research in meaningful ways. However, there was some uncertainty for NPs in knowing where to start and how to negotiate involvement in research that extends beyond the activities required to meet continued practice competency (e.g. incorporating evidence into clinical practice). Nurse practitioners also experienced difficulty reconciling how to initiate a research project with limited time and resources available to support such efforts, pushing them to consider that, although research engagement is important in itself, such undertaking is not necessarily a priority.

Additionally, in congruence with what has been mentioned about the degree of priority, the nurses' place on the dissemination and publication of research results, the available references about the degree of importance that the nurses' place towards these processes, meanwhile, has also been scarce. This is similar to what is the case for their familiarity and degree of importance towards these research processes. Nevertheless, majority of the available references all state that the communication of research findings through dissemination and/or publication is important, as this process will support and enhance the observance of evidence-based nursing practice in clinical settings (Baurile, 2017; Castro-Palaganas, 2017; Curtis, Fry, Shaban, & Considine, 2017; Nieswadomy & Bailey, 2018; Polit & Beck, 2017; Williams & Cullen, 2016).

Despite its *importance*, however, the communication of research findings through dissemination and publication, thereby allowing the translation of *research* into clinical practice, remains to be a daunting challenge (Curtis, et al., 2017). There are more *nurses* in the frontline of health care than any other healthcare profession, and as such, as frontline healthcare providers, many nurses juggle heavy workloads, work long hour, and have shift work commitments; resulting in minimal opportunities for research engagement, in general (Fredericks, 2014).

Additionally, practicing nurses complain about their inability to understand articles in the research journals. The language is technical, and the articles are often lengthy. Research reports are frequently written for researchers rather than clinicians. These concerns present a problem for beginning nurse researchers who intend to communicate their findings through publications as they are daunted with the necessity to align their research reports in a manner that is too scholarly and too technical (Nieswadomy & Bailey, 2018).

To this end, in Funk et al.'s (1991b, as cited in Nieswadomy & Bailey, 2018) study, it was suggested that research be reported in the journals that are read most frequently by clinicians and that these reports be more readable and contain clinical implications. Likewise, nurses need to make an effort to publish in the popular clinical journals. This does not mean that nurse researchers should disseminate their research findings in a manner that is understandable to the nurse in practice; this usually means publishing findings in practice journals. Brooten et al. (1999, as cited in Nieswadomy & Bailey, 2018) asserted, "The lay public, in general, is woefully uninformed of the research conducted by nurses" (p. 133). It appears that we have made very little progress in communicating the results of nursing research to nurses, much less to the general public! Kennedy (2004, as cited in Nieswadomy & Bailey, 2018) and Ulrich (2005, as cited in Nieswadomy & Bailey, 2018) have asserted that nurse researchers must let other nurses and the general public know about their research results. As Ulrich said, nurses must get better about "tooting our horns."

In conclusion, the need to provide a conscientious description of how familiar the nurses are on the processes of research dissemination and publication process and how important is these processes for them is particularly imperative, as this endeavor would identify gaps in such processes. The Master of Arts in Nursing Graduates are specifically chosen for this investigation, as these nurses are expected to engage in research activities and create a thesis as part of their requirements for completing the course. When such gaps in the dissemination and publication of research findings are addressed, this undertaking may significantly benefit the intended audiences to which the findings of the research studies of the graduate nurses are intended for, thereby positively contributing to the generation of knowledge in the field of nursing practice and the improvement of the quality of life of their intended beneficiaries.

It is also worthy to mention that the current efforts made towards determining the rates of research dissemination and publication in Davao City have been limited, if not non-existent. Particularly, in the selected private higher education institution in this study, the number of published and disseminated research studies has been staggeringly scarce amidst the number of Master of Arts in Nursing Graduates that it has produced. In particular, there were only three research studies that have been presented in an international research forum and none that has been published in any journal within the last five years.

With all these pieces of information taken into consideration, the urgency to determine the awareness of research dissemination and publication process of the Master of Arts in Nursing Graduates of a private higher education institution in Davao City must be acted upon. When the findings of this study are highlighted, it is intended that the areas of improvement regarding their awareness of the dissemination and publication processes may be addressed accordingly through an intervention program.

Objectives

This study determined the awareness of research dissemination and publication process of the Master of Arts in Nursing graduates of a private higher education institution in Southern Philippines.

Specifically, it sought to answer the following questions:

1. What is the demographic profile of the Master of Arts in Nursing graduates in terms of:
    1.1. Age;
    1.2. Sex;
    1.3. Marital Status;
    1.4. Educational Attainment;
    1.5. Monthly Income; and
    1.6. Affiliated Organization?
2. What is the research dissemination and publication process awareness profile of the Master of Arts in Nursing graduates based on the following:
    2.1 Familiarity;
    2.1 Priority; and
    2.3 Importance?
3. Based on the findings of the study what intervention program may be proposed?

The research paradigm is of this study is presented in Figure 1. The input in this study details the demographic profile of the respondents in terms of age, sex, marital status, educational attainment, monthly income, and affiliated organization; and the research dissemination and publication process awareness profile of the respondents based on familiarity, priority, and importance. These data were processed through profiling, a survey with the use of a researcher-made questionnaire, and were processed afterward through statistical data analysis. The discussion on the analysis was further supplemented by the transcripts obtained from conducting a series of in-depth interviews. An intervention program was formulated afterward based on the data gathered.

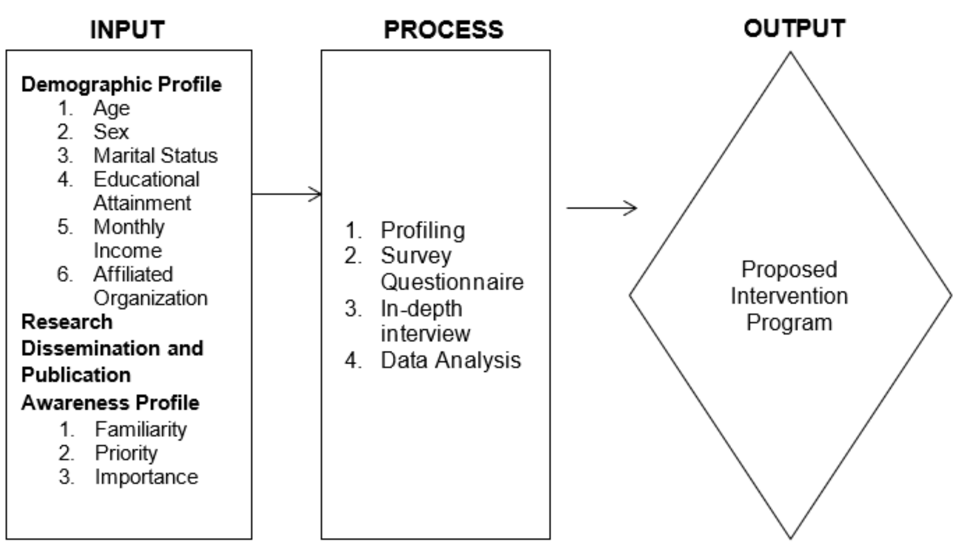

Figure 1. Research Paradigm

Methods

The researchers utilized the descriptive research design using the input-process-output (IPO) model. It is descriptive because it determined the demographic profile – which includes the age, sex, educational attainment, employment status, monthly income, and affiliated organization – and the familiarity, priority, and importance of the Master of Arts in Nursing graduates on research dissemination and publication. These data were gathered through profiling, the use of survey questionnaires, and were processed through the use of a statistical tool afterward. An intervention program was proposed thereafter.

The survey was developed using the theory of Planned Behavior/Reasoned Action by Ajzen and Fishbein (1980, as cited in University of Twente, 2018) and distributed to the respondents by the proponents of this paper. This researcher-made survey questionnaire had four parts: The first part identified the demographic profile of the participating MAN graduates in terms of their age, sex, marital status, educational attainment, monthly income, and affiliated organization. The second, third, and fourth parts of the questionnaire contained a total of 15 items that determined the degree of familiarity, priority, and importance of the MAN graduates on and towards research dissemination and publication processes. The questionnaire had Cronbach's alpha results of Familiarity (.89), Priority (.891), and Importance (.821). The scores of this questionnaire were measured and interpreted using a 5-point Likert scale. Presented below is the tabular presentation of the corresponding description and interpretation of this scale:

Scale	Description	Interpretation
5	Extremely Familiar / Extremely Important / Essential Priority	This means that the respondent is extremely familiar with the practice; considers the practice as extremely important; considers the practice as an essential priority.
4	Moderately Familiar / Moderately Important / High Priority	This means that the respondent is moderately familiar with the practice; considers the practice as moderately important; considers the practice as a high priority.
3	Somewhat Familiar / Somewhat Important / Medium Priority	This means that the respondent is somewhat familiar with the practice; considers the practice as somewhat important; considers the practice as a medium priority.
2	Slightly Familiar / Slightly Important / Low Priority	This means that the respondent is slightly familiar with the practice; considers the practice as slightly important; considers the practice as a low priority.
1	Not at all Familiar / Not at all Important / Not a priority	This means that the respondent is not at all familiar with the practice; considers the practice as not at all important; considers the practice as not a priority.

Frequency and Percentage were used to determine the demographic profile of the Master of Arts in Nursing graduates in terms of age, sex, marital status, educational attainment, monthly income, and affiliated organization. Calculation of the mean values, on the other hand, was done to determine the degree of awareness in terms of familiarity, priority, and importance towards research dissemination and publication process of the Master of Arts in Nursing graduates of the participating HEI.

Ethical Consideration

The formulation of ethical guidelines is most essential when researching studies since the data gathering may violate the respondents' rights and unnecessarily expose their vulnerabilities to their detriment during the study. In this regard, the methods to be undertaken in this study were subjected for review by the Technical Panel and the Research Ethics Committee

Those respondents who willingly consented to participate in the study after thoughtful consideration of the research information provided were only the ones who could participate in this study. They were informed about the nature of the study, its purpose, the likely benefits, risks, and safety concerns associated with their participation, and their rights as respondents for this study – which includes, but not limited to, the right to refuse from participating and to withdraw anytime from participating from this study, and right to privacy, confidentiality, and transparency.

Results and Discussion

Demographic Profile of the Respondents

Presented in Table 1 are the demographic profile in terms of age, sex, marital status, educational attainment, monthly income, and affiliated organization of the respondents in this study. In terms of sex, most of the respondents, or 47 out of the 74 (63.51%), in this study were females; 37 out of the 74 total respondents (73.3%)were married; 68 (91.89%) were master's degree holders and two participants were doctorate holders (2.70%).

As for the monthly income, 22 out of the 74 respondents (29.73%) earn ₱30,000 and higher in a month, whereas only four of the remaining respondents were earning less than ₱10,000 in a month. In terms of their affiliated organization, majority of the respondents – that is, 27 out of the 74 respondents (36.49%) were working in private hospitals, whereas 6 out of the total number of respondents (8.11%) were working in public non-health care institutions (e.g., Local Government Unit, etc.).

Table 1. Demographic Profile of the Respondents

Demographic Profile	Frequency (n=74)	Percentage (%)
Age*		
21 - 40 years old	74	100
Total	74	100
Sex		
Male	27	36.49
Female	47	63.51
Total	74	100
Marital Status		
Single	35	47.30
Married	37	50.00
Widowed	1	1.35
Divorced	1	1.35
Total	74	100
Educational Attainment		
Master's Degree Holder	68	91.89

Doctorate Degree Level	4	5.41
Doctorate Degree Holder	2	2.70
Total	74	100.00
Monthly Income		
<PHP 10,000	4	5.41
PHP 10,000 up to PHP14,000	7	9.46
PHP14,000 up to PHP18,000	5	6.76
PHP18,000 up to PHP22,000	11	14.86
PHP22,000 up to PHP26,000	10	13.51
PHP26,000 up to PHP30,000	15	20.27
PHP 30,000 and higher	22	29.73
Total	74	100.00
Affiliated Organization		
Private Hospital	27	36.49
Government Hospital	19	25.68
Private Health care	8	10.81
Private Non-Health Care	7	9.46
Public Health Care	7	9.46
Public Non-Health Care	6	8.11
Total	74	100.00

Note (*):The age range was based on the ranges set by Erik Erikson in his Stages of Psychosocial Development (McLeod, 2018)

Research Dissemination and Publication Process Awareness Profile of the Master of Arts in Nursing graduates based on Familiarity

Presented in Table 2-1 is the research dissemination and publication process awareness profile of the Master of Arts in Nursing graduates based on their familiarity with such processes. It can be gleaned in the tabulated data that the respondents had the highest mean and were extremely familiar with the fact that *a researcher has the responsibility to share his findings particularly to the respondents or participants of the study* (M = 4.46). This result implies that the respondents were extremely familiar with the practice of sharing the results of one's research work to the other persons, especially to those who have participated as respondents in the said research study. The respondents further stated that communicating one's findings to everyone who has been involved in the conduct of the study is a responsibility that every researcher must constantly abide to. It is only through sharing one's research findings that, according to the respondents, knowledge can be shared with others.

These results and accounts of the graduates were congruent with the statements written in a research-related article published by Goubert (2017) wherein it was stated that researchers nowadays have become observant in the practice of communicating one's research study findings. In particular, Goubert (2017) stated that communication has become one of the most essential steps in the research process these days as researches can have wide-reaching implications on everyone's lives, with benefits ranging from being provided with guidance in making ethical decisions in light of recent scientific developments to being recipients of new advancements in the field of health and nutrition.

On the other hand, the respondents had the lowest mean on but were still moderately familiar with, the fact that *peer review is the initial step towards publication* (*M* = 3.84). This result suggests that the respondents were only acquainted with the concept of peer review but have not had in-depth knowledge about what it is and what is its process. Some respondents stated that they have indeed heard of the concept of peer review as a part of the steps in research publication, but the majority of the respondents have admitted that they did not have comprehensive knowledge about what it is and what is its process, owing primarily to the reason that they have not encountered this topic or concept comprehensively in any of their course subjects.

True enough, most researchers worldwide face the same issue. In a recent Publons survey on the Global State of Peer Review (Publons, 2018a) with more or less 12,000, researchers conducted worldwide, there was over 75 percent of these researchers who had either never received peer review training or just learned the skills themselves through self-selected reading.

This lack of formal training and familiarity is a matter of concern, considering that, according to Publons (2018b), this lack of training can be detrimental to the research ecosystem as a whole. Peer review is an essential bulwark in maintaining accuracy and trust in scholarly communication. Researchers and the public alike rely on peer reviewers' critical analysis skills for knowing what research is sound and citable versus potentially unreproducible. Furthermore, it is integral to the professional development of all researchers. It helps scholars stay abreast of the latest research trends in their field, it improves their writing and analysis skills, and it helps them spot and avoids common flaws in their manuscripts (Publons, 2018b). For these reasons, unfamiliarity to the process of peer-reviewing may become disadvantageous and may affect the likelihood of a scientific work such as research studies to be published and utilized by others as a result.

All in all, however, the respondents were assessed to be moderately familiar with research dissemination and publication processes (*M* = 4.19). This overall result suggests that the graduates were moderately familiar with the concepts of research communication through publication and dissemination. During the interviews conducted, some respondents stated that they have some degree of familiarity with these processes as they have attended conferences and symposia which included dissemination of research findings from various researchers as part of their programs. Some of the respondents have had some experience as well in presenting their research findings in local research conferences. However, some respondents have stated that their familiarity with research communication through publication is limited only to the awareness of what the concept of publication is and not really on knowing who to consult to when one intends to have his/her research work be reviewed for publication. True enough, most researchers worldwide face the same issue, as there were over 9,000 researchers who have been surveyed as part of the 2018 Global State of Peer Review (Publons, 2018a) who stated that they only had a limited familiarity about how research work is published and how can it be peer-reviewed for it to be published.

Table 2-1. Research Dissemination and Publication Process Awareness Profile of the Master of Arts in Nursing graduates based on Familiarity

Indicator	Mean	Descriptive Level
1. The last step in conducting research is the dissemination (e.g., presentation through research conferences and other speaking engagements) and publication (e.g., presentation through scholarly journals and/or other periodical publications) research results.	4.28	Extremely Familiar
2. A researcher has the responsibility to share his findings particularly to the respondents or participants of the study.	4.46	Extremely Familiar
3. Effective dissemination is about getting the findings of your research to the people who can make use of them, to maximize the benefit of the research without delay.	4.34	Extremely Familiar
4. Having a dissemination plan is part of the research process.	4.19	Moderately Familiar
5. Dissemination of research results includes building partnerships with established networks and participating in conferences and events to exchange knowledge and raise awareness of your research work.	4.11	Moderately Familiar
6. Publication requirements can differ from one institution to another.	4.24	Extremely Familiar
7. Peer review is the initial step towards publication.	3.84	Moderately Familiar
8. Publication ensures the ideal and legal protection of intellectual property.	4.23	Extremely Familiar
9. One can ask help from his or her research advisor or any other researcher as a co-author to polish the manuscript and assist in the process of dissemination and publication.	4.20	Moderately Familiar
10. Publication of research work holds monetary benefit and intellectual recognition.	3.97	Moderately Familiar
Total	4.19	Moderately Familiar

Legend: 5.00 - 4.21 – Extremely Familiar; 4.20 - 3.41 – Moderately Familiar; 3.40 – 2.61 – Somewhat Familiar; 2.60 - 1.81 – Slightly Familiar and, 1.80 – 1.00 – Not at all Familiar

Research Dissemination and Publication Process Awareness Profile of the Master of Arts in Nursing graduates based on Priority

Presented in Table 2-2 is the research dissemination and publication process awareness profile of the Master of Arts in Nursing graduates based on to what degree do the respondents consider such processes as a priority. It can be seen in the data that the respondents had the highest mean on *ensuring that findings are shared with one's respondents or participants after completing a research work* in terms of the degree of priority, which was qualitatively described as high (M = 4.08). This is the case because, based from what has transpired during the in-depth interviews, the respondents stated that they deem the communication of research findings as a necessity that every researcher must partake, especially to those who have been involved in the conduct of the study, for it is only through sharing one's research findings that, according to the respondents, knowledge can be shared to and used by others.

These results and accounts of the graduates were, once again, congruent with the statements written in a research-related article published by Goubert (2017) wherein it was stated that researchers nowadays have become observant in the practice of communicating one's research study findings through any means possible.

Conversely, although still qualitatively described as a high priority, the respondents had the lowest mean on the practice of *looking for journals that could publish one's work and submit one's paper to them* (M = 3.57). This finding implies that the respondents do not consider looking for journals as a priority in terms of communicating one's research work. Some of the respondents who have had a brief acquaintance with the notion of research publication stated that the main issue that they take into consideration when looking for journals to publish once work is that publishing takes a lot of time, money, and patience to pursue when putting in comparison with communicating one's findings through symposia or conferences. Others also deem that sharing research findings can easily be done through social media platforms such as Facebook nowadays, omitting the need for research work to be published in a platform that takes a lot of time such as in the case of journals as a result.

These issues were acknowledged by the findings of Derman and Jaeger (2015) wherein it was stated that challenges to communication – be it in the form of publication and dissemination in the context of this study – and implementation of research findings exist across the globe, and it has been particularly apparent in many countries which were considered as low or lower-middle-income. In addition, Ajami and Mavahedt (2013) also stated that both the scientific journals and researchers face a variety of challenges in terms of publishing research works in recent times, owing primarily to the rigorous nature of research paper review before publication which makes the whole process of publishing one's work in journals as arduous.

Overall, however, the respondents still consider it a high priority to observe the processes that pertain to research dissemination and publication (M = 3.82). Most of the respondents deem that, nowadays, nursing care has become advanced to the point that it has become a necessity for every healthcare professionals to engage in research activities (e.g., communication of research findings) to cope up with the trends in nursing practice, communicated research study results may be learned from, and, findings may be utilized thereafter. This inference was, in fact, congruent with the findings of Tanveer (2017) wherein it was determined that present-day journal publishing has indeed adapted "publish or perish" as the modern-day adage for all researchers and medical teachers, owing mainly to the necessity for the practice of communicating one's findings through dissemination and publication to be considered as a high priority.

Table 2-2. Research Dissemination and Publication Process Awareness Profile of the Master of Arts in Nursing graduates based on Priority

Indicator	Mean	Descriptive Level
1. Considers research dissemination and publication as a top priority.	3.93	High Priority
2. Ensures that I share my findings with my respondents or participants after completing my research work.	4.08	High Priority
3. Constantly looks for opportunities such as research conferences wherein I could share my work with other people and organizations.	3.77	High Priority
4. It looks for journals that could publish my work and submit my paper to them.	3.57	High Priority
5. Finds ways and means to disseminate and/or publish the results of my study so that my research findings can be utilized by other people.	3.73	High Priority
Total	3.82	High Priority

Legend: 5.00 - 4.21 – Essential Priority; 4.20 - 3.41 – High Priority; 3.40 – 2.61 – Medium Priority; 2.60 - 1.81 – Low Priority and, 1.80 – 1.00 – Not a Priority

Dissemination and Publication Process Awareness Profile of the Master of Arts in Nursing graduates based on Importance

Presented in Table 2-3 is the research dissemination and publication process awareness profile of the Master of Arts in Nursing graduates based on how they consider such processes as important. It can be gleaned in the data shown that the respondents had the highest mean on the account that one's research findings must be disseminated and published so that *other researchers will learn from one's work and possibly improve it to generate more knowledge on that topic after dissemination and publication* (*M* = 4.35). This result implies that the respondents consider it extremely important to disseminate and publish one's work so that others may learn from the findings and that the generation of additional knowledge on that topic may be fostered.

There were varied reasons as to why the respondents considered disseminating and publishing research results as extremely important, but the consensus of their statements point out to the fact that the communication of research results is the first step of translating theory into practice – a process which is immensely important for healthcare professions such as nursing. According to the respondents, when up-to-date research findings are communicated, evidence-based practice will be nurtured, allowing the provision of healthcare services that are timely, accurate, and scientific.

This inference was congruent with the findings of Chrisman, Jordan, Davis, and Williams (2014) and Edwards (2018) wherein it was stated in both studies that the dissemination of research results aligns on the path to practice change and to foster evidence-based practice in the workplace. Conversely, the respondents had the lowest mean on the statement that *one's research findings must be disseminated and published for monetary gain* (M = 2.91). This result suggests that the respondents only consider publishing and disseminating one's work for money as somewhat important. The respondents stated that, although they were aware that some researches can be a source of monetary gain for researchers, they did not consider this factor as a prime motivator for them to consider the dissemination and publication of one's research results as important. Some respondents who have had a basic knowledge about research dissemination and publication even shared that it is impractical for researchers to consider the dissemination and publication of one's research results as a source of income since it would take several months before a study can be published and read by others. Furthermore, even with the case of published studies, some respondents shared their thoughts about the uncertainty of these studies to garner finances and grants as, according to them, it would still heavily depend on the type and impact of the research study that has been submitted for publication.

These accounts and results from the respondents agree with the published article of Jahnke (2015) wherein it was presented that the provision of financial grants for researches these times has become too complex to the point that not all research endeavors amass monetary support and benefits. This phenomenon indeed places the impracticality of considering communicating research work solely for monetary gain.

In totality, the respondents consider the observance of research dissemination and publication processes as moderately important (M = 3.88). Even with all the challenges and difficulties in conducting researches and publishing research results taken into consideration, the respondents still consider the communication of research work through dissemination and publication as important as they consider these as essential steps in upgrading one's self academically and professionally. On top of this reason, the majority of the respondents also stated that the communication of research work will allow results to be utilized by others, further fostering an ethical healthcare delivery. evidence-based, and up-to-date – an inference which was supported by the findings Chrisman, et al. (2014) and Edwards (2018) wherein it was collectively stated that the communication of research results fosters evidence-based practice in the workplace.

Table 2-3. Research Dissemination and Publication Process Awareness Profile of the Master of Arts in Nursing graduates based on Importance

Indicator	Mean	Descriptive Level
1. My research findings will be utilized.	4.27	Extremely Important
2. Other researchers will learn from my work and possibly improve it to generate more knowledge on that topic after dissemination and publication.	4.35	Extremely Important
3. The results of my research are disseminated and published to allow the improvement of the research manuscript and, in turn, my research skills.	4.09	Moderately Important
4. The findings of my study are disseminated and published for due recognition of ownership of the research endeavor and accretion of my academic	3.80	Moderately Important

reputation.		
5. I will disseminate or publish my research work for monetary gain.	2.91	Somewhat Important
Total	3.88	Moderately Important

Legend: 5.00 - 4.21 – Extremely Important; 4.20 - 3.41 – Moderately Important; 3.40 – 2.61 – Somewhat Important; 2.60 - 1.81 – Slightly Important and, 1.80 – 1.00 – Not at all Important

Conclusion and Recommendations

The findings have highlighted the demographic characteristics of the Master of Arts in Nursing graduates of the participating higher education institution in this study and as well as their degree of familiarity, priority, and importance towards Research Dissemination and Publication processes. As presented previously, it can be gleaned that majority of the respondents, or the Master of Arts in Nursing graduates in the participating higher education institution, were aged between 21-40 years old, females, married, master's degree holders, earning PHP 30,000 and higher, and were affiliated with private hospitals.

The results above also presented that the respondents were extremely familiar that it is their responsibility as researchers to share one's findings to the participants of their respective research works. The data also revealed that the respondents considered sharing one's findings to the participants of their respective research works as a high priority. These results make sense seeing that the respondents also considered it as extremely important to disseminate and publish one's research study results as they deemed that other researchers may learn from their work and that others may improve upon the study, further increasing the body of knowledge that the community has about the topic being studied in the first place.

However, the results also showed that these graduates were least familiar with the peer review process as a step towards publication and that they considered looking for journals that they could work with to publish their work as the least priority among the statements surveyed to them regarding research dissemination and publication process. When surveyed about what factor do they consider as the most important which would, in turn, compel them to disseminate and publish their research findings, the respondents considered publishing and disseminating for monetary gain as the least important factor that would do so. Overall, the respondents were only moderately familiar with what the research dissemination and publication processes are. Nevertheless, the respondents still placed a high degree of priority and a moderate degree of importance towards the observance and application of such processes.

Based on these findings, it has been collectively identified that there is a need to enhance the knowledge-base of the Master of Arts in Nursing students and graduates alike regarding what the research dissemination and publication processes are, with a particular highlight on the peer review and journal publication processes. To materialize this, the researchers proposed the intervention program entitled, "Understanding Research Journal Publication and Peer Review: A Post-Baccalaureate Intervention Program." This program contains the following implementing activities: Inclusion of Research Journal Publication and Peer Review in the Course Syllabi of the Advanced Methods of Nursing Research Course, Establishment of Partnerships with Local Colleges and Universities with Established High-Impact Journals, and Provision of Free Technical Assistance from the College for Graduates who intend to Communicate Research Results.

In the first implementing activity – i.e., Inclusion of Research Journal Publication and Peer Review in the Course Syllabi of the Advanced Methods of Nursing Research Course – the roster of faculty of the Master of Arts in Nursing Program, as spearheaded by its Program Chair, who are handling the Advanced Methods of Nursing Research Course must include in one of its topics and activities the concept of Journal Publication and Peer Review in their course syllabi. The appropriateness of its inclusion to the course syllabi will be ensured through conducting various sessions of announced and unannounced faculty observations. Student learning regarding Journal Publication and Peer Review must also be done routinely through conducting a series of assessments through written examinations and/or essay reports.

Furthermore, considering that the Graduate Program currently has no established mechanisms that support peer reviewing and the publication of high-impact journals, the researchers recommend that the Program institute partnerships with local colleges and universities through the signing of Memorandum of Agreements so that individuals who intend to publish their research works may be provided with an avenue to communicate their researches through publication. In this second implementing activity – i.e., Establishment of Partnerships with Local Colleges and Universities with Established High-Impact Journals – the following actions must be realized: (i) Signing of Memorandum of Agreements with Local Colleges and Universities with Established High-Impact Journals and Mechanisms for Peer Reviewing,
(ii) information dissemination of the existence of the mutual agreement to the graduates, especially to those individuals who intend to publish their research results, and (iii) annual renewal of the MOAs to ensure sustenance of the agreements between institutions.

To further foster a research culture that is progressive in terms of research dissemination and publication, the College, through the Research Office, must also provide free technical assistance to those who intend to communicate their research works. Assistance may include services such as, but not limited to, the following: (i) Provision of technical assistance in converting research studies to publishable formats (i.e., IMRAD format), (ii) provision of technical assistance for plagiarism check and grammar review, and (iii) financial assistance for expenses to be incurred in research publications. These measures are all under the third implementing activity of this intervention program - Provision of Free Technical Assistance from the College for Graduates who intend to Communicate Research Results.

To do this, the following measures must be put into action: (i) information dissemination about the existence of free technical assistance to those who intend to communicate their research works. Assistance may include services such as, but not limited to, the following: Provision of technical assistance in converting research studies to publishable formats (i.e., IMRAD format), provision of technical assistance for plagiarism check and grammar review, and provision of financial assistance for expenses to be incurred in research publications; and (ii) Coordination with other institutions for plagiarism check and grammar review in the absence of systems that support the provision of the aforementioned services in the College.

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Practices and Performance of MSMEs in Davao City

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Abstract

One of the sectors credited with helping to keep the Philippines afloat in the early eighties was the large pool of micro and small enterprises, mostly unregistered then, and popularly referred to as the underground economy. Recently, attention seems to be again focused on these enterprises, a good number of which have metamorphosed into formal businesses and now go by the acronym "MSME" for "micro, small and medium enterprises," as the country's vanguard in meeting the economic challenges of the 21st century, especially in enhancing our chances of success as a participant in the global marketplace. This paper identified the prevailing business practices of these MSMEs in Davao City, evaluated the performance of the different companies belonging to this sector, and assessed the readiness of the sector to take on the challenge of the global marketplace. The researcher concluded that, given its current state of affairs, the sector still has to do a lot more in terms of tightening up its organization, building up its financial muscle and upgrading the level of sophistication in the way they run their businesses if they are to become global players.

Keywords: MSME practices, Business performance, Davao City, Philippines

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Introduction

The early 80's, perhaps the most difficult times that the Philippine economy ever encountered, proved to be a shining moment for the large pool of micro and small enterprises in the country. Mostly unregistered and popularly referred to as the underground economy, they have been credited with helping to keep the Philippine economy afloat during those troubled times. Recently, as the country looks for growth engines to propel itself, attention is again focused on these enterprises, a good number of which have metamorphosed into formal businesses and now go by the acronym "MSME" for "micro, small and medium enterprises," as the country's vanguard in meeting the economic challenges of the 21st century. As we become more aware of how the world has shrunk through the years as a result of advances in technology, sights are being set on participating in the global marketplace. While, in the past, MSMEs were regarded as small fry and good only as domestic players, today, when size does not seem to matter as much as before, we look at them as potential entrants into the global marketplace.

In its broadest sense, small businesses make up an institution associated with the ideals of the free-enterprise system. Thus, studying the effective management of the small business enterprise may be the most important way of understanding the functioning of an entrepreneurial economy. As countries all over the world increasingly adopt the promotion of small businesses as a linchpin of national progress, those who understand the initiation, growth, and management of these enterprises may well hold the key to tomorrow's global economy (Hodgetts & Kuratko, 1998).

Small businesses are commonly defined as those that are "… independently owned and operated and (are) not dominant in (their) field of operation …" (Small Business Act of 1953). This general definition of a small business that is American in origin has been fine-tuned by other countries. In the Philippines, the generic term "small business" actually embraces the whole range from micro-enterprises to medium-sized business concerns. In January 2003, the Small and Medium Enterprise Development Council provided the definition that now governs the classification of the various enterprises operating in the country and that has been adopted by both the government and the private sector. Under SMED Resolution No.1 Series of 2003, micro-enterprises are those whose capitalization is P 3.0 million and below; small enterprises are those with capitalization higher than P 3.0 million up to P 15.0 million; and, medium-enterprises are those with capitalization higher than P 15.0 million up to P 100.0 million. Alternatively, by employee headcount, micro-enterprises are those that employ up to 9 employees; small enterprises from 10 to 99; while medium enterprises employ from 100 to 199.

Micro, small and medium enterprises (MSMEs) have played an important role in the economic growth of less-developed, developing, and transitional economies, worldwide, particularly in industrial production. Generally, they have provided the bulk of entrepreneurs and employees, as well as the necessary foundations for sustained economic growth and rising incomes in these economies. Ironically, however, MSMEs in these economies have usually been neglected and even discriminated against relative to large enterprises in terms of government attention, access to finance, management and marketing expertise, and technology, among others. This has been particularly true in developing economies where large enterprises have usually been given the primary role in economic and industrial development.

A vibrant MSME community is an indicator of a growing economy. Aware of this and having identified the MSME sector as one of the important anchors for economic development, the government is bent on strengthening the support systems that are deemed necessary to enable this sector to realize its full growth and potential (SEPO, 2012).

Historically, the significance of the contribution of small companies to the total business generated had tended to deteriorate towards the mid-seventies. For instance, in the United States, the contribution to Gross National Product of small businesses tended to lose ground in favor of big businesses at around this time. However, as the eighties drew to a close, the trend seemed to have reversed. *The Economist* observed that despite the noisy mergers, the biggest change in the world of business was that firms were becoming smaller (*The Economist*, 1989). There seemed to be a realization that small can be beautiful, after all, because small businesses tend to be better able to utilize more efficiently scarce resources (Bitonio, 2011) and that in an environment where being nimble is a plus-factor, even big firms have seen the wisdom of small-scale operations. In a study, the International Institute for Labor Studies in Geneva observed that, indeed, there has been robust growth in the share of total employment in small enterprises in major industrial nations in recent years (Longenecker, Moore & Petty, 1994).

The Philippines is no exception to this development. There are 1,003,111 business establishments in the country, up by 22.2% over the 820,960 establishments in 2000 (BSME, 2005). Of these, 887,272 (88.4%) are micro-enterprises, 106,175 (10.6%) are small enterprises, 4,895 (.5%) are medium enterprises, and, 4,769 (.5%) are large enterprises. In total, the MSME sector accounts for 99.5% of the business establishments in the Philippines (Department of Trade and Industry, 2018).

Table 1. Number of Business Establishments

	Number of Establishments	% of Total
Micro	887,272	88.4
Small	106,175	10.6
Medium	4,895	0.5
Large	4,769	0.5
Total	1,003,111	100

Source: Department of Trade and Industry, 2018 MSME Statistics

However, the MSME sector's contribution to the Philippine employment profile appears to be a little different. Of the 9,043,063 employees in the country, 2,610,221 (28.9%) are employed in micro-enterprises, 2,445,111 (27.0%) are employed in small enterprises, 658,930 (7.3%) are employed in medium enterprises, and, 658,930 (36.8%) are employed in large enterprises. In sum, the MSME sector employs 63.2% of the employed workforce in the country.

Table 2. Employed Workforce by Business Establishment Classification

	Employees	% of Total
Micro	2,610,221	28.9
Small	2,445,111	27
Medium	658,930	7.3
Large	3,328,801	36.8
Total	9,043,063	100

Source: Department of Trade and Industry, 2018 MSME Statistics

The Department of Trade and Industry reports that 35.7% of the census value-added in the country is accounted for by the MSME sector. In contrast, the same sector in Japan and the US account for close to 50% of these countries' value-added. For added perspective, during the presidency of Gloria Macapagal-Arroyo, her administration had targeted to bring up the share of the MSME sector to 40% by 2010.

The resurgence of the MSME sector as a vibrant growth engine highlights the important roles that small businessmen play in the economic landscape. Consequently, the government has emphasized championing the cause of small businessmen by initiating activities geared towards improving their chances of success in their respective enterprises. These include organizing trade fairs and business matching sessions, providing function-specific training, and encouraging innovative financial packages designed to fit the unique circumstance of small firms. Voluntary Business Organizations (such as the chambers of commerce) also did their part by effectively collaborating with the government in these initiatives or else providing their programs to this sector.

It is in light of this renewed awareness of the importance of this sector that this study was conducted. If the MSMEs are to be components of the cornerstone in our march to economic progress then effort must be exerted to be acquainted with their practices, to understand their performance and to evaluate their capability to stand the rigor of their businesses, especially in the global marketplace.

Methods

This study sought to identify the business practices that prevail among MSMEs operating in Davao City, to evaluate the business performance of these MSMEs and to assess the state of readiness of local MSMEs to become global players. In conducting this study, this researcher asserts that, conceptually, business practices affect a firm's performance. This truism applies to all types of businesses, whether small or otherwise, even as there may be practices that are unique to particular firm size.

At the operational level, this study adopted the classification of a business establishment into Micro, Small, and Medium enterprises used by the Department of Trade and Industry. "Business Practices", on the other hand, was understood to refer to the business organization adopted (i.e., corporate, partnership or single proprietorship), the accounting system employed (i.e., whether an accrual or cash basis), the marketing initiatives and the financial policies. Finally, business performance was measured by Return on Equity (ROE).

This study was based on primary data generated from a survey of selected MSMEs operating in Davao City as well as interviews of key informants who were chief executive officers of MSMEs. These were supplemented with secondary data taken from the databanks of agencies and institutions who play an active part in assisting MSMEs, particularly the Department of Trade and Industry, and the SME Center of the Davao City Chamber of Commerce and Industry, Inc. Descriptive statistics were employed to construct a profile of the MSME players in the city. Financial ratios and other measures of business performance were used to identify prevailing business practices. A "business practice" was considered as "prevailing" when more than 50% of the respondents confirmed their use.

Return on Equity (ROE) was the primary measure of business performance. The ROE was analyzed by "decomposing" it using Du Pont Analysis to further explain the underlying reason for its behavior. Du Pont Analysis is a technique of analyzing financial performance by systematically examining three financial ratios the product of which equals ROE. These ratios are Return on Sales (ROS), the ratio of Net Income to Sales; Asset Turnover (A T/O), the ratio of Sales to Assets; and, the Equity Multiplier (EM), the ratio of Assets to Equity (Saldaña, 1997).

Stratified sampling was done among the three categories of micro, small and medium-sized enterprises. The number of respondents was pro-rated based on the total number of registered establishments per category.

Results and Discussion

Profile of Respondents

The 181 establishments that participated in the study are relatively "young" considering that 70.7% of them have been in operation only for the last 15 years. The modal classes among micro and small enterprises appear to be 1 to 10 years in operation. That of the medium-sized, however, tended to be in the 11 to 15 years in operation. The narrowest range and the lowest average were experienced by the micro-enterprises. Small enterprises exhibited the widest range while medium enterprises showed the highest mean years in operation. In total, the respondents had a range of 1 to 59 years in operation and a mean of 14 years.

Table 3. Years in Operation of Respondents

	Micro		Small		Medium		Total Respondents	
Years in Operation	Number of Est.*	% of Total	Number of Est.	% of Total	Number of Est.	% of Total	Number of Est.	% of Total
5 and less	35	32.1	9	20.9	4	13.8	48	26.5
6 to 10	35	32.1	8	18.6	3	10.3	46	25.4
10 to 15	16	14.7	8	18.6	8	27.6	32	17.7
16 to 20	11	10.1	6	13.9	4	13.8	21	11.6
21 to 25	7	6.4	2	4.7	-	-	9	5
26 and over	5	4.6	10	23.3	10	34.5	25	13.8
Total	109	100	43	100	29	100	181	100
Range	2 to 40		1 to 59		1 to 58		1 to 59	
Mean	10		17		21		14	

*Establishments

The modal class of Age of Owners across all types of enterprises is the age class 40 to 49 years old, which seems to indicate that engaging in entrepreneurship is preferred by the upper sub-stratum of the middle-aged. While there are owners of businesses in the under-20 age bracket among micro and medium entrepreneurs, none such is found among small business owners.

Table 4. Age of Owners

	Micro		Small		Medium		Total Respondents	
Age of Owners	Number of Establishments	% of Total	Number of Establishments	% of Total	Number of Establishments	% of Total	Number of Establishments	% of Total
Less than 20	2	1.8			1	3.4	3	1.7
21 - 29	7	6.4	4	9.3	2	6.9	13	7.2
30 - 39	30	27.5	9	20.9	6	20.7	45	24.9
40 - 49	49	45	12	27.9	9	31.1	70	38.7
50 - 59	14	12.9	10	23.3	5	17.2	29	16
60 and above	7	6.4	8	`18.6	6	20.7	21	11.5
Total	109	100	43	100	29	100	181	100

Expectedly, most of the MSME respondents have management and business-related degrees. However, some have engineering and other degrees.

Table 5. Educational Background of Owners

Educational Background	Micro		Small		Medium		Total Respondents	
	Number of Est.*	% of Total	Number of Est.	% of Total	Number of Est.	% of Total	Number of Est.	% of Total
Management and Business-Related	40	36.7	14	32.6	12	41.4	66	36.5
Engineering-Related	7	6.4	5	11.6			12	6.6
Social Science-Related	3	2.8			2	3.4	5	2.8
High School	7	6.4					7	3.8
Others	24	22	9	20.9			33	18.2
No Answer	28	25.7	15	34.9	15	55.2	58	32.1
Total	109	100	43	100	29	100	181	100

*Establishments

Form of Organization

Most of the micro and small enterprises are sole proprietorships. However, in the case of medium enterprises, most are corporations. This is probably because the capital required to support a medium enterprise is, generally, higher and may not be within the capability of most people. Consequently, most of them, usually members of the same family, band together and pool resources by forming a family corporation.

Table 6. Form of Organization among MSMEs

	Micro		Small		Medium		Total Respondents	
Form of Organization	Number of Est.*	% of Total	Number of Est.	% of Total	Number of Est.	% of Total	Number of Est.	% of Total
Sole proprietorship	83	76.1	19	44.2	6	20.7	108	59.7
Partnership	9	8.3	9	20.9	1	3.4	19	10.5
Corporation	17	15.6	15	34.9	20	69	52	28.7

Cooperative					2	6.9	2	1.1
Total	109	100	43	100	29	100	181	100

*Establishments

Participation in Industry Associations

Most owners of MSMEs are members of industry associations. This reflects the popular notion among small enterprises, as indicated in interviews of heads of MSMEs, that in unity they gain strength. This also tends to suggest the relative success of the campaign by agencies such as the Department of Trade and Industry, the National Economic Development Authority and the Regional Development Council for the different enterprises in the region to band together into industry associations as a necessary ingredient for the operationalization of the industry clustering strategy adopted by Region XI.

Table 7. Membership in Industry Associations

Membership in Industry Association	**Micro**		**Small**		**Medium**		**Total Respondents**	
	Number of Est.*	% of Total	Number of Est.	% of Total	Number of Est.	% of Total	Number of Est.	% of Total
Member	62	56.9	31	72.1	24	82.8	117	64.6
Not a Member	38	34.9	12	27.9	4	13.8	54	29.8
No answer	9	8.3			1	3.4	10	5.6
Total	109	100	43	100	29	100	181	100

*Establishments

Attendance in Trainings and Seminars

MSME owners seem to shy away from training, quite contrary to the expectations of training service providers, especially the volunteer business organizations who have been giving these seminars mostly on a pro bono basis. Especially worth noting is the fact that this aversion to training seems to be more prevalent among the micro and the small enterprises where these are, presumably, more needed.

Table 8. Attendance in Seminars

Attendance in Seminars and Trainings	Micro		Small		Medium		Total Respondents	
	Number of Est.*	% of Total	Number of Est.	% of Total	Number of Est.	% of Total	Number of Est.	% of Total
Attended	29	26.6	12	27.9	16	55.2	57	31.5
Not attended	78	71.6	29	67.4	13	44.8	120	66.3
No answer	2	1.8	2	4.7			4	2.2
Total	109	100	43	100	29	100	181	100

*Establishments

Sourcing of Requirements

The respondents generally source their requirements for raw materials, capital goods and human resources from within the city although a sizeable percentage of the requirements continue to be sourced from outside Davao City. The general pattern seems to suggest that the city may not be self-sufficient insofar as meeting the requirements of the city-based MSMEs is concerned. Furthermore, there appears a supply-demand gap which points to the existence of a business opportunity for “supplier entrepreneurs”, businessmen who will focus on supplying the requirements of other business entities in the city.

Table 9. Percentage Distribution of Requirement Sourcing By Respondents

	Micro	Small	Medium
Raw Materials			
Within Davao	46.8	25.6	13.8
Outside Davao	6.4	18.6	13.8
Both within and outside Davao	46.8	55.8	72.4
Total	100	100	100
Equipment and Other Capital Goods			
Within Davao	56.9	53.5	27.6
Outside Davao	2.8	7	6.9
Both within and outside Davao	40.3	39.5	65.5
Total	100	100	100
Human Resources			
Within Davao	76.1	67.4	75.9
Outside Davao	2.8	2.3	3.4
Both within and outside Davao	21.1	30.3	20.7
Total	100	100	100

The top three outside sources of the respondents for raw materials and capital goods are Manila, Davao del Norte, and Cebu. On the other hand, their top three sources of human resources are the neighboring provinces of Davao del Norte, Davao del Sur, Compostela Valley and the cities of Cebu and General Santos. Surprisingly, even Cebu City, generally regarded as probably having the most robust local economy in the Visayas and Mindanao, and, therefore, itself very much in dire need of human resources, is a source of the human resource requirement of MSMEs in Davao City.

Types of Businesses

Most of the respondents are engaged in the service business. While a number are involved in the production of goods, there seems to be a marked preference by them to engage in service providing enterprises.

Table 10. Revenue Sources of Respondents

Revenue Source	**Micro**		**Small**		**Medium**		**Total Respondents**	
	Number of Est.*	% of Total	Number of Est.	% of Total	Number of Est.	% of Total	Number of Est.	% of Total
Product	13	11.9	7	16.3	6	20.7	26	14.4
Process	8	7.3	2	4.7	2	6.9	12	6.6
Subcontracting	-	-	-	-	1	3.4	1	0.6
Service	84	77.1	29	67.4	16	55.3	129	71.2
Product and Service	3	2.8	5	11.6	3	10.3	11	6.1
Process and Service	1	0.9	-	-	1	3.4	2	1.1
Total	109	100	43	100	29	100	181	100

*Establishments

Marketing Practices

A large number of respondents (65.2%) did not rely on marketing tools to generate revenues. Among micro-enterprises, 75.2% claim that they do not rely on marketing tools to generate their revenue stream while 51.2% and 48.3% of the small and medium-sized enterprises, respectively, make the same claim. Interestingly, among medium enterprises, there is a higher percentage of those who rely on marketing tools (51.7%) than those who do not (48.3%) indicating a more "matured" way of looking at the marketing function among medium enterprises than by their smaller-sized counterparts.

Table 11. Use of Marketing Tools by Respondents

Use of Marketing Tools	**Micro**		**Small**		**Medium**		**Total Respondents**	
	Number of Est.*	% of Total	Number of Est.	% of Total	Number of Est.	% of Total	Number of Est.	% of Total
Yes	27	24.8	20	46.5	15	51.7	62	34.2
No	82	75.2	22	51.2	14	48.3	118	65.2
No answer	-	-	1	2.3	-	-	1	0.6
Total	109	100	43	100	29	100	181	100

*Establishment

Among the 62 respondents who employed marketing tools, the top five most frequently used tools are newspaper advertising, brochures, radio advertising, and television advertising for micro-enterprises; brochures, yellow pages, newspaper advertising, radio advertising and television advertising for small businesses; and brochures, events marketing, newspaper advertising, radio advertising and billboards for medium-sized companies. It may be worth noting that medium-sized enterprises employ internet-based advertising to market their products and services. This suggests a leveling-up in sophistication by medium-sized companies relative to the marketing function.

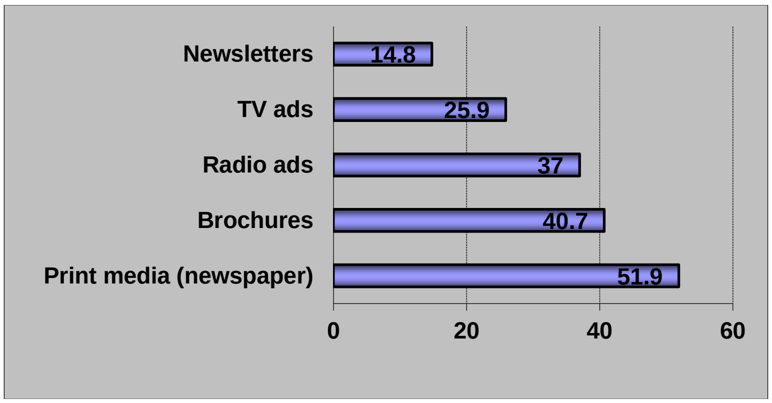

Figure 1. Five leading marketing tools used by micro-sized enterprise

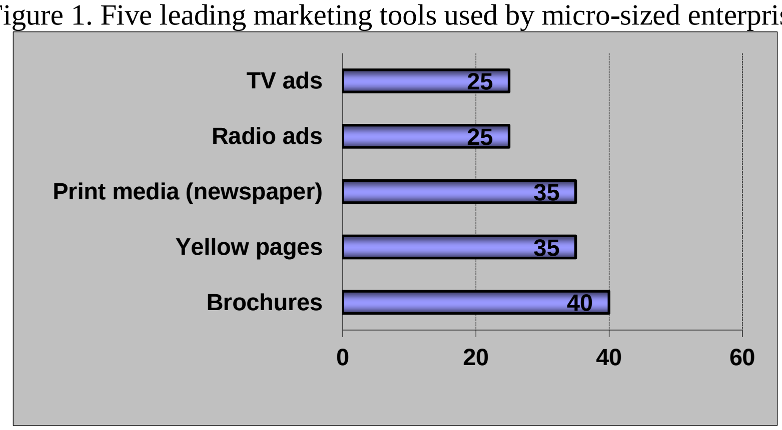

Figure 2. Five leading marketing tools used by small-sized enterprise

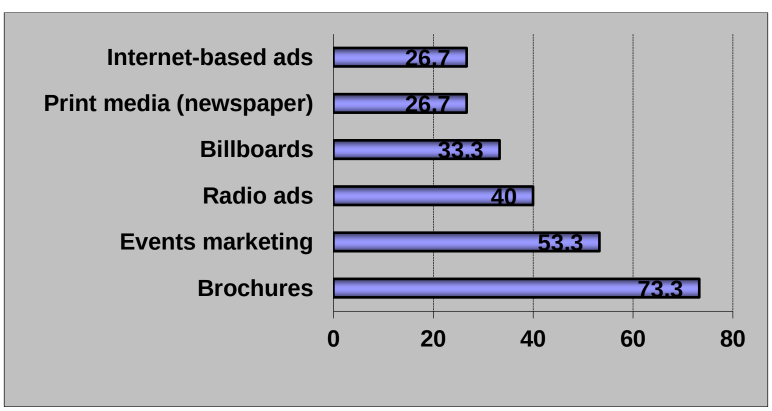

Figure 3. Five leading marketing tools used by medium-sized enterprise

Most of the respondents in this study indicated that they have not joined trade fairs. Specifically, 84.4% of the micro-enterprises, 74.4% of the small businesses and 57.1% of the medium enterprises made this assertion.

Table 12. Participation in Trade Fairs by Respondents

	Micro		Small		Medium		Total Respondents	
Participation in Trade Fairs	Number of Establishments	% of Total	Number of Establishments	% of Total	Number of Establishments	% of Total	Number of Establishments	% of Total
Yes	17	15.6	11	25.6	12	41.4	40	22.1
No	92	84.4	32	74.4	16	55.2	140	77.3
No answer	-	-	-	-	1	3.4	1	0.6
Total	109	100	43	100	29	100	181	100

Sources of Financing

Generally, the respondent enterprises seem averse to bank loans to finance their operations. This aversion seemed inversely related to the size of the enterprise with the highest shown among micro-enterprises (80.7%), followed by small enterprises (69.8%), and the lowest being exhibited by medium enterprises (58.6%).

Table 13. Availment of Bank Loans by Respondents

Availment of Bank Loans	Micro		Small		Medium		Total Respondents	
	Number of Est.*	% of Total	Number of Est.*	% of Total	Number of Est.	% of Total	Number of Est.	% of Total
Yes	20	18.3	13	30.2	12	41.4	45	24.8
No	88	80.7	30	69.8	17	58.6	135	74.6
No Answer	1	1	-	-	-	-	1	0.6
Total	109	100	43	100	29	100	181	100

*Establishments

The respondents claim that most of their financial support comes from their families and friends. It appears, though, that the medium-sized firms are not as reliant on family and friends as financial sources as the micro and small enterprises are.

Table 14. Non-Bank Sources of Financing of Respondents

Non-Bank	Micro		Small		Medium		Total Respondents	
Source of Financing	Number of Est.*	% of Total	Number of Est.	% of Total	Number of Est.	% of Total	Number of Est.	% of Total
Family	47	53.4	17	56.7	8	47.1	72	53.3
Friends	16	18.2	2	6.7	1	5.9	19	14.1
NGOs	18	20.4	5	16.7	3	17.6	26	19.3
Others	7	8	6	19.9	5	29.4	18	13.3
Total	88	100	30	100	17	100	135	100

*Establishments

Financial Policies

MSMEs make use of financial tools to make business decisions, although most adhere to rules-of-thumb. When interviewed, some respondents claimed that they generally adopt the following rules-of-thumb when acquiring land, buildings and major equipment: for land, an average payback period ranging from 1 to 20 years, Accounting Rate of Return (ARR) of 18%, and Internal Rate of Return (IRR) of 25%; for buildings, an average payback period also ranging from 1 to 20 years, ARR of 18%, and IRR of 25%; for major equipment, an average payback period ranging from 1 to 50 years, ARR ranging from 15 to 30%, and IRR of 15%.

However, financial reporting still leaves a lot to be desired. Most micro and small-sized enterprises do not prepare financial reports. The same observation may not be quite as true in the case of medium-sized enterprises, though.

Entrepreneurs at the micro-level appear to be cash-driven. The prevalence of cash budgeting and reporting of cash position, receipts and payment suggest a preoccupation with managing the cash account rather than engagement in the broader aspect of working capital management. The fact that control reports, such as reports on delinquent accounts and aging schedules, are not prepared by most tend to further support this assessment.

Table 15. Financial Reporting Practices of Micro Enterprises

	Yes		**No**		**No Answer**	
Financial Reporting Practices	Number of Est.*	% of Total*	Number of Est.	% of Total*	Number of Est.	% of Total*
Cash budget	84	77	22	20.2	3	2.8
Periodic report of cash position, receipts and payment	83	76.1	23	21.1	3	2.8
Percentage of collection of accounts receivables	34	31.2	71	65.1	4	3.7
Report of delinquent accounts and accounts are written off	25	22.9	81	74.3	3	2.8
Aging schedule of accounts receivable and accounts payable	28	25.7	75	68.8	6	5.5
Aging schedule of advances to officers	23	21.1	82	75.2	4	3.7
Aging schedule of advances to employees	18	16.5	87	79.8	4	3.7

*Percent based on a total of 109 respondents
*Establishments

Respondents managing small business enterprises appear to adhere more to financial reporting practices than the micro-entrepreneurs do. However, while generally exhibiting higher percentages of the utilization of financial reports than micro-enterprises, still, as a sector, their utilization of financial reports falls short of what could be considered as "prevalent" in all aspects.

Table 16. Financial Reporting Practices of Small Enterprises

Financial Reporting Practices	Yes		No		No Answer	
	Number of Est.*	% of Total*	Number of Est.	% of Total*	Number of Est.	% of Total*
Cash budget	34	79.1	9	20.9	-	-
Periodic report of cash position, receipts and payment	40	93	3	7	-	-
Percentage of collection of accounts receivables	28	65.1	14	32.6	1	2.3
Report of delinquent accounts and accounts are written off	18	41.9	23	53.5	2	4.6
Aging schedule of accounts receivable and accounts payable	21	48.8	22	51.2	-	-
Aging schedule of advances to officers	11	25.6	31	72.1	1	2.3
Aging schedule of advances to employees	13	30.2	28	65.2	2	4.6

*Percent based on a total of 43 respondents
*Establishments

The prevailing practice among managers of medium enterprises is adherence to financial reporting practices. They rated above 50% in all of the financial reporting practices, indicating that this sector tends to be more compliant with what is considered as generally accepted practices of financial reporting.

Table 17. Financial Reporting Practices of Medium Enterprises

Financial Reporting Practices	Yes		No		No Answer	
	Number of Est.	% of Total*	Number of Est.	% of Total*	Number of Est.	% of Total*
Cash budget	27	93.1	2	6.9	-	-
Periodic report of cash position, receipts, payment	28	96.6	1	3.4	-	-
Percentage of collection of accounts receivables	24	82.8	3	10.3	2	6.9
Report of delinquent accounts and accounts are written off	23	79.3	4	13.8	2	6.9
Aging schedule of accounts receivable and accounts payable	20	69	7	24.1	2	6.9
Aging schedule of advances to officers	16	55.2	12	41.4	1	3.4
Aging schedule of advances to employees	16	55.2	12	41.4	1	3.4

*Percent based on a total of 29 respondents
*Establishments

Accounting System Adopted

The prevalent accounting system adopted by the respondents appears to be the "conceptually deficient" cash basis accounting system, instead of the more acceptable and "conceptually sound" accrual basis. While this is admittedly more prevalent among micro and small enterprises, still, even among medium-sized enterprises, the difference between those that use cash basis accounting (44.8%) and those who employ accrual basis accounting (51.7%) is rather marginal.

Table 18. Percent of Respondents Adopting an Accounting System

	Micro	Small	Medium
Cash Basis	74.3	60.5	44.8
Accrual Basis	22.9	34.9	51.7
No Answer	2.8	4.6	3.5
Total	100	100	100

The level of maturity of businessmen may be gauged by their adherence to the principle of transparency. One test of transparency is the willingness of the businessman to show his financial statement. In this regard, the respondents proved to be less than forthcoming. When asked, an overwhelming majority across all the three types of MSMEs indicated that they were not willing to show their financial statements. Given that transparency is regarded as a worldwide best practice among businesses, such attitude may hurt the chances of local MSMEs to participate in the global marketplace.

Table 19. Percent of Respondents Willing to Show Financial Statement

	Micro	Small	Medium
Willing To Show	3.7	2.3	3.4
Not Willing To Show	95.4	93	96.6
No Answer	0.9	4.7	3.5
Total	100	100	100

Analysis of Business Performance

The business performance of the respondent companies was measured by Return on Equity (ROE). ROE was analyzed using the Du Pont technique which asserts that business performance (measured by ROE) is a combination of a firm's operational efficiency(measured by Return on Sales or ROS), its marketing excellence (measured by Asset Turnover or A T/O), and financial prudence (measured by the Equity Multiplier or EM). Mathematically, ROE is equal to the product of ROS multiplied by A T/O and EM.

Among the respondents, the medium enterprises registered the highest ROS of 56% while the small enterprises were lowest at 13%. Micro enterprises, which had the highest representation of respondents, had a ROS of 16%.

Micro enterprises generated the highest A T/O at .42 times while the medium-sized enterprises generated the lowest at .13 times. The A T/O of small businesses was midway at .21 times.

Among the respondents, the micro-enterprises displayed the lowest EM at 1.12 times (indicating the highest level of risk aversion). The medium enterprises come next at an EM of 1.18 times. The highest EM (yet, nonetheless, still relatively low) at 1.36 times was displayed by small enterprises.

The medium enterprises exhibited the highest ROE at 8.6%. This was followed by the ROE of 7.5% earned by micro-enterprises. The lowest-earning were the small enterprises that posted a ROE of only 3.7%.

The driver of the business performance of the respondents appears to be operating efficiency as expressed in the ROS. This is revealed by the performance of the medium enterprises the ROS of which was almost four times that of micro and small enterprises. Consequently, it had the highest ROE despite its smaller A T/O and EM. The Du Pont Chart below also demonstrates that too much risk aversion may not necessarily be a good thing. The comparatively low EMs of the respondent-MSMEs resulted in a retardation of their ROE potentials. For example, if they were more aggressive and relied more on debt than equity to finance their operations such that their EMs were raised to, say, 2, the resulting ROE would have been higher.

Table 20. Du Pont Chart of Respondents

	Micro	**Small**	**Medium**
Return on Sales	0.16	0.13	0.56
Asset Turnover	0.42	0.21	0.13
Equity Multiplier	1.12	1.36	1.18
Return on Equity	.075	.037	.086

Conclusions

This study sought to identify the business practices that prevail among MSMEs operating in Davao City, to evaluate the business performance of these MSMEs and to assess the state of readiness of local MSMEs to become global players.

Below is a recapitulation of the observations and insights gleaned from the foregoing analysis:

- The share of sole proprietorships in the mix of business organizations decreases as firms grow in size. There are more sole proprietorships among micro-enterprises than there are among medium enterprises.
- Local entrepreneurs now seem to realize the strength that comes from numbers. Membership in industry associations allows the small enterprise to acquire muscle from collective strength.
- There is an apparent need to further intensify the efforts to upgrade the skills and competencies, especially among micro-entrepreneurs to enhance their ability to become global players. Of course, our local entrepreneurs must also, by themselves, cultivate enthusiasm for knowledge acquisition and competency-upgrading.
- There is an opportunity to cultivate “supplier enterprises” of raw materials and capital goods that will meet the requirements of local entrepreneurs given that there seems to be a significant amount of these that are sourced out of the city.
- Most MSMEs are in the service business. Hence, any initiative to “globalize” may have to consider the competencies already acquired in service businesses.

- Web-based advertising does not yet have adherents among micro and small enterprises. However, medium enterprises seem to be blazing the trail. Print (to include newspaper ads, phone directories, and brochures) seem to be the most popular.
- There is more participation in trade fairs among medium than there are among micro and small enterprises. Even among medium enterprises, those who claimed to have joined trade fairs are less than half of the sub-sector.
- The more conceptually sound accrual-based accounting is not popularly practiced. This tends to suggest that there may be distortions in the financial information being employed for decision-making.
- If willingness to show one's financial statement is a test of transparency, then, attitudinally, our MSMEs fail miserably as 95% of them do not want to show their financial statements. This weak adherence to the principle of transparency indicate some degree of immaturity.
- Bank borrowing is not generally resorted to although debt-aversion seems to be inversely related to business size. Family and friends are the most popular sources of financing.
- Medium enterprises are the best performers given that they have the highest ROE.
- Medium enterprises appear to be the most operationally efficient as they exhibit the highest ROS. This is probably because their larger asset-based allows them to better avail of economies of scale and scope.
- Micro enterprises seem to exhibit better ability to generate sales per peso of assets invested in the enterprise. Its asset turnover of .42 is almost four times the .13 A T/O of the medium enterprises.
- The generally low equity multiplier accentuates the debt-aversion among MSMEs observed earlier. However, on a more positive note, it should also be pointed out that this indicates that the sector possesses the flexibility to choose debt as a financing option should the need arise.

What do these tell us about the state of readiness of these MSME players to take on the global marketplace? We make the general conclusion that, given its present state of affairs, the MSME sector will still have to do a lot more in terms of organization, building up its financial muscle and sophistication in the way they run their businesses if they are to become global players.

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