



UNIVERSITI PUTRA MALAYSIA

***SOCIO-DEMOGRAPHIC FACTORS AS PREDICTORS ON
TYPES OF PRODUCTIVE AGING AMONG RETIREES
IN THE KLANG VALLEY, MALAYSIA***

AZIERA ADLEEN BINTI ADNAN

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By

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**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,
in Fulfillment of the Requirements for the Degree of
Master of Science**

August 2021

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the Degree of Master of Science

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Chair : Sharifah Azizah Binti Haron, PhD
Faculty : Human Ecology

The aim of this study is to predict the likelihood of socio-demographic factors on type of productive time use activities among UPM's retirees. This study intends to bridge the gap in literature by analyzing the likelihood of socio-demographic factors on type of productive aging based on time use pattern. Specifically, this study was conducted with the aim of achieving four objectives namely i) to determine the pattern of time use among UPM's retirees; ii) to determine productive activities categories among UPM's retirees based on time use pattern; iii) to determine the prediction of socio-demographic factors on types of productive aging among UPM's retirees; and iv) to estimate the economic value of productive activities of UPM's retirees.

Despite the aging population has become one of the most critical socio-demographic phenomena across the world, few empirical studies have been conducted to investigate the literature through the estimations of the economic value of older person's contribution to the society and profiling them with types of productive aging through the pattern of their time use. Thus, two main approaches have been used to value unpaid work namely: i) replacement cost, and ii) opportunity cost. Literatures generally focuses on seeing older person as burden to society. Therefore, the estimation cost from both methods have been used to differentiate the economic gap between the economic contributions produced by older people and the pension costs provided by the government that has been received to the older people.

A total of 210 respondents participated in the study. A multinomial logistic regression was performed to model the relationship between the socio-demographic factors (gender, age, education level, marital status, employment status, income level) and membership in the four groups (labor force type, household management activities, care/support activity and self-management type). Results indicated that time use pattern associated with type of productive aging among older people were different based on socio-

demographic factors. The probability of older adults belonging to a certain cluster was significantly different by gender, education level, marital status, employment status and income level. This helps to explain what kinds of attributes construct differentials in older adulthood, via which types of productive activities.

In conclusion, older people may be thought to be inactive when they may actually be producing much more than we commonly expect. Thus, this undoubtedly requires a sharing of responsibilities between the government, private sector, non-governmental agencies and the community to understand the potential roles of the older adults as active community members and aim at promoting productive aging in future.



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia
sebagai memenuhi keperluan untuk ijazah Master Sains

**FAKTOR SOSIO DEMOGRAFI SEBAGAI PERAMAL JENIS PENUAAN
PRODUKTIF DALAM KALANGAN PESARA
DI LEMBAH KLANG, MALAYSIA**

Oleh

AZIERA ADLEEN BINTI ADNAN

Ogos 2021

Pengerusi : Sharifah Azizah Binti Haron, PhD

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Tujuan kajian ini untuk meramal kebarangkalian faktor sosio demografi terhadap penuaan produktif aktiviti melalui penggunaan masa di kalangan pesara UPM. Kajian ini bertujuan untuk melihat jurang kajian jenis penuaan produktif dengan menganalisis peramal faktor sosio demografi melalui pola guna masa. Secara khusus, kajian ini dilakukan bertujuan untuk mencapai empat objektif iaitu i) untuk menentukan corak penggunaan masa di kalangan pesara UPM; ii) untuk menentukan kategori penuaan produktif di kalangan pesara UPM berdasarkan corak penggunaan masa; iii) untuk menentukan peramal faktor sosio demografi berdasarkan pola guna masa dalam kalangan pesara UPM dan; iv) untuk menganggarkan nilai ekonomi aktiviti produktif dalam kalangan pesara UPM.

Walaupun populasi golongan tua telah menjadi salah satu fenomena sosio demografi yang paling kritikal di seluruh dunia, beberapa kajian telah dilakukan untuk menyelidik pengiraan nilai ekonomi iaitu sumbangan orang tua kepada masyarakat dan memberi tahap yang berbeza kepada profil mereka melalui corak penggunaan masa mereka. Oleh itu, dua pendekatan utama telah digunakan untuk menilai kerja yang tidak dibayar iaitu: i) kos ganti, dan ii) kos lepas. Secara amnya, kajian kerap mengatakan bahawa orang tua adalah bebanan kepada masyarakat. Oleh itu, kos anggaran dari kedua-dua kaedah tersebut akan digunakan untuk membezakan jurang ekonomi antara sumbangan ekonomi yang dihasilkan oleh orang tua dan kos pencen yang diberikan oleh kerajaan yang telah digunakan oleh pesara.

Seramai 210 orang responden telah mengikuti kajian ini. Regresi logistik multinomial dilakukan untuk memodelkan hubungan antara faktor sosio demografi (jantina, umur, tahap pendidikan, status pekerjaan, tahap pendapatan dan status perkahwinan) dan kelompok dalam empat kumpulan (jenis tenaga kerja, isi rumah jenis pengurusan, jenis penjagaan atau sokongan dan jenis pengurusan diri). Hasil kajian menunjukkan bahawa

masa yang digunakan untuk aktiviti produktif oleh orang tua berbeza berdasarkan faktor sosio demografi. Kebarangkalian orang dewasa yang lebih tua tergolong dalam kelompok tertentu sangat berbeza mengikut jantina, tahap pendidikan, status pekerjaan, tahap pendapatan dan status perkahwinan. Ini membantu menjelaskan jenis atribut apakah yang membina perbezaan pada dewasa yang lebih tua melalui pelbagai jenis aktiviti produktif.

Kesimpulannya, orang tua mungkin dianggap tidak aktif tetapi mereka sebenarnya menghasilkan lebih banyak dari orang sangkakan. Oleh itu, hal ini pasti memerlukan perkongsian tanggungjawab antara pemerintah, sektor swasta, badan bukan kerajaan dan masyarakat untuk memahami potensi peranan orang dewasa yang lebih tua sebagai anggota masyarakat yang aktif dan ia juga dapat mempromosikan tentang pentingnya penuaan produktif di masa hadapan.

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This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfillment of the requirements for the degree of Master of Science. The members of the Supervisory Committee were as follows:

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I hereby confirm that:

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LIST OF ABBREVIATIONS

AOTA	The American Occupational Therapy Association
FRGS	Fundamental Research Grant
GNP	Gross National Product
ILO	International Labor Organization
MTUS	Multinational Time Use Archive
NBS	National Bureau of Statistics
NGO	Non-governmental organizations
SPSS	Statistical Package for Social Sciences
TD	Time Diary
TVEs	Township and Village Enterprises
UK	United Kingdom
UPM	Universiti Putra Malaysia
US	United States
WHO	World Health Organization

CHAPTER 1

INTRODUCTION

This chapter presents an overview of the current study. It consists of the background of this study, followed by research problems, research questions, research objectives, research hypothesis, the significance of the study and limitations of the study. The conceptual and operational definitions of the variables are presented at the end of this chapter.

1.1 Background of the study

Population aging is a socio-demographic phenomenon where fertility and mortality rates decline simultaneously driving the proportion of elderly population to increase (Bloom & Luca, 2016). Population aging is one of the most critical socio-demographic phenomena across the globe. It is estimated that the number of older populations aged 65 years and above had increased from 524 million in 2010 to approximately 1.5 billion in 2050 (World Health Organization (WHO), 2021). It is projected that by 2030, when older persons reached to 1 billion—1 in every 8 of the earth's inhabitants consist of older person (National Institute of Health (NIH), 2019). According to World Population Prospects 2019 (United Nations, 2020), by 2050, 1 in 6 people in the world will be over the age of 65.

About 72% of the entire elderly population are residing in developing countries. However, as the most rapid increases in the 65-and-older population are occurring in developing countries, the proportion of this age cohort is predicted to jump of 140 percent by 2030 (National Institute of Health (NIH), 2019). The speed of aging in Malaysia was reported to be the second highest in the South East Asian after Singapore. Thus, not surprisingly, Malaysia reported a rapid increase in its population aged 65 years and older.

Malaysian elderly population is estimated to be 2.12 million in 2018, has risen to 2.21 million in 2019, and by 2040, the figure is expected to increase to over 6 million. In 2020, there will be a transition of the population structure from young to the older population as there is an estimation that the people aged 65 years and older is projected to hit more than 7% (Department of Statistics Malaysia, 2021). Malaysia is projected to become an aged nation in year 2035 when 15 per cent of the Malaysian population consist of older person aged 65 and above.

Changes in population age structure pose special challenges to a nation, specifically policymakers because population aging has a significant impact on areas such as social welfare, public health and economic prosperity (Mafauzy, 2010). For example, since longevity is not necessarily accompanied by good health, aging has contributed to the

increase in the prevalence in Non-Communicable Disease (NCDs) (World Health Organization (WHO), 2015), hence increase the economic burden of care. According to Plouffe & Kalache (2010), population aging increased economic pressure to sustain them. In addition, population aging also means shrinking workforce that can affect economic prosperity (Rose et al., 2012). In short, previous literature (e.g. Mansor, Awang & Rashid, 2019) often painted older person as burden. However, Murthy, Abdullah & Abdullah (2019) stated that older people are utilizable assets to reduce fiscal burden and sustain productivity in the labor force. In other words, with proper policy in place older person can remain active and continue to be productive and contribute to the economy and the society.

According to Askham (2004), productive aging is an approach that highlights the positive elements of aging and how people can make significant contributions and meanings to their own lives, organizations, communities, networks and societies in general. Earlier literature (Rowe & Khan, 1997) on productive aging consists of two schools of thoughts.

First, productive aging equated to economic contributions made by older persons such as the inclination and capacity of those in the older generations to keep themselves involved in socially and economically in productive activities (Takamura, 2002). Consequently, earlier theories regarding productive aging focused on individual action (e.g., Richwine, 2013) that elderly lifestyle is stereotyped as homogeneous and productive capacity is only assumed among those below retirement age. That is, beyond retirement age, people are no longer able to produce, hence can only consume (Visaria & Dommaraju, 2019). Since, older person is not a "productive" segment, population aging represents a "demographic time bomb" which will add nothing but burden a country's economy and other sectors. Based on this, it is also worrisome that the workforce who contribute to the economic prosperity is shrinking while the proportion of population who collect pensions and utilizing healthcare facilities are growing (Kidder, 2013).

The second school of thought such as Sayer, Freedman, & Bianchi (2016) defined productive aging to include aspects of life that are beyond the economic contributions of a person. For instance, it includes older generations' contributions to society through the demonstration of their respective values, in using and maximizing resources and doing socially and economically beneficial activities. In contrast to the first perspective, older populations are acknowledged to be non-homogeneous and that it focuses on productive activities instead of individual action. As the perspective of productive aging is broaden, Ujimoto (1999) concluded that reduction in productivity among older person is the greatest in work tasks. In other words, performance often declines for older people, but not necessarily for all tasks (Skirbekk, 2004).

1.2 Statement of Problem

Past studies generally divided in their perspective on old age productivity based on two ground – i.e. one's ability to accomplish task and defining what is productive activities. First, on the basis of their productive capability, Kim, Min & Min (2019) suggested that most older people do not engage themselves with productive activities and the possibility of such habit rises as an individual grows older. In other words, older workers were found to be less productive in the workforce (Ng & Feldman, 2008), even though it does not necessarily apply for all tasks (Mudrazija, 2019). But generally, older persons are typically stereotyped as those who are outdated, frail and less independent hence, productivity is assumed to decline with age. The implication of such stereotyping is that employers are a bit apprehensive in hiring older persons.

Second, productive activities are often linked to paid work or employment (Lamo, Messina, & Wasmer, 2011). As such, older person who are not able, refuse or choose not to re-enter labor force after retirement may be seen as unproductive (Maestas, Mullen, & Powell, 2014). Consequently, the issue of older people being less or not productive carries with itself various types of impacts including economic, social and health impacts (Thanawala, 2012; Folbre & Bittman, 2004; Farquhar, 1995). Specifically, it would be worrisome to have increasing percentage of older generations who are being less productive over their prolonged course of life (Ferraro, Shippee & Schafer, 2009), that aging population tsunami is merely equated with old age dependency and burden to the society.

However, the System of National Account (SNA) acknowledge that some unpaid activities at home or household production such as caring for family members and involvement in volunteer activities are considered as productive activities (Hamermesh, Frazis & Stewart, 2005). As such, the perspective of what is productive in the context of older person has led to a different conclusion about older persons contribution to the economy and society as a whole, which become the basis of this thesis. In other words, the current study defines productive activities to include both paid and unpaid work. As Malaysia is also experiencing demographic changes towards aging population, it is timely to assess if older person is merely a burden to the nation or that they have contributed but unaccounted for due to the choice technical definition of productive activities which only include paid work.

Moffatt (2000) highlighted the contributions that might be made to the society from the participations of the increasing number of senior people in the economy, who may no longer be in the workforce but are still healthy, and rich in experience, knowledge and skills. However, aging is typically followed by medical-related problems, associated with pathologies and physical decrements (Moffatt, 2000). Around 92% of older people to have at least one chronic health conditions and 77% to have at least two (National Council on Aging, 2018). This may explain why older people have less or no desire and capacity to remain active in their lifestyle by allocating time in their daily life for

productive activities such as exercising. Instead, most of their times are only spent on leisure activities like watching television. Consequently, physical inactivity may affect their cognitive health, hence impacting on elderly's ability to learn, think and remember.

In short, physical limitation and health status of older person may hinder older person from engaging in “productive” activities at home such as cooking and cleaning. Consequently, it raised as question about the possibility of redefining what is “productive” for older person with such limitation. Would it be possible to consider older person to be productive as long as they can maintain physical and mental independence? Hence, as long as they can clean up after themselves, they can be considered as “productive”? On this basis, the current study attempts to analyze older person activity through their time use pattern – i.e. how they use their time on a daily basis. Therefore, it is of utmost importance to measure time use amongst the older people to thoroughly assess if they are truly amongst the productive segments of the population. Also, this study would be able to fill the gap in the literature through the estimations of the economic value of their contribution to the society and profiling older individuals with different levels of productive aging through the information of their time use.

1.3 Research Questions

As mentioned above, the pattern of time use and the economic value are very important factors in profiling older person with different types of productive aging through their time use. Therefore, this research study predicts the likelihood of socio-demographic factors on types of productive aging through time use and estimating the economic value of their contribution to the society. For that reason, the current study attempted to answer the following research questions:

1. What is the pattern of time use among UPM's retirees?
2. How time use pattern among UPM's retirees can be categorized into productive activities?
3. What is the prediction of socio-demographic factors on productive use of time among UPM's retirees?
4. What is the economic value of productive activities of UPM's retirees?

1.4 Research Objectives

The general objective of this study is to predict the likelihood of socio-demographic factors on type of productive aging through time use among UPM's retirees. Specifically, the research objectives of the study are:

1. To determine the pattern of time use among UPM's retirees.
2. To determine productive activities categories among UPM's retirees based on time use pattern.
3. To determine the prediction of socio-demographic factors on types of productive aging among UPM's retirees.
4. To estimate the economic value of productive activities of UPM's retirees.

1.5 Research Hypotheses

This study has seven hypotheses which tested the prediction between socio-demographic factors (gender, age, education level, marital status, employment status and income level) and the productive activities experience among UPM's retirees. Specifically, the null hypotheses of the study are:

Ho1: Gender is not statistically significantly predicting type of productive aging.

Ho2: Age is not statistically significantly predicting type of productive aging.

Ho3: Education level is not statistically significantly predicting type of productive aging.

Ho4: Marital status is not statistically significantly predicting type of productive aging.

Ho5: Employment status is not statistically significantly predicting type of productive aging.

Ho6: Income level is not statistically significantly predicting type of productive aging.

1.6 Significance of Study

The significance of this study can be viewed from three perspectives namely, knowledge (theoretically), social practice and policymaking. From the perspective of knowledge, this study is significant in two different ways as follows, extension of the theory and contributions to the knowledge of aging. The findings will further confirm on some previous research results, help to clarify and explain the inconsistent conclusions from prior studies in the area. This research could also be a useful reference for further researches in the future.

Besides, significance of study is important to illustrate the contribution of this study on the society. It provides information on how the research can be contributed to the present generation and will be beneficial to the development of science and the society in general. This research is valuable to the society as it is to extend and to improve quality of life of the elderly. It can be used as a guide to help older adults to find meaning and value in their lives. Besides, it is an attempt to allow the society to explore potential roles of the elderly as active members of a community. The society will understand more on the nature of aging, the aging process, diseases and conditions associated with growing older, in order to extend the healthy, active years of life.

Public policies and NGO can determine on how elderly daily life is structured as a guide to know what kind of specific problems or needs they have. In addition, result of this study could be used as a new strategy by policy makers for building capacity and providing institutional support for older adults to understand more on productive aging in Malaysia. Policymakers can use the findings to improve community planning, social services, research and development projects, and personnel training in the field of aging.

Government can use the information from these findings to look into health care policy affecting older adults, with a focus on ensuring a good access for older person's needs. Besides, the findings may be favor for government to fund for beneficiary outreach and enrollment activities that improve elderly's lifestyle in future. A national strategy can be made to promote aging in place, as this is the preference of so many older adults. Government should accelerate federal support for accessible housing and transportation, to incentivize aging in place. The ability to develop and implement a national aging-in-place strategy will do much to redress ageism at the local level—keeping older adults visible and active in the community is important to keeping them front and center in policy making.

1.7 Limitation of Study

All research has its limitations and this one is no exception. The first limitation relates to time constraints, which have led to several other factors that may have been of interest to this study being omitted from the research. Besides, due to the time limitation, this was short-term research. Given this situation, it would be interesting for future studies to be conducted over a longer term with a larger sample to ascertain if the findings differed from those of this present study.

Moreover, due to the budget and time constraints, this study has been conducted around Klang Valley district only. Besides, this study is limited only for UPM workers whose has been retired that live in Klang Valley district. However, this study is a secondary data that cannot be generalized in Malaysia as it involved only in one district and has a limitation of not being able to represent the whole population of retirees in Malaysia.

Finally, another aspect that may have predicted the outcome of this study is that the results were obtained via questionnaire method. The accuracy of this study is depending on the commitments and honesty of the respondents from the secondary data. Hence, the findings may inevitably contain some bias.

In order to get a clear picture of this research, it is important to establish a common understanding for the specific terms that were used in this study. Thus, the following key terms were defined.

1.8 Conceptual and Operational Definition of Terms

In order to get a clear picture of this research, it is important to establish a common understanding for the specific terms that were used in this study. Thus, the following key terms were defined.

Time use

Conceptual: According to Thanawala (2012), time use is defined to study how people use their time, what activities people do week to week or day to day, what people are doing, where they are, who they are with, and how they feel minute to minute.

Operational: Time use in this study is to measure the productive activities among older persons by using time use survey of stylized method with interview technique and self-reporting technique.

Productive aging

Conceptual: Productive aging can be defined as older adults' contributing to society, through demonstrating their own value, doing economically and socially productive activities and utilizing resources (Rose et al., 2012).

Operational: Productive aging in this study is time use pattern indicated by respondents which consist of both paid and unpaid work and self-management.

Economic valuation

Conceptual: It defines the value of older people's production can be directly measured in market prices that can be determined using either an input (opportunity cost) or an output approach (replacement cost) (Cook & Dong, 2011).

Operational: The estimation of economic value of the productive activity indicated through time use pattern among UPM pensioner using opportunity cost method.

Labor – related activities

Conceptual: Jobs for which individuals are paid in cash or kind, as well as activities such as selling general use items, having a small business, working on a family farm or in a family business, including seasonal work and excluding housework (Jensen, 2011).

Operational: Labor-related activities in this study is a list of jobs which subjects provide duration of time measured in nominal scales.

Household management activities

Conceptual: Dealing with the practical application of the principles of management such as various tasks and chores associated with the organization, financial management, and day-to-day operations of a home (Dugan & Barnes-Farrell, 2018).

Operational: Household management activities in this study is a list of house tasks and chores activities which subjects provide duration of time measured in nominal scales.

Care or support activities

Conceptual: The act of attending to the physical, emotional, psychological and developmental needs of other individuals. It consists of two types of activities, which are direct, personal and relational care activities (Paúl, Ribeiro & Teixeira, 2012).

Operational: Care or support activities in this study is a list of care and support activities which subjects provide duration of time measured in nominal scales.

Self – management activities

Conceptual: Activities which bring a constant everyday independence for elderly, where they can diligently nurture their lives. Activities that demonstrate their inclination to learn, independently occupy their daily schedule and enrich their lives (Hank & Stuck, 2008).

Operational: Self – management activities in this study are a list of self-management activities which subjects provide duration of time measured in nominal scales.

Socio-demographic factors

Conceptual: The term socio-demographics refers to particular characteristics of a population such as age, race, gender, ethnicity, religion, income, education, home ownership, sexual orientation, marital status, family size, health and disability status, and psychiatric diagnosis (Sahlen et al., 2012).

Operational: Socio-demographic variables such as gender, age, education level, marital status, employment status and income level that measured in nominal scale will be used in this study to explore how older persons consume their daily time differently.

Gender

Conceptual: Gender is a term to describe individuals' social identity such as woman/female and man/male (Bloss, 2017).

Operational: Gender in this study is a list of male/female which subject measured in nominal scales to utilize as a predictor.

Age

Conceptual: Age is the period of time someone has been alive or something has existed (George et al., 1980).

Operational: Age in this study is a list of three age categories which subject measured in nominal scales to utilize as a predictor.

Education level

Conceptual: Education level is an indication of the years of schooling successfully completed in graded public or private schools, and in colleges, universities, or professional schools (Da Wan et al., 2018).

Operational: Education level in this study is a list of four education level categories in Malaysia which subject measured in nominal scales to utilize as a predictor.

Marital status

Conceptual: Marital status is the distinct options that describe a person's relationship of being either married or not married (Stack & Eshleman, 1998).

Operational: Marital status in this study is a list of two categories such as has spouse and no spouse which subject measured in nominal scales to utilize as a predictor.

Employment status

Conceptual: Employment status is the position of an individual of being legally employed or unemployed (Dooley, 2003).

Operational: Employment status in this study is a list of two categories such as employed and fully retired which subject measured in nominal scales to utilize as a predictor.

Income level

Conceptual: Income level is the amount of money earned by an individual over a given period of time measured by Gross National Income (GNI) per capita and varies for high, middle and low income respectively (Smeeding & Weinberg, 2001).

Operational: Income level in this study is a list of three level of income categories such as high, middle and low income which subject measured in nominal scales to utilize as a predictor.

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