PHYSICAL MOBILITY OF SENIOR CITIZENS FOR HEALTH SUSTAINABILITY

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JONAS P. FABILLAR

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APPROVAL SHEET

In partial fulfillment of the requirements for the degree, **MASTER OF ARTS IN EDUCATION**, this thesis entitled **"PHYSICAL MOBILITY OF SENIOR CITIZENS FOR HEALTH SUSTANABILITY"** has been prepared and submitted by **JONAS P. FABILLAR** who, having passed the comprehensive examination and pre-oral defense, is hereby recommended for final oral examination.

RHEAJANE A. ROSALES, R.N., D.M.
Director, Institutional Ethics Review Committee
Adviser

May 29, 2020
Date

Approved by the Committee on Oral Examination on **May 29, 2020** with a rating of **PASSED**.

ESTEBAN A. MALINDOG JR., Ph.D.
Dean, Graduate School
Chairperson

FELISA E. GOMBA, Ph.D.
Vice President for Academic Affairs
Member

FLORABELLE D. PATOSA, Ph.D.
Dean, College of Arts and Sciences
Member

RANDY E. PACADALJEN, Ed.D.
Director, SDCAP
Member

Accepted and approved in partial fulfillment of the requirements for the degree, **Master of Arts in Education (M.A.Ed.)**, major in **Music, Arts, and Physical Education (M.A.P.E.)**.

ESTEBAN A. MALINDOG, JR., Ph.D.
Dean, Graduate School

May 29, 2020
Date

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Damo nga Salamat!

The Researcher

DEDICATION

This study is humbly dedicated to the Graduate School Faculty, Students and Researchers.

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ABSTRACT

This study entitled "Physical Mobility of Senior Citizen for Health Sustainability" aimed to develop a physical mobility intervention program for senior citizens of Paranas, Samar. Philippines. This study employed a descriptive-correlation research design to provide a better and deeper approach to the study. In addition, inputs from the study were the bases in creating a physical mobility-health program to be implemented. The results is all of the respondents does not engage much bone strengthening activity such as outdoor pursuit or recreation and no respondents uses resistance bands and goes to gym. Further, it also be gleaned that five respondents out of 39 or 12.82 percent participates in Yoga exercises daily while two out of 39 respondents or 5.12 percent does mediation exercises every day. For the conclusions, all of the respondents does not engage in bone-strengthening activities such as outdoor pursuit and outdoor recreation. Majority of the respondents are assisted in walking eating in doing household chores. To end, the researchers suggested that people with ages 65 above must engage to activities improve their motor response through leisure-time physical activities such walking, dancing, gardening, hiking, swimming, and the like. In terms of transportation activity, they are encouraged to goon cycling or biking, and boost their capacity to do household chores and sports or planned exercises.

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Chapter 1

THE PROBLEM AND ITS SETTING

Introduction

"Longevity is not about luck it is about how willing we are to put effort for it." The lack of mobility due to aging for example, may result to physical and mental disorders which in the long term, will restrict people to doing something physically, socially and mentally. One major determinants of physical inactivity is the inability of the body itself to function fully. In addition, physical mobility may be affected by many factors such as trauma, spinal cord injury and other chronic diseases it can also be found generally in the aging masses (Asp, Simonsson, Larm, & Molarius, 2017).

The rising health problems is very alarming. In a report by Department of Health (DOH) in the year 2019, found out that more than five people die for every one thousand populations which mostly are aging from 65-70 years old and above. And one of the ten leading causes is the disease of the heart.

With the trend in technology dependency and the aging of the baby boomer population, their generation is accompanied with disability and is expected to further increase in the future (Rosenberg, Bombardier & Belza, 2011). The current state of physical mobility for aging persons need intervention programs that could at least, maintain their healthy well-being.

Physical activity is a behavior that has strong positive effects on mental, physical and cognitive aspects. The benefit of indulgence in a variety of physical activity across age groups is evident based on findings and results of research studies. Therefore, efforts to maintain physical activity among senior citizens to help eradicate secondary illness. Mobility Disability according to Patla and Shumway-Cook (2002) is "when impairments in mobility restrict the ability of individuals to move about in their environment to carry out activities that are essential to daily life.

This study adheres to helping senior citizens (60-80 years old) maintain their functional and healthy self even after retirement by assessing their physical mobility for health sustainability. Currently, there is an existing health program by the Department of Health (DOH) like free consultation and medication to senior citizens but this program lacks sustainability. Hence, the conduct of this study is deemed necessary.

Statement of the Problem

This study entitled "Physical Mobility of Senior Citizens for Health Sustainability" aimed to develop a physical mobility intervention program for senior citizens of Paranas, Samar, Philippines.

Specifically, the study sought answers to the following questions:

1. What is the profile of the respondents in terms of the following variates:

1.1 Age & Sex;

1.2 Employment Status;

1.3 Average monthly family income;

1.4 Highest educational attainment;

1.5 Affiliation to organizations; and

1.6 Health conditions?

2. What is the lifestyle of the respondents?

3. Is there a significant relationship between the respondent's lifestyle and their profile?

4. What are the physical mobility level of the respondents?

5. Is there a significant relationship between the respondent's level of physical mobility and their profile variates?

6. Is there a significant relationship between the respondent's lifestyle and level of physical mobility?

7. What physical mobility intervention program of senior citizens can be derived from the study?

Hypotheses

Based on the questions posted above, the null hypotheses were tested in this study:

1. There is no significant relationship between the respondent's lifestyle and their profile.

2. There is no significant relationship between the respondent's level of physical mobility and their profile variates.

3. There is no significant relationship between the respondent's lifestyle and level of physical mobility.

Conceptual Framework

The conceptualization of this study "Physical Mobility of Senior Citizens for Health Sustainability" is shown in Figure 1. The first circle at the bottom represents the senior-citizen respondents in Paranas, Samar in the year 2019-2020. The line connecting to the upper left frame, pointing out the personal profile variables of the respondents which is age & sex, employment status, average monthly income, highest educational attainment, affiliation to organizations and health conditions. The middle frame represents the lifestyle of respondents in terms of diet, alcohol intake and smoking. The upper right frame is the survey on Physical Mobility with a connecting arrow at the center showing its interconnection to the personal profile and lifestyle. The above box, represents the results of the study.

The last circle at the top represents the purpose of the study which is Implementation/Development of Physical Mobility Program of Senior Citizens for Health Sustainability.

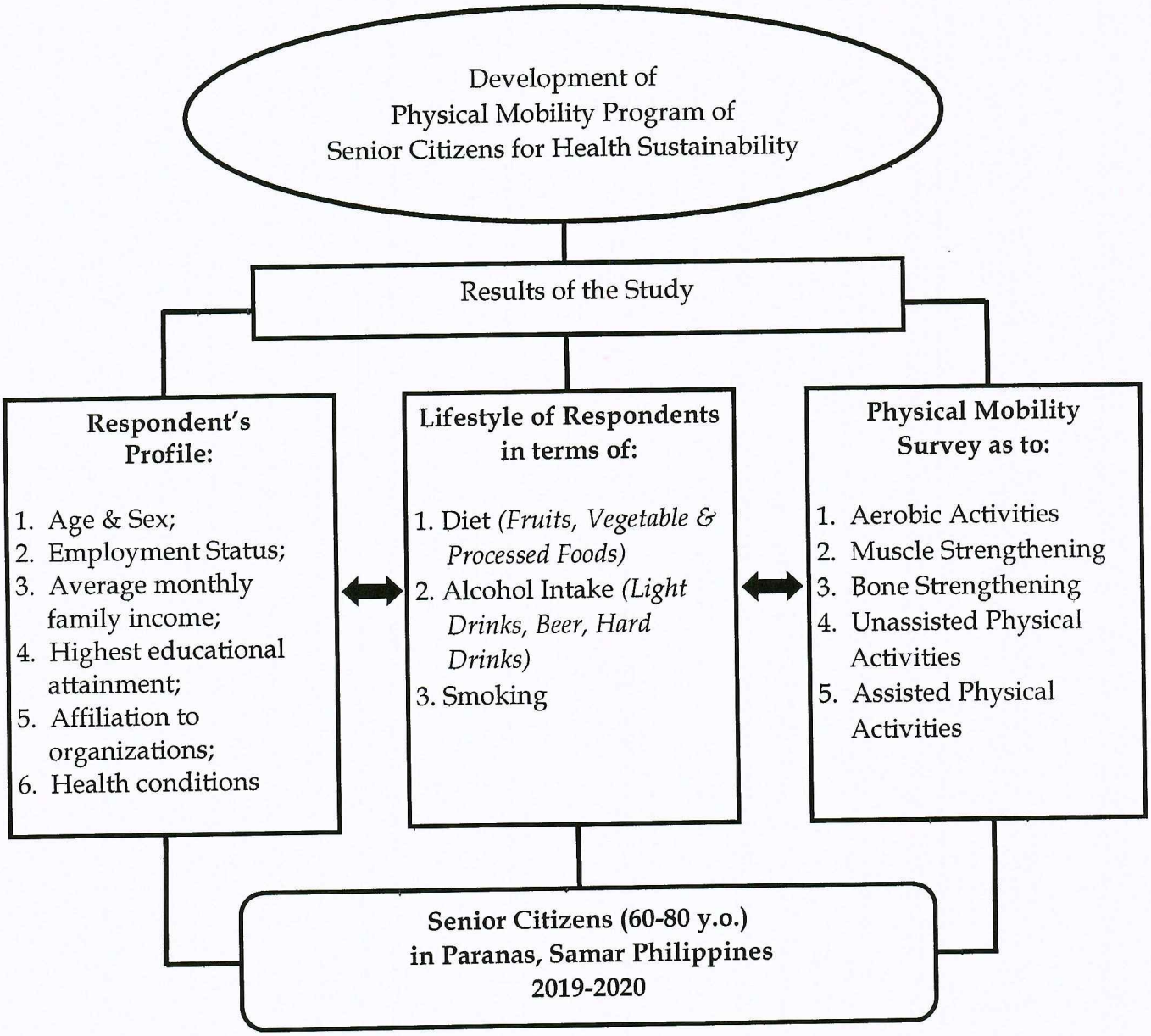

Figure 1. Conceptual Framework of the Study

Theoretical Framework

This study is anchored on Ecological Model of Adaptation (Lawton Namehow & Rowles, 1983) in older adults which laid the theoretical foundation for examining an individual's ability to interact successfully with the demands of the environment. According to the model, matching levels of competence with the demands of the environment begets well-being and establishes independence. In which, early work related to mobility in older adults was largely focused on the environment and the role of the person – environment fit.

The above theory emphasizes that older adults' interaction with the environment has something to do with his competence and well-being to establish independence in physical mobility. Further, this theory also points out the role of an individual in the society as a major factor attributed to physical mobility among older adults.

In addition, Rose (2005) also proposed a theoretical framework for balance and mobility relevant to older adults in support to the abovementioned theory. This framework includes consideration of the interrelationships among individual capabilities, environmental constraints and task demands. Similar factors were included in the theory of driver's behavior proposed by Fuller (2005), which involves driving task demands and driver's capabilities (physical, cognitive and psychological characteristics) and recognizes that environmental factors, compensatory strategies and driver's perception influence the driver's action.

This study proved whether the abovementioned theory contribute to the utilization or implementation of physical mobility program for health sustainability of old age citizens. This study further verified if the theory is effective and feasible towards the implementation of the program.

Significance of the Study

This study would strengthen, support and sustain the health programs of Rural Health Unit (RHU) in Paranas, Samar. The results of this study would be beneficial to Senior Citizens being its respondents, Rural Health Workers, Government Officials, the Community and researchers.

Senior Citizens. They would be encouraged to maintain a healthy lifestyle with the implementation of the physical mobility intervention program to sustain their health to a happy, longer and fuller life.

Rural Health Workers. As an implementing agency of the program, they will be encouraged to strengthen it and support it.

Government Officials. The government officials would be encouraged to support, frame and implement policies of physical mobility program for health sustainability for the senior citizens within the locality. They would also be able to promote meaningful living by aiding the elderly through this program.

Community. The community would be inspired to support the educational system for the betterment of the citizens. With programs like this that aimed to

promote well-being of its people, surely, the realization of the program will be feasible.

Researchers. Results from this study would be a very good input to conducting further and deeper studies through different research styles to better come up with a more valid, in-depth and realistic physical mobility research.

Scope and Delimitation

This study utilized a descriptive research design in the assessment of the physical mobility level and lifestyle of the respondents. Furthermore, correlation analysis was employed in determining the relationships among the variables. Senior citizens in Paranas, Samar were the respondents of the study.

The researcher used questionnaire as its principal data-gathering instrument. Standardized tools for assessing the physical mobility and lifestyle of the respondents was used. The data was gathered, sorted and was be interpreted using appropriate statistical tool for descriptive research.

Afterward, based on the results of the study, the researcher crafted a physical mobility intervention program for health sustainability of senior citizens.

Definition of Terms

The terms below are defined conceptually and operationally. The following terms are defined to give clear understanding to the readers on how these terms used in the study.

Health Sustainability. This term refers to a sustainable health care system that is achieved by delivering high quality care and improved public health without exhausting natural resources or causing ecological damage *(https://www.sduhealth.org.uk)*. This term, in this study refers to the aim of the research which is to sustain health of senior citizens.

Intervention Program. This term refers to the combination of elements or strategies designed to produce behavioral changes or improve health status among individuals or an entire population. It may include educational program, stronger policies, environmental improvements or a health promotion campaign *(https://health.mo.gov)*. This term is used in this study as it deals with how the program was implemented based on the results.

Lifestyle. This term refers to someone's way of living, for example the things they usually do, where they live, what they spend their money on, etcetera *(https://dictionary.cambridge.org/us/dictionary/english/lifestyle)*. This term as used in the study refers to the respondent's lifestyles in terms of diet, alcohol intake and smoking.

Physical Mobility. This term refers to the ability to move from one place to another place or their environment *(https://psychology.wikia.org)*. This term is used in the study as it deals with the respondent's capacity to move themselves at home, work and their environment.

Senior Citizen. This term refers to an elderly person, usually retired and is living on a pension (*https://dictionary.cambridge.org*). This term is used in this study as it refers persons aging 60 years old and above as respondents of this study.

Chapter 2

REVIEW OF RELATED LITERATURE AND STUDIES

This section of the research enumerates and discusses ideas about the professional quality of life of nurses, and all other topics associated with the nursing profession, taken from books, journals, magazines, periodicals, and other published materials which the researcher deemed relevant to the present research. This section likewise consists of salient findings, conclusions, and significant implications of previously conducted researches found relevant to the present research.

Related Literature

Over the past few years, mobility had been directly and indirectly affecting older adults. And most of time, they are being taken care less than more than the young ones. With the advent of technology, physical activity and mobility can now be assessed by wearable and portable technologies.

Shumway-Cook et al., (2005) introduced a mobility continuum that portrayed the positive relationship between independent walking tolerance and access to the community. They presented a framework centered around physical and environmental factors and their influence on walking. Minimum walking distance, time, ambient conditions, terrain characteristics, external physical loads,

attention demands, postural transitions and traffic levels were conceptualized as eight spokes on mobility wheel.

In the field of rehabilitation medicine, instead of measuring the physical activity of a person it is more common to test the ability to perform activities for daily living and measure of distal outcomes such as community integration. Some measures of physical activity might be available such as accelerometers and other technology to detect all types of physical activity. Still, this technology needs to be placed or worn on the wrist or waist to measure movements.

Hence, current research has established the importance of daily awakenings, spontaneous breathing trials, and delirium/sedation management along with mobility protocols, very little research discusses the use of early mobility protocols to improve patient outcomes, and there are many remaining gaps in the literature. The protocols that are available in the literature do not provide enough details for replication. This is especially concerning since the importance of mobility has been established. Mobility protocols are essential that Critical Care Clinics (2007) devoted an entire issue addressing the barriers and facilitators of protocol intervention.

Promoting healthy aging among people who already have mobility problems has been sadly neglected. This is because much is given emphasis with aging population who are free of mobility disability. Crafting a model that promote development and maintenance of mental, social and physical well-being to help them to function fully in their daily lives.

The Conical Model for mobility in older adults illustrates seven life-space locations that include a.) room, b.) home, c.) outdoors, d.) neighborhood, e.) service community, f.) surrounding area and g.) world. Each of them comprises mobility determinants related to cognitive, psychosocial, physical, environmental and financial factors. Financial factors directly influence mobility and interacts with other key determinants to affect overall mobility status.

The International Classification of Function (ICF) framework clearly defines health conditions that can lead to bodily function and structure, physical activity and participation alteration as diseases, disorders, injuries, aging and congenital. Hence, mobility disability can be used by many reasons therefore we should not single-out specific factors affecting physical mobility disability. The health benefits of active lifestyle among populations without disability appear to be similar to persons with mobility disability (Rosenberg et al., 2011).

Currently, a new approach to improve critical care patient outcomes has been proposed using evidence-based practice. These include an awakening and breathing coordination, delirium monitoring and management, and early mobility protocol that can be used in everyday clinical practice. To ensure successful implementation, this program requires leadership, communication, and independence from trained staff to adapt these protocols to specific critical care environments. The nurse is key to successful implementation of these critical care or protocols in an intensive care unit as the communication connection between patients and physicians. The use of effective program requires daily consideration

for every critical care patient in the critical care unit due to potential patient condition changes (Balas et al., 2012).

In addition, Functional Mobility is defined as defined as the manner in which people are able to move around in their environment to participate the activities of daily living and move from place to place. Movements include standing, bending, walking and climbing. Functional mobility provides opportunity for a person to engage in activities at home, school and community thereby contributing to overall quality of life. This engagement is labeled as Participation in the International Classification and Functioning and Disability (ICF). The ICF, is developed by World Health Organization (WHO) to provide a universal framework and describe how people live with health conditions such as obesity (Forhan & Gill, 2013).

The availability of reliable and valid devices is the key to assessing the effects of mobility interventions. Many of the devices used to document changes in physical response in the studies used were developed for individuals with chronic disorders who are assumed to be at a higher functionality level than patients. These devices, therefore, may have limitations for studying a certain population. Each instrument needs further evaluation and possible modification to insure that it can detect significant clinical changes. The development of more sensitive tools that benefit to this crucial area of research (Choi et al., 2014).

Mobility loss has huge effects on the health and quality of life of older adults. Immobility rapidly leads to loss of muscle mass and strength. Older adults,

who often enter the hospital with lower baseline muscle strength and mass than younger adults, can lose 5.00 percent to 10.00 percent of muscle strength per week of bed rest during hospitalization. Immobility also can lead to ongoing declines in function—more than one-third of adults aged 70 and older are discharged from the hospital with a major disability that was not present before admission, and the effects of deconditioning and weakness can extend well beyond the hospitalization. Further, low mobility, defined as being restricted to bed or transferring only from bed to chair, has been associated with a reduction in life-space, which is defined as the extent of a person's movement and is a measure of community mobility and social participation. 6,9 Mobility loss is associated with longer ventilator days; longer hospital stays; and adverse outcomes during and after hospitalization, including falls, declines in activities of daily living (ADL), and nursing home placement. Therefore, mobility loss is crucial in "cascading" to dependency. It is also associated with decline in caregiver health and higher acute and post-acute care costs (Wald et al., 2014).

According to World Health Organization (WHO), it is scientifically important to be informed about the types of activities outlined by the FITT Principle (Frequency, Intensity, Type and Time) these recommendations are necessary to produce health benefits. Furthermore, WHO also endorses the "Global Recommendations on Physical Activity for Health", which addresses three groups a.) 5-17 years old, b.) 18-64 years old and c.) 65 years old and above. These age groups are classified according to the nature and availability of scientific

evidence related to preventing non-communicable diseases through physical activity. For older adults aging 65 years old and above, they should at least participate in 150 minutes of moderate-intensity aerobic physical activity throughout the week or at least 75 minutes of vigorous-intensity aerobic physical activity throughout the week or an equivalent of combination of both.

All in all, the aforementioned literature supports the present study on physical mobility of senior citizens in aspects such as self-mobility, environmental mobility and travel mobility and their effects.

Related Studies

A study by Choi, Tasota & Hoffman (2008) in 100 older hospitalized adults, community mobility, as measured by life-space assessment, 30 days after hospital discharge improved in those randomized to a progressive mobility protocol and a behavioral intervention consisting of daily goal-setting, identification of barriers to mobilization and solutions, and a diary for self-monitoring, whereas participants assigned to usual care experienced a clinically meaningful decline.

This study relates to the present study since it is about adults that received mobility protocol and behavioral intervention program. The same with the present study that aimed to sustain health of senior citizens.

Studies of progressive mobility protocols have been small, they suggest that protocols aimed at assessing and improving mobility lead to positive outcomes. In the Strategies to Reduce Injuries and Develop Confidence in Elders Study, hospital

stays were shorter, and participants who underwent mobility assessments within 24 hours of hospital admission, were educated on the importance of ambulation, and ambulated 20 minutes per hospital day were more likely to be discharged home than to a skilled nursing facility than demographically matched controls. The above study is related to the present study since it deals with elders who underwent mobility assessment and aimed to improve health of senior citizens.

Likewise Arm Exercise Arm exercise consists of two types: (a) supported arm exercise, using arm ergometry and (b) unsupported arm exercise, using free weights or stretch bands. In patients with COPD, both supported and unsupported arm exercise have been shown to improve arm endurance and the potential benefits of an arm exercise program in patients on PMV have received limited study. Three of the reviewed studies include supported arm exercise (U. J. Martin et al., 2005) or unsupported arm exercise (Chiang et al., 2006) as a component of whole body physical therapy. Although it is not possible to independently evaluate the contribution of arm exercise, all three studies provide support for benefit. Notably, Martin et al., (2005) reported that an increase of one point in upper extremity motor strength score resulted in a seven-day reduction in weaning time.

This study also relates to the present study as it deals exercises, supported and unsupported to adults. While in this study, it was in a form of a mobility intervention program.

Skeletal muscle weakness and, consequently, decreased functional status are widely recognized problems in persons on bed rest and receiving PMV (Larsson, 2007). The major cause of these problems is a decrease in both skeletal muscle strength and mass because of disuse. In healthy adults, approximately 45.00 percent of total body weight consists of muscle (Topp, Ditmyer, King, Doherty, & Hornyak, 2002). During absolute bed rest, muscle mass decreases by up to 5.00 percent per week (Bloomfield, 1997). With such a decrease in muscle mass, skeletal muscle strength decreases by 1.00–1.50 percent per day (De Jonghe et al., 2002; Siebens, Aronow, Edwards & Ghasemi, 2000, and Topp et al., 2002) and by a total of 40.00 percent during the first week (Topp et al., 2002). Other factors that can cause muscular weakness include catabolism from the underlying illness, poor nutritional status, and medications, for example neuromuscular blockade or corticosteroids (Kim et al., 2006).

The aforementioned study is related to the study since it deals with functionality and mobility of muscles in a form of activity and exercise. Just like the present study, this developed a program in a form of a mobility to sustain health of senior citizens.

Furthermore, Vazquez et al., (2014) showed, from the National Health & Examination Survey that among 5,304 adults aged 60 and above, overweight and obesity are associated with impaired physical mobility regardless of physical activity. To consider the preventive effects of physical activity knowledge is needed whether physical activity is differently associated among elderly with

obesity. A study on mobility impairment that was based on responses to questions about walking ability and function including difficulty walking two or three blocks, obtaining help for walking from another person, or using assistive devices to walk. Difficulty was based on hierarchy in which people were classified whether they have mild, moderate or severe mobility limitations. All in all, 28.30 percent of the Medicare respondents had moderate to severe functional impairments. And the cause of the mobility disabilities was diverse and span a variety of health conditions. Where mobility disabilities has been highest for those musculoskeletal illnesses, followed by neurological disorders, heart diseases, lung diseases, diabetes and cancer.

The above study also relates to the present study since it is about obesity that is highly associated with physical mobility. Further, it classified mobility as to mild, moderate and severe. Likewise, in the present study it assessed the physical mobility of senior citizens.

In addition, Kaplan et al., (2003) investigated the independent associations of physical activity and physical mobility using the data from Canadian National Population Health Survey for adults 65 years old and above. They found independent associations between community-dwelling older adults on physical mobility, physical activity and obesity. However, the study did not assess the independent association between physical activity and obesity was also similar among those with or without physical mobility.

This study is also related to the present study since it tested associations between physical mobility and lifestyle and how it affects health sustainability.

In a study conducted by Maheswaran, Pearson, Jordan and Black (2006) and Propper, Diamiani, Leckie & Dixon (2007) found out that the relationship between human mobility and socioeconomic status in a variety of scenarios, mainly related to access to health services and public transportation. In fact, research has shown that socioeconomic levels (SELs) might be correlated to travel distance, access to health clinics or energy consumption.

The above study also relates to the present study based on its findings that socioeconomic status and physical mobility is highly related. While in this study, it tested if there is a relationship between mobility and monthly family income.

Another study by Brockmann & Theis (2008) found out that there are two (2) important limitations in mobility studies: (1) the approximate mobility through the use of public data such as public transport routes or by tracking the travels of dollar bills and (2) the majority of these studies are based on qualitative and quantitative interviews with individuals, which highly limits the scope of the study and might result to a biased data. As a result, until today, the relationship between human mobility and socioeconomic levels has not been clearly measured, simply because of the difficulty to obtain direct human mobility data from a sufficiently large number of individuals.

Also, the above study is related to the present study since it tested if there is a strong correlation between physical mobility and monthly family income.

The pervasiveness of cellular phones across Asia, Africa and Latin America has promoted cellphone-based services specifically designed to tackle problems in areas such as health, education or agriculture. Also, there are many examples of successful cellphone-based services for emerging economies such as village phone initiative, which allows to generate rentals with the use of cellphones (Aminuzzaman et al., 2003); txtEagle that is based on crowdsourcing techniques and generates revenues through the execution of small tasks; EducamMovil that provides educational contest for children in low-source and isolated schools (Molnar, Frias-Martinez, 2011) or mobile health solutions like E-IMCI to improve treatment adherence in low-income areas (DeRenzi et al., 2008).

The aforementioned study also relates to the present study as it deals with the use of cellular phones and how it affects physical mobility of individuals. In this study, it tested if there are independent factors that affect physical mobility of the respondents.

Some studies have measured strong relationships between socioeconomic levels and human mobility at specific scenarios such as access to hospitals (Propper et al., 2007), travel patterns (Carlsson-Kanyama & Liden, 1999) or travel behavior of inter-city bus passengers (Muhammed Ahsan, Mizanur Rahman, & Habib, 2002). Further, a study of Propper et al., (2007) also found out that there is a strong relationship between socioeconomic levels and human mobility on specific scenarios such as access to hospitals. These studies however, used proxies of mobility and are generally based on small-scale survey or focused groups. In a

study by Rubio, Frias-Martinez & Oliver (2010) they compared mobility variables between a developed and an emerging economy while Eagle, Macy and Claxton (2010) studied the relationship between socioeconomic levels and social network diversity also using cellphone records and regional social development indicators in the United Kingdom.

The above study relates the present study since it measured factors related to physical mobility such as travel patterns, access to hospitals and social network diversity. While in this study, it tested factors related to physical mobility.

Research have shown that the radius of gyration can be used as an indication between home and work (Gonzalez et al., 2008). Based on the result of the study, it could be hypothesized that individuals with higher socioeconomic levels tend to live further away from their jobs than those with lower socioeconomic levels since the geographical areas with high socioeconomic levels have a radius three times larger than those with low socioeconomic levels. By correlating information, such as existing bus routes, it can be identified that those with low socioeconomic levels have poor public transportation system.

Thus, these areas need to be prioritized to provide citizens access to a larger variety of professional opportunities to enhance their overall quality of life. It is indeed imperative to study and analyze the impacts that affect physical mobility behaviors such that it either directly or indirectly affects everyone. The above study relates to the present study as it found out that people with high socioeconomic status tend to live farther while those with low socioeconomic

status tend to live in a shorter radius. Thus, creating an impact on their physical activity and mobility.

To conclude, the aforementioned related studies support the present study as to findings, conclusions and recommendations which gave a clearer view of the direction of the study.

Chapter 3

METHODOLOGY

This chapter discusses the research methods and procedures employed to systematically answer the specific problems posed for this study. Specifically, the chapter elucidates on the research design, sampling procedure, instrumentation, validation of the instrument, data gathering procedure, the corresponding statistical techniques that were used for accurate data analysis and interpretation, and ethical considerations.

Research Design

This study employed a descriptive-correlation research design to provide a better and deeper approach to the study. Quantitative method was used in describing the demographic data, physical mobility, and lifestyle of the respondents and other demographical data. Further, a survey questionnaire was the main instrument in the data gathering of the study.

In addition, inputs from the study were the bases in creating a physical mobility-health program to be implemented.

This design was used for gathering data and statistical findings to determine the utilization physical mobility intervention program of senior citizens for health sustainability in Paranas (Wright), Samar during the year 2019-2020.

Instrumentation

Questionnaire. It is the main instrument of the study which consist two parts. The first of the questionnaire is about the profile of the respondents. The research utilized Yamane Formula to identify to total number of respondents. Upon collection of data, mean, frequency count and correlation was used to interpret the data.

The second part of the questionnaire is their physical mobility that was conducted on a survey type. The Physical Mobility Scale (PMS) was used to the functional ability of aged adults. The reliability rate is 0.98. The PMS utilized a 0-5 (6-point) Likert Scale.

The researcher conducted the survey using the research questionnaire.

Validation of Instrument

The researcher validated the questionnaire using the face and content, concurrent and predictive validation of instrument. In the face validity, the researcher consulted three experts for the validation of the statements. In the content validity, the researcher also consulted with three experts but with the same discipline to evaluate the content of the statements. Concurrent validity was used to test the survey questionnaire twice and predictive validity was also used by the researcher as for the anticipation of the outcome of the data being gathered.

Sampling Procedure

The researcher conducted a sampling procedure in Paranas (Wright), Samar which is the locale of the study. Using the purposive sampling formula, the researcher got the total list of senior citizens from mayor's office and senior citizens organization accordingly and then identified the total respondents. The respondents of this study are aging from 60-80 years old.

Data Gathering Procedure

The researcher asked permission with the use of an approval letter given to the municipal mayor of Paranas (Wright), Samar and to the senior citizen's organization president. Further, the researcher sought approval from the participants before conducting the survey. Afterward, the survey questionnaire was retrieved by the researcher and was kept for the meantime. Data gathered remained confidential and was only used for research purposes. After which, the statistical data was analyzed and interpreted. The data collection was gathered within the year 2019 - 2020.

Statistical Treatment of Data

The frequency count, percentage, mean and standard deviation was used as descriptive statistical tool for determining the descriptive analysis of the study. Frequency count, percentage, mean and standard deviation was used to determine the number and describe the profile of the respondents such as age & sex, average

monthly family income, highest educational attainment, size of family and medical history.

Furthermore, the study used Pearson r as an inferential statistical tool to determine the relationship between the utilization physical mobility intervention program and the respondent's profile.

The study also used Z – test as an inferential statistical tool to determine the difference between the pre-test and post-test, the researcher used 0.05 level of significance.

Ethical Considerations

This study conformed to the national and institutional guidelines of the University. Ethical approval was obtained before the commencement of this study. All participants have received written and oral information about the aim of the study and the possibility of withdrawing their participation at any time without need to give reasons for doing so. Confidentiality was assured according to ethical research guidelines. Moreover, informed consent was obtained from all participants.

Chapter 4

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

Profile of the Respondents

Tables 1 to 7 presented the data on the profile of the respondents as to age and sex; occupation; average monthly income, highest educational attainment, affiliation to organizations; health conditions, and lifestyle.

Age and Sex. The data in Table 1 depict the age and sex distribution of the respondents.

Table 1

Age and Sex Distribution

Age Bracket (in years)	Male		Female		Total	
	f	%	f	%	f	%
60 - 64	9	23.08	10	25.64	19	48.72
65 - 69	2	5.13	4	10.26	6	15.38
70 - 74	2	5.13	6	15.38	8	20.51
75 - 79	1	2.56	3	7.69	4	10.26
80 - 84	1	2.56	1	2.56	2	5.13
Total	**15**	**38.46**	**24**	**61.54**	**39**	**100.00**
SD	**6.65**		**6.18**		**12.83**	
Mean Age	**66.50**		**67.57**		**67.13**	

The male respondents mean age pegged at 66.50 years while the female group mean age is 67.57 years with a combined mean age of 67.13 years. The data implied that the mean age of the respondents fall under 60 to 80 years with low

mobility. Low mobility means majority of them reduces walking speed with lower body activities, and experienced challenges in their daily life (Ferrucci et al., 2016). It is suggested that people at this age must engage to activities to somehow improve their motor response through leisure-time physical activities such as walking, dancing, gardening, hiking, swimming, and the like. In terms of transportation activity, they are encouraged to go on cycling or biking, and boost their capacity to do household chores and sports or planned exercises (World Health Organization, 2015).

Respondents' Employment Status. The data in Table 2 shows the distribution of respondents' employment status.

Table 2

Employment Status of Respondents

Employment Status	F	%
Employed/Not Retired	21	53.85
Not Employed/Retired	18	46.15
Total	**39**	**100**

As shown in the above table, 21 or 53.85 of the respondents are still employed or working while 18 or 46.15 are not working or retired. The data implied that most of the respondents are still physically active in relation to their nature or work. To have a better quality of life in general one should involve

increased physical activities such as work (Puciato et al., 2017). It is further suggested that aging population should still work to remain physically active.

Respondents' Income. The data in Table 3 showed the distribution of respondents' income.

Table 3

Income Distribution of Respondents

Income Range (in Peso)	f	%
10,000 below	34	87.18
10,001 - 15,000	1	2.57
15,001 - 20,000	2	5.14
20,001 - 25,000	0	0.00
25,001 - 30,000	0	0.00
30,001 - 35,000	1	2.57
35,001 - 40,000	0	0.00
40,001 - 45,000	1	2.57
45,001 - 50,000	0	0.00
Total	**39**	**100.00**
Modal Income	**10,000 below**	

The modal income of respondents is posed at 10,000 below with 34 or 87.18 percent of them while the highest income is only one or 2.57 percent. The data implied that majority of the respondents have low income. Higher income was associated with higher self-reported leisure-time physical activity for women and men. Second, the pedometer-based results differed by gender, the association was negative or non-existent for men and positive for women (Kari et al., 2015). It is therefore suggested that aging population of 60 above should have enough income to compensate their daily activities such as leisure- time.

Respondents' Highest Educational Attainment. The data in Table 4 depicts the distribution of respondents' educational attainment.

Table 4

Distribution of Respondents' Educational Attainment

Educational Attainment	f	%
No Answer	0	0.00
Elementary Level	16	41.02
Elementary Graduate	1	2.57
High School Level	11	28.20
High School Graduate	4	10.25
College Level	2	5.14
College Graduate	5	12.82
With Post Graduate Units	0	0.00
With Post Graduate Degree	0	0.00
Total	**39**	**100.00**

As reflected in Table 4, 16 or 41.02 of the respondents are elementary level while five or 12.82 of the respondents are college graduate. The data implied that there may be an unequal access to education which serve as barriers to physical activity in relation to demographic subgroups. Better understanding the characteristics of physically inactive subgroups may aid development of tailored interventions to increase activity levels and reduce health inequalities (Fluharty et al., 2020). It is therefore suggested that they must gain new knowledge or information to better understand mobility and quality of life in general through information drive, trainings or seminars.

Respondents' Affiliation to Organizations. The data in Table 5 shows the distribution of respondents to organizations. Their affiliation to organizations are generalized as to a.) affiliated and b.) not affiliated.

Table 5

Respondents' Affiliation to Organizations

Affiliation	f	%
With Affiliation	16	41.02
Without Affiliation	23	58.98
Total	**39**	**100.00**

The above table showed that 23 or 58.98 of the respondents are not affiliated to organizations while only 16 or 41.02 of them are affiliated to local organization such as the senior citizen's organization. The data implied that most of the respondents are not affiliated to any organization which could result to low involvement in activities as their mobility becomes limited. Therefore, it is recommended that the aging population of 60 above should get involved in an organization to maintain mobility.

Respondents' Health Conditions. Table 6 presents the health conditions of the respondents as to various categories.

As presented from the table highlighted by green color, the respondents claimed that they suffer from endocrine problem (23 out of 39), hypertension

Table 6

Respondents' Health Conditions

Category	With		Without		Total	
	f	%	F	%	f	%
Lung Problem	3	7.69	36	92.31	39	100.00
Thyroid Problem	-	-	39	100.00	39	100.00
Heart Problem	-	-	39	100.00	39	100.00
Endocrine Problem	23	58.98	16	41.02	39	100.00
Hypertension	7	17.95	32	82.05	39	100.00

(seven out of 39) and lung problem (three out of 39). Evidently, endocrine is the most number of incidence as to health condition which implied that it has something to do with their hormonal changes. Hormones are chemical substances that affect human body activities, it declines with endocrine function resulting to less sensitivity of hormonal receptors such as estrogen for women and testosterone for men. If these happen they are more exposed to common endocrine and hormonal related problems such as nodules, tumors, and goiter (Morley, 2019). The result suggests that people aging 60 above should take multivitamins to improve their hormonal functions.

Respondents' Lifestyle. Tables 7 and 8 provides data on respondents' sedentary and dietary lifestyles.

Based from the results of the above table, it can be gleaned that 33 out of 39 respondents are non-smokers or 85.62 percent. While 20 out of 39 or 51.28 consume light drink, 34 out of 39 or 87.18 percent of respondents don't drink beer and only

Table 7

Sedentary Lifestyle of Respondents

Sedentary Lifestyle	f	%
Smoking		
Smoking	6	15.38
None	33	84.62
Total	**39**	**100.00**
Light Drink		
Light Drink	20	51.28
None	19	48.72
Total	**39**	**100.00**
Beer		
Beer	5	12.82
None	34	87.18
Total	**39**	**100.00**
Hard Drink		
Hard Drink	5	12.82
None	34	87.18
Total	**39**	**100.00**

five out of 39 respondents or 12.82 percent consume hard drink. The data implied that older adults generally don't smoke, consume light drink and not into beer and hard drinks. The result implied that most of the respondents are not highly engaged in smoking, consuming light drinks, beer and hard drinks. Negative aging perceptions such as negative emotions and awareness of aging are associated with increased health behavior risk, while stronger perceptions of the positive consequences of aging may reduce health behavior risk, specifically harmful drinking.

Relationships between an individual's sense of control over the aging process is complex as increased perceptions of control may, increase the risk of harmful health behaviors. Adoption of healthy habits are influenced by personal attributes like perceptions, beliefs, values, expectations as well as emotional and affective states. Older adults are vulnerable to engaging in risky behaviors such as harmful drinking and smoking for a variety of social and psychological reasons (Villiers-Tuthill et al., 2016). It is therefore suggested that adults aging 60 above should have an emotional support or a companion to better maintain a healthy emotional well-being therefore increasing their mobility.

Table 8

Dietary Lifestyle of Respondents

Dietary Lifestyle	f	%
Fruits		
Seldom	15	38.45
Most of the time	14	35.89
All the time	10	25.64
Total	**39**	**100.00**
Vegetable		
Seldom	10	25.64
Most of the time	13	33.33
All the time	16	41.03
Total	**39**	**100.00**
Processed Foods		
Seldom	23	58.98
Most of the time	13	33.33
All the time	3	7.69
Total	**39**	**100.00**

As shown in Table 8, 15 out of 39 respondents or 38.45 percent rarely eat fruits, they also consume vegetable all the time with 16 out of 39 respondents or 41.03 percent and rarely eats processed foods with a high number of 23 out of 39 respondents or 58.98 percent. The data implied that higher levels of healthy diet is associated with higher quality of life. Although, results from large, well conducted longitudinal studies are required to better understand the relationship between dietary patterns and quality of life among older adult (Govindaraju et al., 2018). It is suggested that older adults aging 60 above must maintain a healthy diet with high fruits and vegetable consumption and lesser processed food.

Respondents' Levels of Mobility

Tables 9 to 13 are data of the respondents' levels of mobility as to aerobic, muscle strengthening, bone strengthening, unassisted and assisted physical activities.

Aerobic Activities. Table 9 presents the statistical result of levels of mobility as to aerobic activity.

From the results, it is evident that people aging 60 years old above are with very low level of mobility because majority of them, as shown by the data in yellow highlights that they never engage to aerobic activities such as hiking, biking, swimming, and sports. However, a certain activity is done through daily

Table 9

Respondents' Levels of Mobility as to Aerobic Activities

Aerobic Activities	Frequency (%)					Total
	Never/ 0 days	Rarely/ 1-2 days	Sometimes 3-4 days	Most of the Days/ 5-6 days	Everyday/ 7 days	
Hiking	30 (76.92)	3 (7.69)	3 (7.69)	1 (2.56)	2 (5.13)	39 (100)
Biking	33 (84.62)	1 (2.56)	1 (2.56)	2 (5.13)	2 (5.13)	39 (100)
Swimming	16 (41.03)	5 (12.82)	10 (25.64)	1 (2.56)	7 (17.95)	39 (100)
Sports	36 (92.31)	1 (2.56)	1 (2.56)	1 (2.56)	0	39 (100)
Walking	2 (5.13)	3 (7.69)	9 (23.08)	4 (20.26)	21 (53.85)	

engagement to walking. Walking shorter than one minute were classified as short walks while walks of at least one minute were classified as long walks. Walking activities are a major contributor to physical activity in older population (Valenti, Bonomi & Westerterp, 2016). With the results of the above table, it is therefore suggested that older adults must do some walking activities or exercises to maintain physical mobility.

With the results, it can be observed that the aging population of 60 and above are with low muscle strength because majority of them does no longer engage in recreational games, lifting weights, push-up/curl-ups, rock climbing and aerobics. However, there are seven out of 39 respondents or 17.94 percent still participates in weight lifting for 5-6 days in a week. Strength training is effective in elderly persons and can be undertaken without notable adverse effects. Using

Table 10

Respondents' Levels of Mobility as to Muscle Strengthening Activities

Muscle Strengthening Activities	Frequency (%)					Total
	Never/0 Days	Rarely/ 1-2 days	Sometimes/ 3-4 Days	Most of the Days/ 5-6 Days	Everyday/ 7 Days	
Recreational Games	35 (89.74)	1 (2.56)	2 (5.12)	4 (10.26)	-	39 (100)
Lifting Weights	18 (46.15)	6 (15.38)	5 (12.82)	7 (17.94)	3 (7.69)	39 (100)
Push-ups/Curl -ups	32 (82.05)	1 (2.56)	4 (10.25)	1 (2.56)	1 (2.56)	39 (100)
Rock Climbing	39 (100)	-	-	-	-	39 (100)
Aerobics	37 (94.88)	-	-	-	2 (5.12)	39 (100)

strength training has been used in the prevention and rehabilitation of different symptoms—for example, in osteoporosis and degenerative joint disorders (Mayer et al., 2011). It is suggested that senior citizens aging 60 and above should engage in muscle strengthening activities with moderation to maintain a sound muscle composition and body posture.

As shown in Table 11, it can be observed that all of the respondents does not engage much bone strengthening activity such as outdoor pursuit or recreation and no respondent uses resistance bands and goes to gym. Further, it can also be gleaned that five respondents out of 39 or 12.82 percent engages in Yoga exercises

Table 11

Respondents' Levels of Mobility as to Bone Strengthening Activities

Bone Strengthening Activities	Frequency (%)					Total
	Never/ 0 days	Rarely/ 1-2 days	Sometimes 3-4 days	Most of the Days/ 5-6 days	Everyday/ 7 days	
Yoga	28 (71.79)	1 (2.56)	1 (2.56)	4 (10.25)	5 (12.82)	39 (100)
Meditation Exercises	22 (56.41)	4 (10.25)	7 (17.94)	4 (10.25)	2 (5.12)	39 (100)
Outdoor Recreation/ Pursuit	35 (89.74)	-	1 (2.56)	-	3 (7.69)	39 (100)
Resistance Bands	39 (100)	-	-	-	-	39 (100)
Gym	39 (100)	-	-	-	-	39 (100)

daily while two out of 39 respondents or 5.12 percent does meditation exercises every day. Meditation and mind-body exercises improves mental awareness in the older adults. Further, meditation and mind-body exercises are effective to improve mental awareness of aging population of 60 years and above (Chan et al., 2019). It is suggested that senior citizens aging 60 and above should have meditation exercises such as Yoga to better improve and maintain a healthy way of thinking.

Based from the results in Table 12, majority of the respondents or 25 out 39 respondents are assisted in walking same with eating that showed same result. While they can also hardly do household chores which 24 out of 39 or 61.53

Table 12

Respondents' Levels of Mobility as to Unassisted Physical Activities

Unassisted Physical Activities	Frequency (%)					Total
	Never/0 days	Rarely/ 1-2 days	Sometimes/ 3-4 days	Most of the Days/5-6 days	Everyday/7 days	
Walking	25 (64.10)	3 (7.69)	-	3 (7.69)	8 (20.51)	39 (100)
Eating	25 (64.10)	3 (7.69)	-	3 (7.69)	8 (20.51)	39 (100)
Household Chores	24 (61.53)	-	2 (5.12)	4 (10.25)	9 (23.07)	39 (100)

percent. The data implied that majority of the respondents need assistance to help them walk, eat and do household chores. Even when services and programs are available, aging population of 60 above sometimes refuse them or they may lack experience in accessing services or have difficulty accepting that they need them. Thus, they may resent subjecting themselves to unnecessary requirements like loss of control and they may feel judged or may feel services are not specific to their needs (Siegler et al., 2015). Therefore, it is suggested that senior citizens should have a support system or services for them to accomplish daily tasks and activities to help them maintain mobility.

Table 13 showed that majority of the respondents or 20 out of 39, no longer engage in long-distance travel while 23 out of 39 or 58.97 percent of the

Table 13

Respondents' Levels of Mobility as to Assisted Physical Activities

Assisted Physical Activities	Frequency (%)					Total
	Never/0 days	Rarely/ 1-2 days	Sometimes/ 3-4 days	Most of the Days/5-6 days	Everyday/ 7 days	
Long - Distance Travel	20 (51.28)	3 (7.69)	3 (7.69)	3 (7.69)	10 (25.64)	39 (100)
Short-Distance Travel	23 (58.97)	4 (10.25)	3 (7.69)	4 (10.25)	5 (12.82)	39(100)

respondents are no longer engage in short-distance travel. In addition, only 10 out of 39 or 25.64 percent engages in long-distance travel and only five out of 39 or 12.82 percent of the respondents travel daily for short-distances. It is evident that destinations may be most relevant to older adults and presence of neighborhood destinations may encourage mobility. Communities should develop destinations that supports the mobility, health, and independence of older adults (Chudyk et al., 2015). With this result, it is highly recommended that communities should develop areas or places that promote mobility in older adults such as accessible leisure and theme parks.

Chapter 5

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Summary of Findings

1. The male respondents mean age pegged at 66.50 years while the female group mean age is 67.57 years with a combined mean age of 67.13 years. The data implied that the mean age of the respondents fall under 60 to 80 years with low mobility. Low mobility means majority of them reduces walking speed with lower body activities, and experienced challenges in their daily life.

2. Twenty one or 53.85 of the respondents are still employed or working while 18 or 46.15 are not working or retired. The data implied that most of the respondents are still physically active in relation to their nature or work. Low physical activity results to a decline in their quality of life in general.

3. Income of respondents is posed at 10,000 below with 34 or 87.18 percent of them while the highest income is only one or 2.57 percent. The data implied that majority of the respondents have low income. Higher income was associated with higher self-reported leisure-time physical activity for women and me. This also differs in gender, negative for men and positive for women.

4. Sixteen or 41.02 of the respondents are elementary level while five or 12.82 of the respondents are college graduate. The data implied that there may be an unequal access to education which serve as barriers to physical activity in relation to demographic subgroups.

5. Twenty three or 58.98 of the respondents are not affiliated to organizations while only 16 or 41.02 of them are affiliated to local organizations such as the senior citizen's organization

6. Thirty three out of 39 respondents are non-smokers or 85.62 percent. While 20 out of 39 or 51.28 consume light drink, 34 out of 39 or 87.18 percent of respondents do not drink beer and only five out of 39 respondents or 12.82 percent consume hard drink. The data implied that older adults generally do not smoke, consume light drink and not into beer and hard drinks

7. Fifteen out of 39 respondents or 38.45 percent rarely eat fruits, they also consume vegetable all the time with 16 out of 39 respondents or 41.03 percent and rarely eats processed foods with a high number of 23 out of 39 respondents or 58.98 percent

8. The respondents claimed that they suffer from endocrine problem (23 out of 39), hypertension (seven out of 39) and lung problem (three out of 39). Evidently, endocrine is the most number of incidence as to health condition which implied that it has something to do with their hormonal changes.

9. People aging 60 years old above are with very low level of mobility because majority of them, as shown by the data in yellow highlights that they never engage to aerobic activities such as hiking, biking, swimming, and sports.

10. The aging population of 60 and above are with low muscle strength because majority of them does no longer engage in recreational games, lifting weights, push-up/curl-ups, rock climbing and aerobics. However, there are seven

out of 39 respondents or 17.94 percent still engages in weight lifting for 5-6 days in a week.

11. All of the respondents does not engage much bone strengthening activity such as outdoor pursuit or recreation and no respondent uses resistance bands and goes to gym. Further, it can also be gleaned that five respondents out of 39 or 12.82 percent participates in Yoga exercises daily while two out of 39 respondents or 5.12 percent does meditation exercises every day.

12. Majority of the respondents or 25 out 39 respondents are assisted in walking same with eating that showed same result. While they can also hardly do household chores which 24 out of 39 or 61.53 percent.

13. Majority of the respondents or 20 out of 39, no longer engage in long-distance travel while 23 out of 39 or 58.97 percent of the respondents also does no longer engage in short-distance travel. In addition, only 10 out of 39 or 25.64 percent engages in long-distance travel and only five out of 39 or 12.82 percent of the respondents travel daily for short-distances

Conclusions

1. Most of the respondents, aging 60 to 80 have low mobility.

2. Majority of the senior citizens are still physical active in relation to their nature of work. Thus, low physical activity could result to a decline in their overall health.

3. Most of the respondents have an income of 10,000 below. On the other hand, high-income is associated with higher self-reported leisure activities.

4. Majority of the respondents' educational background is elementary level. Unequal access to education could become a barrier to physical activity.

5. Most of the respondents not affiliated to any organization.

6. Majority of the adult-respondents are non-smokers and does not engage in sedentary lifestyle.

7. Most of the respondents rarely eat fruits and into vegetarian diet have a high number of processed food consumption.

8. Most of the respondents suffer from endocrine problems (23 out of 39), some have hypertension (seven out of 39) and lung problems (three out of 39).

9. Majority of senior citizens of 60 and above have low mobility in terms of aerobic activities.

10. Majority of the respondents have low engagement to physical activity in terms of muscle-strengthening activity.

11. All of the respondents does not engage in bone-strengthening activities such as outdoor pursuit and outdoor recreation.

12. Majority of the respondents are assisted in walking eating and in doing household chores.

13. Most of the respondents no longer engage in long-distance travel and short-distance travel or they have very low travel mobility.

Recommendations

1. It is suggested that people with age 65 above must engage to activities to improve their motor response through leisure-time physical activities such as walking, dancing, gardening, hiking, swimming, and the like. In terms of transportation activity, they are encouraged to go on cycling or biking, and boost their capacity to do household chores and sports or planned exercises.

2. People aging 60 above should take multivitamins to improve their hormonal functions.

3. It is suggested that aging population of 60 above should have enough income to compensate their daily activities such as leisure-time.

4. It is also suggested that they must gain new knowledge or information to better understand mobility and quality of life in general through information drive, trainings or seminars.

5. It is recommended that the aging population of 60 above should get involved in an organization to maintain mobility, should have an emotional support and a companion to better maintain healthy emotional well-being and must maintain a diet with high fruits and vegetable consumption and lesser processed food.

6. The result suggests that people aging 60 above should take multivitamins to improve their hormonal functions.

7. It is therefore suggested that older adults must do some walking activities or exercises to maintain physical mobility.

8. It is suggested that senior citizens aging 60 and above should engage in muscle strengthening activities with moderation to maintain a sound muscle composition and body posture.

9. It is suggested that senior citizens aging 60 and above should have meditation exercises such as Yoga to better improve and maintain a healthy way of thinking.

10. It is suggested that senior citizens should have a support system or services for them to accomplish daily tasks and activities to help them maintain mobility.

11. It is highly recommended that communities should develop areas or places that promote mobility in older adults such as leisure parks and accessible entertainment places.

REFERENCES

Banks, J., Breeze, E., Lessof, C., Nazroo, J. (2006). *Retirement, health and relationship of the older population in England: The 2004 English longitudinal study of ageing.* The Institute for Fiscal Studies, London. ISBN 1 903274 46

Brown, C.J., Friedkin, R.J., Inouye, S.K. (2004). *"Prevalence and outcomes of low mobility in hospitalized older patients"* J Am Geriatr Soc 2004; 52.

Chan, J. S. Y., Deng, k., Wu, j., & Yan, J. H. (2019). Effects of Meditation and Mind-Body Exercises on Older Adults' Cognitive Performance: A Meta-analysis. *The Gerontologist, 5*9(6). doi: 10.1093/geront.gnz022.

Chudyk, A. M., Winters, M., Moniruzzaman, M., Ashe, M. C., Gould, J. S., & Mckay, H. (2015). Destination matter: The association between where older adults live and their travel behavior. J*ournal of Transport & Health*, 2(1), 50-57. doi: 10.1016/j.jth.2014.09.008

De Labra et al. (2015). *"Effects of physical exercise interventions in frail older adults: a systematic review of randomized controlled trails",* 15: 154

Dori E. Rosenberg et al. (2011), *"Physical Activity Among Persons Aging with Mobility Disabilities: Shaping a Research Agenda",* Volume 2011, 2-10.

Ferrucci, L., Cooper, R., Shardell, M., Simonsick, E. M., Schrack, J. A., & Kuh, D. (2016). Age-Related Change in Mobility: Perspectives From Life Course Epidemiology and Geroscience. *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences,* 71(9), 1184-1194, doi: 10.1093/gerona/glw043

Fluharty, M. E., Pereira, S. M. P., Benzeval, M., Hamer, M., Jefferis, B., Griffiths, L. J., … Bann, D. (2020). Educational differentials in key domains of physical activity by ethnicity, age and sex: a cross-sectional study of over 40, 000

participants in the UK household longitudinal study (2013-2015). *BMJ Open*, 10(1). doi: 10.1136/bmjopen-2019-033318.

Govindaraju, t., Sahle, B., Mccaffrey, T., Mcneil, J., & Owen, A. (2018). Dietary Patterns and Quality of Life in Older Adults: A Systematic Review. *Nutrients*, 10(8), 971. doi: 10.3390/nu10080971

Choi, F. Tasota, l. Hoffman (2008). "*Mobility Interventions to Improve Outcomes in Patients Undergoing Prolonged Mechanical Ventilation: A Review of the Literature*", Volume 10, 21-33.

Meg Zomorodi et al. (2012). "*Developing a Mobility Protocol for Early Mobilization of Patients in a Surgical/Trauma ICU*", Volume 2012.

Forhan, S.V. Gill (2013). "*Best Practice & Research Clinical Endocrinology & Metabolism*", 27, 129-137.

Morley, J. E. (2019). Effects of Aging on the Endocrine System - Hormonal and Metabolic Disorder. Retrieved June 5, 2020 from https://www.msdmanuals.com/home/hormonal-and-metabolic-disorder/biology-of-the-endocrine-system/effects-of-aging-on-the-endocrine-system.

Asp, B. Simonsson, P. larn, A. Molarius (2017). "*Physical Mobility, physical Activity and Obesity among Elderly: Findings from a large population-based Swedish survey*", 147, 84-91.

Hamer M. Lavoie KL, Bacon SL, Taking up physical activity in later life and healthy ageing: the English longitudinal study of ageing, Br J Sports Med. 2014 Feb; 48(3): 239-43.

Wald et al. (2018), *The case for Mobility Assessment in Hospitalized Older Adults: American Geriatrics Society White Paper Executive Summary",* Volume 9999, No. 9999.

Kari, J. T., Pehkonen, j., Hirvensalo, M., Yang, X., Hutri-Kahonen, N., Raitakari, O. T., & Tammelin, T. H. (2015). Income and Physical Activity among Adults: Evidence from Self-Reported and Pedometer-Based Physical Activity Measurements. *Plos One,* 10(8). doi: 10.1371/journal.pone.0135651.

Matthews K, Demakakos P, Nazroo J, shankar A. (2014) The evolution of lifestyles in older age in England. In:, Banks J, Nazroo J, Steptoe A (eds) The dynamics of ageing: evidence from the English Longitudinal study of ageing 2002- 2012. The Institute for Fiscal Studies, London. ISBN 978-1-909463-58-5, 51-93.

Mayer, f., Scharhag-Rosenberger, F., Carlsohn, A., Cassel, M., Muller, S., & Scharhag, J. (2011). The Intensity and Effects of Strength Training in the Elderly. *Deutsches Aerzteblatt Online.* Doi: 10.3238/arztebl.2011.0359

Marmot M, banks J, Blundell R, Lessof C, Nazroo J (2003) Health, wealth and lifestyles of the older population in England: the 2002 English longitudinal study of ageing. The Institute for Fiscal Studies, London. ISBN 1 903274 34 6.

Puciato, D., Borysiuk, Z., & Rospara, M. (2017). Quality of life and physical activity in an older working-age population. *Clinical Interventions in Aging,* Volume 12, 1627-1634. doi: 10.2147/cia.s144045.

Seguin, R.A., Economos, C.D., Palombo, R., Hyatt, R., Kuder, J., Nelson, M.E. (2010). Strength training and older women: a cross-sectional study examining factors related to exercise adherence, J Aging Phys Act. 2010 Apr; 18(2): 201-18.

Siegler, E. L., Lama, S. D., Knight, M. G., Laureano, E., & Reid, M. C. (2015). Community-Based Supports and Services for Older Adults: A primer for Clinicians. Journal of Geriatrics, 2015, 1-6. doi: 10.1155/2015/678625.

Valenti, G., Bonomi, A. G., & Westerterp, K. R. (2016). Walking as a Contributor to Physical Activity in Healthy Older Adults: 2 Week Longitudinal Study Using Accelerometry and the Doubly Labeled Water Method. *JMIR MHealth andd UHealth,* 4(2). doi: 10.2196/mhealth.5445.

Villiers-Tuthill, A., Copley, A., Mcgee, H., & Morgan, K. (2016). The relationship of tobacco and alcohol use with ageing self-perceptions in older people in Ireland. *BMC Public Health*, 16(1). doi: 10.1186/s12889-016-3158-y.

World Health organization, I*nternational Classification of Functioning, Disability & Health,* ICF, Geneva: WHO, 2001.

Zisberg A, Shadmi E, Sinoff G et al. *"Low mobility during hospitalization and functional decline in older adults"* J Am Geriatr Soc 2011; 59: 266-273.1263-1270.

APPENDICES

Appendix A

LETTER ASKING PERMISSION TO IDENTIFY THE POPULATION SIZE

February 10, 2020

Hon. EUNICE U. BABALCON
Municipal Mayor
Paranas, Samar
Thru: The Senior Citizens Organization

Dear Mayor:

Greetings!

The undersigned researcher is currently working on a research study entitled "**PHYSICAL MOBILITY OF SENIOR CITIZENS FOR HEALTH SUSTANABILITY**" as a final requirement for the degree Master of Arts in Education major in Music, Arts & Physical Education (MAED-MAPE). The study aims to assess the physical mobility of senior citizens of Paranas (Wright), Samar during the year 2019-2020.

In view of this, the researcher would like to request from your good office to get a population size (list of senior citizens) for the sampling procedure of the study.

Your favorably consideration on this request will be highly appreciated.

Very Truly Yours,

JONAS P. TABILLAR
Researcher

Recommending Approval:
(SGD.) Engr. ESTEBAN MALINDO, Ph. D.
Dean, Graduate School

Approved by:

(SGD.) ATTY. EUNICE U. BABALCON
Municipal Mayor

Appendix B

LETTER ASKING PERMISSION FOR THE CONDUCT OF THE STUDY

February 10, 2020

Hon. EUNICE U. BABALCON
Municipal Mayor
Paranas, Samar

Dear Mayor:

Greetings!

The undersigned researcher is currently working on a research study entitled "**PHYSICAL MOBILITY OF SENIOR CITIZENS FOR HEALTH SUSTANABILITY**" as a final requirement for the degree Master of Arts in Education major in Music, Arts & Physical Education (MAED-MAPE). The study aims to assess the physical mobility of senior citizens of Paranas (Wright), Samar during the year 2019-2020.

In view of this, the researcher would like to request from your good office to conduct a research study in your locality with the identified respondents of the study.

Your approval and consideration on this request will be highly appreciated. Thank you and God bless!

Very Truly Yours,

JONAS P. FABILLAR
Researcher

Recommending Approval

(SGD.) Engr. ESTEBAN MALINDO, Ph. D.
Dean, Graduate School

Approved by:

(SGD.) ATTY. EUNICE U. BABALCON
Municipal Mayor

Appendix C

LETTER OF CONSENT FOR THE PARTICIPANTS

February 10, 2020

Dear Participants,

Good day!

I wrote this letter to you in order to inform you that you are chosen as one of the respondents of the study entitled "**PHYSICAL MOBILITY OF SENIOR CITIZENS FOR HEALTH SUSTANABILITY**" This is for my final requirement for the degree MASTER OF ARTS IN EDUCATION major in Music, Arts & Physical Education in the College of Graduate Studies, Samar State University.

In this regard, I would like to ask a favor from you to respond to the attached survey questionnaire about the study mentioned above.

With this study, you are free to withdraw or participate and if you are willing, please affix your name and signature at the bottom portion of this letter for the conformity of your participation.

Rest assured that all your responses are of the great extent of confidentiality. Looking forward to your participation. Thank you very much and God bless.

Respectfully yours,

JONAS P. FABILLAR
Researcher

Conforme:

_____

Appendix D

SURVEY QUESTIONNAIRE ON PHYSICAL MOBILITY

PART I. RESPONDENT'S PROFILE

Name (Optional):_____Age:_____ Sex: ___(M)___ (F)

Average Monthly Income:

10,000 Below ( )
10,001-15,000 ( )
15,001-20,000 ( )
20,001-25,000 ( )
25,0001-30,000 ( )
30,001-35,000 ( )
35,001-40,000 ( )
40,001-45,000 ( )
45,001-50,000 ( )
50,001 Above ( )

Occupation:_____ Retired: Yes ( ) No ( )

Affiliations to Organization (Name of Org.):_____

Highest Educational Attainment:_____

Family Size:_____

Health Conditions:

Lung Problem:
Asthma ( )
COPD ( )
Lung Cancer ( )
Others:_____

Heart Problem:
Congenital Heart Disease ( )
Coronary Artery Disease ( )
Heart Failure ( )
Others:_____

Thyroid Problem
Hyperthyroidism ( )
Hypothyroidism ( )
Goiter ( )
Others:_____

Endocrine Problem
Diabetes ( )
Osteoporosis ( )
Arthritis ( )
Others:_____

Others Health Conditions:_____

Lifestyle:

Smoking:
1 – 5 sticks/day ( )
10-15 sticks/day ( )
6-10 sticks/day ( )
15 and above/day ( )

Alcohol Consumption:

1-5 bottles of light drink/week	( )	6-10 bottles of light drink/week	( )
1-5 bottles of beer/week	( )	6-10 bottles of beer/week	( )
1-5 bottles of hard drink/week	( )	6-10 bottles of hard drink/week	( )
10-15 bottles of light drink/week	( )	16-up bottles of light drink/week	( )
10-15 bottles of beer/week	( )	16-up bottles of beer/week	( )
10-15 bottles of hard drink/week	( )	16-up bottles of hard drink/week	( )

Diet:

Fruits:

All the time	( )
Most of the times	( )
Seldom	( )

Vegetables:

All the time	( )
Most of the times	( )
Seldom	( )

Processed Food/Junk Food:

All the time	( )
Most of the times	( )
Seldom	( )

PART II. SURVEY QUESTIONNAIRE ON MOBILITY

**The following mobility activities are categorized by World Health Organization (WHO) for mobility (http://www.who.int/dietphysicalactivity/physical-activity-recommendations-18-64years.pdf?ua=1)*

Aerobic Activities – are low intensity exercises like walking, swimming, running or cycling.

Muscle Strengthening Activities – are moderately intense activities that impacts the muscle such as lifting weights, spelunking and series of exercises in one setting.

Bone-Strengthening Activities – are activities that impacts the bone. These activities are a combination of aerobic and muscle strengthening activities.

Direction: Please check the following questionnaire in Likert scale as follows:

0 – Never (0 Days)
1 – Rarely (1-2 Days)
2 – Sometimes (3-4 Days)
3 – Most of the Days (5-6 Days)
4 – Everyday (7 days a week)

Physical Mobility Questionnaire									
Indicators	Frequency					Duration			Distance (if applicable)
	0	*1*	*2*	*3*	*4*	*1 (30 mins. below)*	*2 (1-2 hrs.)*	*3 (2 hrs. above)*	
I. Aerobic Activities									
-Hiking									
-Biking									
-Swimming									
-Basketball									
-Walking									
Others:_____									
II. Muscle Strengthening Activities									
-Recreational Games									
-Lifting Weights									
-Push-ups/Curl -ups									
-Rock Climbing									
-Aerobics									
Others:_____									
III. Bone Strengthening Activities									
-Yoga									
-Meditation Exercises									
-Outdoor Recreation/Pursuit									
-Resistance Bands									
-Gym									
Others:_____									
IV. Unassisted Physical Activities									
-Walking									
-Eating									
-Household Chores									
Others:_____									

Physical Mobility Questionnaire									
Indicators	Frequency					Duration			Distance (if applicable)
	0	*1*	*2*	*3*	*4*	*1 (30 mins. below)*	*2 (1-2 hrs.)*	*3 (2 hrs. above)*	
V. Assisted Physical Activities									
-Long Distance Travel									
-Short Distance Travel									
Others:_____									

CURRICULUM VITAE

CURRICULUM VITAE

Name	:	Jonas P. Fabillar
Home Address	:	Zone 2, Paranas Samar
Date of Birth	:	February 18, 1994
Marital Status	:	Single
Occupation	:	Physical Education Instructor

EDUCATION BACKGROUND

Graduate	:	Master of Arts in Education (M.A.Ed.) major in Music, Arts & Physical Education
Tertiary	:	Bachelor of Secondary Education (B.S.Ed.) major in Music, Arts, Physical Education & Health
Secondary	:	Wright National High School
Elementary	:	Wright II Central Elem School

OTHER INFORMATION

Founder, "Tribu Kultura", Samar State University Paranas Campus

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