

[Information]

Emerging Population Ageing Challenges in Africa: A Case of Ethiopia

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Abstract

Population ageing is an emerging challenge in Ethiopia whose demographic features indicate slow but steady changes. As of 2010, about 5.1 percent of the Ethiopian population were 60 years old or over whereas 53.1 percent are younger than 15. If current demographic projections for Ethiopia hold, population ageing would accelerate and 10.3 percent of its population, or about 19.4 million people, will join the club of the elderly by 2050.

Objective

To analyze the trend and possible consequences of population aging in Ethiopia and explore policy options.

Method

Use data from Demographic and Health Survey and United Nations population estimates and projections to assess the current as well as likely future demographic dynamics in the country.

Results

Ethiopia is facing daunting demographic growth and population aging challenges without the commensurate financial and infrastructural resources. It is time to pursue policies that jointly address the problems of unsustainable population growth and rapid population aging.

Keywords: population aging, demographic transition, public policy, Ethiopia

I. Introduction

Population ageing is the phenomenon in which the median age of the population exhibits a steady rise over time and the elderly would have an increasing share of the total population. Economic development, social value changes and institutions were the driving forces behind the historical demographic transitions¹⁻³⁾. Recent demographic transitions, however, were initiated by fast declines in death rate in response to improvement in health services and public health measures. The fertility rate has followed a gradual decline sustaining the population aging process. As a result, population growth rate increased steadily until it peaked during the late 1960s at about 2.5 percent and started its steady decline afterwards to its current

level of about 1.3 percent per annum⁴⁾.

Population ageing is an emerging challenge in Africa. The problem is not yet pervasive and only 5.3 percent of the population is older than age 60⁴⁾. There is, however, a process of demographic change in African countries that indicate possible shifts in the population ageing situation in the foreseeable future.

Ethiopia has emerged as one of the most influential driving forces of the demographic future of Africa. Ethiopia, with about 87.1 million population which grows at a rate of about 2.6 percent per annum, is not only the second most populous countries in the continent but also exhibits demographic transition processes that shape the population ageing phenomena of the continent. The central theme of this research is

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to examine the extent and speed of population ageing in Ethiopia and assess the population, economic, social and policy issues of the country in shaping the behavior of families towards family size and the ageing process.

Ethiopian demographic features are unique among African countries in that most projections indicate rapid population ageing, decline in birth rate, and rise in median age of the population. We explore policy options and coping mechanisms that combine both traditional and modern methods to deal with challenges of population ageing in search of an environment in which the elderly live a long, healthy, and dignified life. The rest of the paper is organized as follows. Section two briefly highlights the main demographic features and trends in Ethiopia and analyzes political, social and economic issues that influence demographic outcomes. The focus of section three is population ageing in Ethiopia and discusses policy options and constraints in the country. Section four draws concluding remarks.

II. Ethiopia: Demographic Characteristics

Africa is home to more than 1.03 billion people in 2010 and its population growth rate of 2.46 percent is relatively fast. Between 1950 and 2010, total population increased by more than four-fold which amounted to about 13.2 million net annual average addition for the last 60 years⁴⁾. African population growth rate was accelerating until it peaked during the mid-1980s at about 2.8 percent per annum giving the continent an exceptional pace of population growth. This population growth momentum has reflected itself in not only on the size of the total population but also on the composition and age structure of Africans.

Ethiopian population, according to the 2007 population census, was dominated by the young dependents under the age of 15 whose share was about 45 percent of the population. The share of the elderly, over 65 years old, was about 3.2 percent of the population⁵⁾. Ethiopia had one of the highest fertility rates in the world with about 7 children given birth per woman for much of the period from 1950 to 2000. The current fertility rate of 4.8 children per woman is a significant reduction from earlier decades and yet it is still high compared to the average global fertility rate of 4.9 during the 1950s^{4, 6)}. At the current rate of population growth of about 2.2 percent per annum, the Ethiopian

population would double in about 30 years.

Ethiopia has high but gradually declining fertility rate. There are a number of peculiar economic, socio-cultural, environmental, and policy issues and factors that shape the fertility transition and its impact on demographic variables. First, both women and men enter into marriage at an early age. The average median age for women to enter into their first marriage was about 16.4 years old by 2000 and currently it is about 16.5⁶⁾. Marriage and childbearing are closely related and socially acceptable and encouraged. This provides a long span of childbearing years for women. Among women in 25-49 age group, 30 percent got married by age 15 whereas 63 percent got married by age 18, and 91.4 percent by age 25⁶⁾. Second, marriage is almost universal for both men and women. Survey results in 2011 indicated that by the age of 30, only 4.1 percent of women and 10.1 percent of men were never married⁶⁾. This social norm provides ample and socially acceptable opportunities for childbearing for families. Third, childbearing starts relatively early among Ethiopian women. Nearly 34 percent of women give birth to their first child by age 18 and 54 percent by age 20 and the birth interval is quite short. More than 20 percent of births occur within 24 months of the previous birth and about 56 percent within three year⁶⁾. Fourth, fertility in rural areas is still at 5.5 children per woman as compared to 2.6 children per woman in urban areas where education of women, relative wealth status, and better access and practice of family planning influence the birth choices of families. Fifth, the actual fertility behavior of families is influenced by the knowledge and availability of family planning services.

The total wanted fertility rate in Ethiopia is about 3 children per woman as compared to the actual total fertility rate of 4.8⁶⁾. This suggests that fertility would have been much lower if unwanted pregnancy and births were prevented. Knowledge of contraceptive method seems nearly universal in Ethiopia with about 98 percent of survey respondents aware of both modern and traditional methods⁶⁾. The deviation could largely be explained by lack of or limited access to contraceptive methods.

Ethiopia has adopted an aggressive public sector drive recently to increase families' access to modern contraceptives. In contrast to the earlier notion that

economic development would be an effective contraceptive, the country has recently implemented strategies to provide modern contraceptive services through external-donor-financed programs. As a result, there has been increasing access as well as use of contraceptive across the country. The contraceptive prevalence rate (CPR) has grown from only 5 percent in 1990 to 8 percent in 2000 and 29 percent in 2011⁶⁾. This is remarkable even if there are wide differences between urban areas with about 50 percent CPR and rural areas with only 23 percent CPR. These initiatives have had impact on the fertility rate of the country and bound to have more impact as the access to modern contraceptive methods improves for rural households. Even though Ethiopian men and women do not consider fertility control and use of contraceptive as morally wrong, there is a general social norm especially in rural areas that encourages big family size and childbearing. However, actual access to contraceptives is limited creating gaps between intended and actual childbearing among families.

The crude death rate has been gradually declining over the decades. Part of the explanation is the spread of public health services, education in nutrition and sanitation, and importation of medical technologies from abroad and urbanization. However, more effort is needed to further reduce the death rate as the excessive disease burden from communicable diseases and rising health risk from non-communicable diseases is still high⁷⁻⁹⁾. These developments may initiate families to choose smaller family size endogenously by considering opportunity cost of childbearing and lifetime spending as well as investment behavior on the quality of children⁶⁾. Ethiopia is likely to experience

still robust, though declining, population growth rate due to population momentum on the one hand and rapid population aging. The combined outcome of reduced fertility rate and increased longevity would be increasing the median age of the population and the pace of population aging both in absolute terms and relative to other countries.

III. Ethiopia: Population Ageing and Policy Issues

Ethiopia undertook its first population census in 1984 which revealed that the total population of the nation was 42 million. The rate of population growth during the latter half of the 1980s was 3.25 percent implying the population doubling time of about 21 years. Indeed total population size almost doubled by the end of the millennium despite falling population growth rate in the intermediate years^{5, 6)}. The second and third population census of the country in 1994 and 2007 broadly confirmed the same demographic and socio-economic features of Ethiopia⁶⁾. Overall life expectancy at birth has improved from very low base of 39 years in 1960 to 60.4 in 2011⁴⁾. However, life expectancy at 60 is just 17 years¹⁰⁾ and the burden of diseases affect the elderly as influenza and pneumonia and stroke remain the main causes of death in this age group in Ethiopia^{11, 12)}.

Ethiopia is undergoing through a demographic transition and rise in the median age at a rapid rate. As figure 1 illustrates, the pace of population aging of Ethiopia will be exceptionally fast and will be driven by decline in fertility rate as well as rise in longevity. Current demographic estimates indicate that 5.1 percent of the population, or about 4.46 million people, are

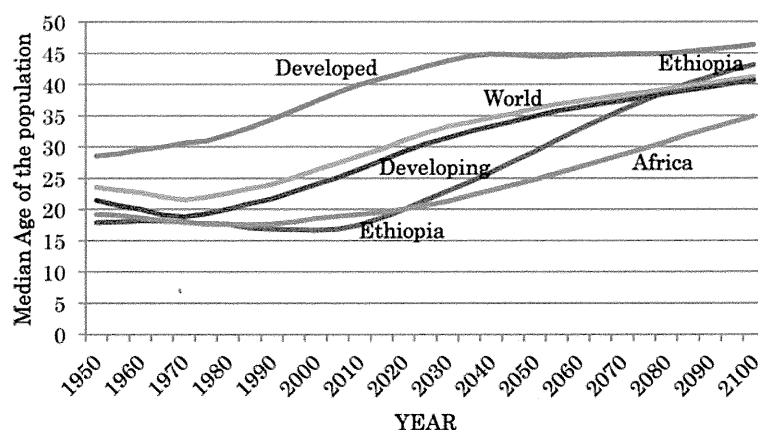


Figure 1 The Pace of Population Ageing in Ethiopia⁴⁾

60 years old or above of which 3.3 percent are at least 65 years old. Ethiopia is expected to join the club of aged society by the year 2040 with about 12.6 million elderly people or 7.7 percent of the total population⁴⁾. The number of the elderly increased by about 3.6 fold during the half century from 1950 to 2000 and is expected to increase further by more than 6.1 fold by 2050⁴⁾. These developments call for population, economic, and family policy intervention in time.

Ethiopia formulated its first population policy in 1993. The main focus of the national population policy was to reduce the gap between fast population growth rate and stagnant growth of the economy, to reduce the rural-urban migration, to improve the carrying capacity of the environment, and to raise the economic and social status of women and vulnerable groups in society. The plan sought to reduce total fertility rate from about 7.7 children per woman to 4 children per woman by 2015, increase contraceptive use from 4 percent to 44 percent by 2015, reduce infant, child, maternal mortality rates, and promote equitable economic development. The policy faced serious constraint in implementation capacity. The policy stance of the country stipulates economic development as solution to population problems^{6, 7)}. It was in 2006 that the government adopted a more comprehensive strategy to address population issues within the framework of achieving sustainable poverty reduction related to the millennium development goals.

The policy, however, has not explicitly addressed the emerging problems of population ageing and the issues of the elderly. The total neglect or marginal treatment of the issue is apparent in widely advocated policy statements. Reaching a retirement age is customarily considered a successful and healthy life of the individual and attracts wide admiration within the family and the community. However, there are serious economic, social and health problems that come with old age and the elderly would suffer from economic insecurity as well as age related diseases. The approach so far has been to secure long term care within the traditional extended family network but such a framework cannot be sustained if the share of the elderly in the population increases.

The population and families in Ethiopia have developed traditional coping mechanisms to address the needs and care of the elderly. Extended family

network and the widespread social custom of living with the family of the son or daughter of the elderly, the support from close and distant relatives and other elderly people in the community have played important role in the rural settings. Religious institutions as well as self-help associations have provided various assistance and care to the elderly. There are age related health issues among the elderly and the existence of young family members and caregivers greatly reduces the pressure on the elderly. However, as figure 1 illustrates, the demographic dynamics in Ethiopia is rapidly changing and the relative capacity of the traditional social network to manage the needs and priorities of the growing number of the elderly will not be adequate.

Moreover, urbanization and increase in labor market participation of women will make it increasingly difficult for families to accommodate the needs of the elderly. The increase in the share of the elderly would pose serious challenge on the traditional extended family support network unless supported by innovative measures and new initiatives such as community circles and long term care services. The limited financial readiness of the elderly as well as lack of policy intervention would hit the poor elderly community hard. It is hence time to explore alternative solutions that engage and involve the elderly themselves as well as the community in which they get both material and emotional support. Means tested social pension schemes especially for the poor elderly with no support system should be considered as the stress of life and disease incidence would reduce their life expectancy. Demographic problems also could hamper the economic development aspirations of the country^{7, 9)}.

The population ageing process in Ethiopia could potentially bring opportunities during the demographic transition by increasing the demographic bonus and increased labor supply in the economy⁸⁾. The fact that global aging is almost a universal phenomenon, the process could create opportunities for countries like Ethiopia with strong population momentum with relatively large economically active population. Provided that education and training services as well as appropriate health services are used to prepare the labor force for productive activities with the necessary skills, important advantage can accrue to the

nation and help prepare for the emerging population ageing challenge. Regional and global initiatives within the context of Post-MDGs could help the country cope with new challenges from rapid population ageing. Countries that recognize and effectively respond in time are well positioned to improve their standard of living and their role in the global economy.

IV. Concluding Remarks

Ethiopia is in its early stage of demographic transition. The demographic features of the country have high but declining fertility, birth rate, death rate, and population growth rate. Population ageing is a small but rapidly growing social, economic and health challenge that families, communities, and the nation should prepare to address. The most pressing challenge for policy makers and the government is how to provide employment opportunities to the youth who are joining the labor force at increasing rate and sustaining economic growth. Economic development could play influential roles both on the behavior of families with respect to their choice of optimal family size and on the readiness of families and society to cope better with problems related to population ageing.

The future demographic path of Ethiopia is dependent on the growth rate of per capita income, the extent to which access to basic public services such as education and health services are equitable across gender, urban-rural areas, the prevalence and accessibility of contraceptive use, changes in the pattern of marriage with respect to the age of marriage and the age women give birth to their first child and birth intervals.

The demographic projections of Ethiopia indicate significant departures from the historical trend. Rapid changes in the demographic features of the country can lead to fast population ageing before the economy, the country and families are ready to handle the problems associated with population ageing.

References

- 1) Guinnane, T. The Historical Fertility Transition: A Guide for Economists. *Journal of Economic Literature*, 2011; 49 (3), 589-614.
- 2) Clark, G. A Farewell to Alms: A Brief Economic History of the World, Princeton and Oxford, Princeton University Press; 2007
- 3) Fogel, R. The Escape from Hunger and Premature Death 1700-2100: Europe, America and the Third World, Cambridge; New York and Melbourne, Cambridge University Press; 2004.
- 4) United Nations, Department of Economic and Social Affairs, Population Division. World Population Prospects, the 2012 Revision, DVD Edition, 2013.
- 5) Central Statistical Agency of Ethiopia. 2007. The 2007 Population and Housing Census of Ethiopia-Statistical Report, Addis Ababa, Ethiopia.
- 6) Central Statistical Agency [Ethiopia] and ICF International (CSA and ICF). *Ethiopia Demographic and Health Survey 2011*. 2012, Addis Ababa, Ethiopia.
- 7) Galor, O. The Demographic Transition and the Emergence of Sustained Economic Growth. *Journal of European Economic Association*, 2005; 3 (2-3): 494-504.
- 8) Becker, G., Murphy K. and Tamura R. Human Capital, Fertility, and Economic Growth. *Journal of Political Economy*, 1990; 98 (5), S12-37.
- 9) Bleakly, H. and Lange F. Chronic Disease Burden and the Interaction of Education, Fertility and Growth. *Review of Economics and Statistics*, 2009; 91 (1), 52-65.
- 10) World Health Organization (WHO), Global Health Observatory database, (Accessed online on September 25, 2013 at http://apps.who.int/gho/indicatorregistry/App_Main/view_indicator.aspx)
- 11) Mathers, C. and Loncar D. Projections of Global Mortality and Burden of Disease from 2002-2030, *PLoS Medicine*, 2006; 3 (11), e442.
- 12) World Health Organization (WHO), Global Burden of Disease: 2004 Update, 2008, (Accessed on July 10, 2012 at http://www.who.int/healthinfo/global_burden_disease).

実践報告

筑波大学グローバルエイジングセンターの活動

—地球規模の高齢社会に向けた国際的・学際的取り組み—

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現在、高齢化はもはや先進国のみでなく途上国でも急速に進展し、グローバルな課題となっている。増加する高齢者の身体的、精神的、社会的に健康な生活をどのように支えるか、社会全体としての迅速な対応が求められている。特に、経済、社会基盤が未だ十分に整っていないうちに高齢化を迎えた（る）途上国において、高齢化への備えが急務となっている。かかる状況下、超高齢社会のフロントランナー日本の経験、知見に対する国際的関心が非常に高まっている。一方、高齢化対策の検討には、介護、医療、社会保障から、家族のあり方や、宗教、死生観まで多岐にわたる社会、文化的背景の尊重が必須であり、分野横断的、学際的な取り組みが求められる。

そこで、筆者らは日本の高齢者対策の経験を世界へ発信する国際的かつ学際的な研究・教育拠点「筑波大学グローバルエイジングセンター」の設立準備を進めている。エイジングに関する研究を扱う様々な分野同士が本センターを通して意見交換を行い、協力し合い、共同研究活動ができる拠点を目指している。そのキックオフとして開催した国際会議「The 1st International Conference on Global Aging Tsukuba」ほか、初年度の活動をここに報告する。

キーワード： 高齢化， グローバルエイジング， 国際保健

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I. はじめに

世界的に進む高齢化に、近年国際機関は警鐘を鳴らしている。2012年のWHO世界保健デーのテーマは「高齢化と健康」であり、リプロダクティブ・ヘルスを中心的課題に据えるUNFPAも同年に高齢化について報告書をまとめた。これによると、現在、60歳以上の高齢者が人口の30%以上を超える国は日本だけだが、2050年には64カ国に増えると予想されている。高齢化の進行は途上国においてより急速で、2050年には、世界20億人の高齢者のうち8割が途上国の高齢者となる(図1)^{1,2)}。

高齢化、つまり、より多くの人々が長寿を享受できるようになったというそれ自体は大変喜ばしいことである。しかし、同時に進む少子化により家族や社会の支え手が減少する中で、増加する高齢者の身体的、精神的、社会的に健康な生活をどのように支えるかは重要な課題であり、社会全体としての迅速な対応が求められている。特に、経済、社会基盤が未だ十分に整っていないうちに高齢化を迎えた(る)途上国において、この問題は深刻である。

こうした状況下、超高齢化のフロントランナーである日本の経験、知見に対する国際的関心が非常に高まっている。実際、この機運に対し、日本国政府(外務省)も、長寿健康社会を日本ブランドにして、国際保健を日本外交の重要な課題としてオールジャパンで推進しようという、国際保健外交戦略を平成25年に策定している³⁾。

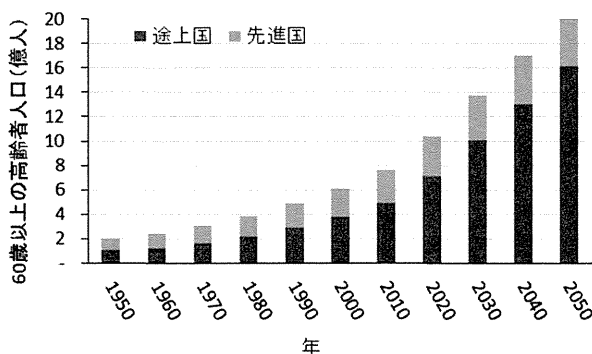


図1. 途上国、先進国別高齢者人口の推移²⁾

ここで、高齢化対策を検討する上では、高齢者一人ひとりの健康や幸福を追及するミクロな視点と、それを支える社会政策の在り方というマクロな視点、双方が欠かせない。言い換えれば、個人の生き方、死生観や家族観から介護、医療、社会保障まで、多岐にわたる社会的、文化的、政治的背景の尊重が重要であり、従来の医療、経済などの分野別のアプローチを超えて、学際的に取り組まなければならない。グローバルな取り組みにおいては、各国の社会的、文化的、政治的背景の尊重はますます重要であり、学際的かつ包括的な新しいアプローチが一層求められているといえよう。

II. 筑波大学グローバルエイジングセンター

このグローバルなニーズに応えるべく、筆者らは、日本の高齢者政策の実証研究の学術的発展をはかり、高齢化に全方位的に対応できる、国際的かつ学際的な研究・教育拠点「筑波大学グローバルエイジングセンター (Center for Global Aging Tsukuba、略称CGAT)」の設立準備を進めている。世界最高水準と呼ぶに相応しい実績と学際融合性などを有し、新たな学術研究分野を切り拓く教育研究組織へと発展させるべき研究拠点の卵として、平成25年度筑波大学プレ戦略イニシアティブ(研究拠点提案型)に採択されたものである。

1. 目的

- 1) 高齢者に特化した、国境と学問領域を超える多様な研究者同士の架け橋の形成：CGATを通して本学を中心としたエイジングに関連する様々な分野同士が出会い、意見交換を行い、協力し合あえる機関として位置づける。助成金獲得支援も行い、共同研究活動、共同教育活動を促進する。
- 2) 我が国の経験の実証評価による根拠に基づき、かつ各国を尊重した学術研究および政策提言の推進：我が国の経験に学びたいという海外からのニーズが高まる一方、介護保険評価など実証研究自体がまだ少ないのが我が国の現状である。グローバルなニーズに対

応するためには、学際的かつ包括的な新しいアプローチで、我が国の介護保険制度の分析を一層進める必要がある。また、欧米の介護先進国、高齢化が進展している途上国の高齢化にかかわる現状と課題についても情報収集を行い、日本や各国間の比較研究を通し、相互に学び合うことが重要である。

3) 研究と教育を有機的に結びつけ、若い発想を尊重した新たな学際的高齢者研究の推進と成果の発信：筑波大学は文部科学省事業「国際化拠点整備事業」である「グローバル30 (G30)」に採択されており、2013年12月現在、109もの国と地域から2千人を超す留学生が在籍している（筑波大学留学生交流課調べ）。この国際色豊かな人的リソースを活用し、各国の高齢化および高齢者、家族等の現状について情報収集を行うとともに、既存の研究者だけではなし得ない、柔軟な発想に基づく議論を、各国学生と共有することが可能である。新たな学際的学位プログラムの構築も将来的な構想として念頭においている。

2. 拠点体制

これらの目的を達成するための体制として、日本初の人のケアを包括的に研究する学際専攻であるヒューマンケア科学専攻、政策・社会分野で国際的教育実績のある人文社会系を中心に、エイジング問題に関心が高く、実績のある学内の教授陣14名を現在までに組織した。その専門は、法政策、社会医学、臨床医学、福祉、看護学、体育、心理、経済、障害学、社会保障にわたり、日本でここまで学際的なエイジングの組織はないと自負している。それぞれのリソースを活かしつつ、互いに協力して研究、教育活動に取り組んでいく（図2）。

さらに後述の国際会議には、システム情報系、図書館情報メディア系など学内の多岐にわたる分野から多くの外国人教員や若手研究者が参加したほか、産業技術総合研究所、国立社会保障・人口問題研究所、ユタ大学エイジングセンター（アメリカ）、日本老年学会等からの協力、助言を得ている。活動1年足らずで、様々なネットワークが立ち上がり、当初の想定以上にこうした繋がりが求められていたことを実感して

いる。

最終的な拠点体制としては、副次的組織として、政策立案のための基礎データ、根拠を学術論文成果として出すことに特化したヘルスサービスリサーチ部門と、その結果を踏まえた実際の政策提言を担う社会政策部門をおき、共同研究の実施および成果の学際的・国際的共有を全体のエイジングセンターとし、海外の他大学のエイジングセンター、行政、民間企業、関連団体や学会など、官民産と連携・協力しながら運営する計画である。（図3）。

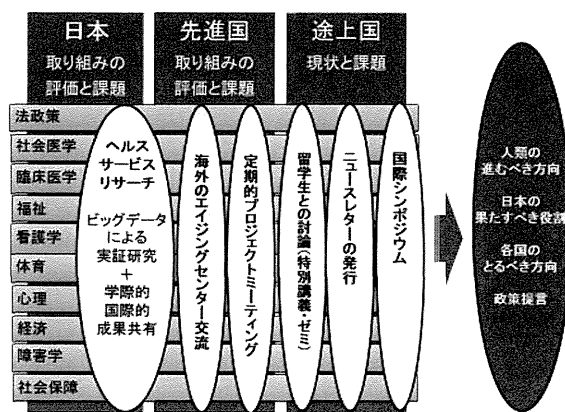


図2 拠点形成計画

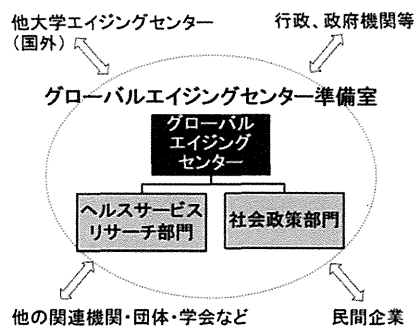


図3 拠点体制

Ⅲ. 活動

初年度は、まず、本学を中心としたエイジングに関する研究者同士の架け橋となり、国と学問領域を超えた交流による研究活動の活性化を図ることに主眼を置いた。主に学内の連携強化のために、セミナーおよび国際会議を開催し、また学際的講義を開講したところ、予想を超える参加者が集まり、本研究テーマに取り組み、または関心を寄せる教員、学生の幅広さ、多さ

が確認された。主な活動の詳細は以下の通り。

1. The 1st International Conference on Global Aging Tsukuba (2014年1月24日)

学内で様々な所属に分かれているエイジング関連の教員の発掘とネットワーク化を第一の目的として、学内より一般演題を募り、口頭発表19題、ポスター発表10題の計29演題の発表を得た。その領域は、医学医療系（高齢者の多剤服用による有害事象、嚥下障害のスクリーニング方法）、人間総合科学研究科（高齢女性のドメスティックバイオレンス、ADLの関連要因）、人文社会系（高齢者の文化的哲学的概念、ドイツにおける高齢者と労働生活）、人間系（認知症高齢者に対するCognitive Stimulation Therapy）、システム情報系（高齢者におけるセルフネグレクト）、図書館情報メディア系（高齢者向け地域図書館サービス）等、臨床医学から社会的話題、哲学にまでバラエティに富んだ。日本の研究のほか、海外をフィールドにした研究も欧州（ドイツ）、米州（メキシコ、チリ）、アジア（タイ）、アフリカと多地域に及んだ。この中で、口頭・ポスター発表それぞれに、若手研究者を対象とした優秀発表者を表彰し、若手研究者のモチベーションの向上を図った。

また、ロンドン大学キングス・カレッジ老年学研究所よりDr. 林真由美を招聘し、海外が興味を示している点、教訓となる点は何か、という観点から日本の介護保険制度について講演「Long-term care for older people: The Japanese example」を得た。さらに、産業技術総合研究所、オムロン、NTTデータの3社による出展ブースを設け、高齢化社会における産業界の先進的取り組みを共有したほか、ユタ大学エイジングセンター長ら海外の研究協力者からビデオメッセージが寄せられた。

学内66名、学外14名の計80名（うち外国籍は10か国以上から22名）の予想を超える多様な参加者を得て、分野、国を超えた横のつながり、分野内の縦のつながりを築く、貴重な交流の場となった。

一方、企画の過程では貴重な教訓を得た。ある分野ではポスター発表は一般的でなく、



論文を事前に配ったうえで最低30分の口頭発表を行うのが通常など、研究発表の方法について、分野毎のしきたりの違いを目の当たりにしたのである。学際的組織として、分野間の違いをどのようにすり合わせて共通化を図るかは今後の重要な課題である。

2. グローバルエイジングセミナー

国内外のエイジングに関わる研究者、実務家を外部講師に迎え、勉強会を行った。12月からはグローバルエイジングセミナーと銘打ち、CGATの一層のアピールに努めた。

- 「格差社会イギリスのプライマリーケア」ロンドン大学キングス・カレッジ医学部地域医療教育部門 特別研究員 武田裕子（2013年9月5日）
- 第1回：「変化を捉えるための指標の作成」老人保健施設竜間之郷施設長 大河内二郎（2013年12月12日）
- 第2回：「老健施設の現場から見た課題と分析」医療法人・社会福祉法人健清会理事長、公益社団法人全国老人保健施設協会副会長 高椋清（2014年1月9日）
- 第3回：「人類学者からみたグローバルエイジング」長崎大学大学院国際健康開発研究科 准教授 増田研（2014年1月21日）
- 第4回：「米国公衆衛生大学院への留学～ハーバード大学 MPH、DrPH、エール大学でのポストドクの経験から～」エール大学 Institute for Network Science 博士研究員 西晃弘（2014年2月12日）
- 第5回：「高齢者の医療・介護サービス

利用：「死亡前の累積入院日数と療養場所の移行について」東京都健康長寿医療センター研究所研究部長 石崎達郎 (2014年2月13日)

- 第6回：「Advance Care Planning: Progress and Challenges」亀田メディカルセンター Professor in residence Sandra Y. Moody (2014年2月20日)

3. 専攻横断型関連教育プログラム

1) G30 特別講義 (2013年9月26日、27日、10月3日)

G30の採択校であるという強みと本学ならではのフレキシブルな組織構造を生かし、様々な専門分野の留学生による各国高齢化対策についての発表と議論を中心とした学際的特別講義をH24年度に引き続き開講した。全学の学群、大学院の留学生6名(アフリカ2名、アジア2名、ラテンアメリカ1名、欧州1名)が履修し、Tsukuba Global Science Week 2013にて成果発表会を行った。若い柔軟な発想を尊重した新たな学際的高齢者研究の推進と成果の発信を可能とする貴重な試みであり、今後も継続していく。

2) 総合科目「法学入門～高齢社会と法～」(2013年度秋学期開講)

日本の高齢者の社会生活に関わる法的諸問題を概観する講座を、総合科目として全学対象に開講した。高齢者の社会生活に関わる法的諸問題の重要性の評価とともに、高齢社会における諸問題の多角的視点からの評価ができるようになることを目標とし、自治体、介護保険施設等からも講師を招いた。130名以上の学生が履修し、中でも「法学」にもかわらず理系の学生が多数受講し、幅広い学生の関心の高さと本テーマの学際性が改めて確認された。

IV. 今後の展開

今後は、さらに学内外での連携を深めるとともに、具体的な共同研究活動、共同教育活動につながるステップを検討したい。

具体的には、国際会議の発表を踏まえた、発表者同士、多彩な学問分野間のコラボレー

ション研究を推進する。その為の学際的研究者ネットワークの形成、コラボレーション研究プロジェクト会議などを運営し、研究の遂行がスムーズに行く環境作りをする。さらに、国際会議の参加企業等を中心に、産学連携の下での研究実施の準備を行う。また、国際連携としては、CGAT代表の田宮がSpecial Editorを務めるGlobal Aging (BioMed Research International Hindawi Publishing)の編集チームを核に、すでに交流のあるハーバード大学、ユタ大学、マイアミ大学(米国)、ブレーメン大学(ドイツ)、ウプサラ大学(スウェーデン)、シンガポール大学、チュラロンコン大学(タイ)との連携の強化と拡大を図り、共同研究の論文化、学生(院生)交換などをさらに推進する計画である。

また、第2回国際会議を、筑波キャンパスと東京大塚キャンパスとの二か所で行い、国際レベルでの参加者を募る。筑波キャンパスで実施の会議は、学内研究者・学生を主な発表者とし、東京キャンパス実施日には、学内外を問わず、広くエイジングに関わる研究の発表と招待講演を盛り込む。

さらに、1～2か月に1度、学内教員の持ち回りによる研究発表のほか、国内外のエイジングにかかわる研究者や実務家をゲストスピーカーに招き、グローバルエイジングセミナー等の勉強会を実施する。

専攻横断型の関連教育プログラムも継続して実施する。学内のグローバルエイジング関係の諸活動とも連携し、エイジングに特化した学際的学位プログラムや、国際的な介護人材育成プロジェクトにも本拠点の人材や蓄積した知を相互共有して進める予定である。

また、研究者同士の情報交換及び研究成果の一般化を目的として、季刊の英文ニュースレターの発行を継続し、2013年度に立ち上げたWebサイトを研究情報の拠点としても充実させる。

V. 結語

CGATの使命は、地球規模の課題となった高齢化に全方位的に対応できる国際的かつ学際的研究・教育拠点として、超高齢社会のフ

ロントランナー日本の経験、知見を世界に発信し、共有することである。

具体的には、エイジング関係の研究者らと有機的に結びつけ、学際的視点から研究を推進すること、そして、その成果を一般化または政策提言につなげることを目指している。その肝は、研究者一人一人である。CGATの今後の活動、共同研究に関心やアイデアのある研究者の方々、ぜひ協力を募りたい。

VI. 参考文献

- 1) UNFPA and Help Age International: Ageing in the Twenty-First Century: A Celebration and A Challenge, 21-23, 2012
- 2) UN Department of Economics and Social Affairs. Population Division. World Population Prospects, the 2010 Revision. 2011. Annual Population 2011-2100-Both Sexes. http://esa.un.org/wpp/Excel-Data/DB04_Population_ByAgeSex_Annual/WPP2010_DB4_F1B_POPULATION_BY_AGE_BOTH_SEXES_ANNUAL_2011-2100.XLS.
- 3) 外務省 . 国際保健外交戦略 www.mofa.go.jp/mofaj/files/000005947.pdf

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Activities report of Center for Global Aging Tsukuba — International and multidisciplinary approach toward global aging —

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Currently, rapid growth of aging population has become a vital concern globally, not only in the developed countries but also in the developing countries. Prompt action is required to support older adults to have physically, mentally and socially healthy life. Especially, developing countries, whose economic and social infrastructure is immature, preparedness for the aging society is urgently required. Under these circumstances, the experiences of Japan, as the frontrunner of the super aged society, take important world-wide roles. On the other hand, the aging issues require the wide range of discussions such as on long-term care, medical treatment, social security, role of family, religion, and view of life and death. To consider and respect these social and cultural backgrounds, multidisciplinary approach is crucial for enhancing the well-being of older adults.

Thus, as the start-up of an international and interdisciplinary research and education, “Center for Global Aging Tsukuba” has just been born to disseminate Japan's experience to the world. Our aim is to be the liaison among researchers in the various fields and promote their exchange of information and collaborative research. We herein report our activities in the first year such as “The 1st International Conference on Global Aging Tsukuba”.

Keywords: Aging population, global aging, global health

Predictors of volunteerism: A study of older adults in Japan

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Abstract

Volunteerism has risen steadily as a viable activity at old age in Japan for it gives older adults ways to contribute to society as well as enhancing their quality of life. It has also been addressed by the national government and adopted by many local municipalities under the long-term care insurance program as a health promotion and preventive care activity.

However, studies examining why older adults volunteer and why some don't are limited. Using a modified version of Baltes and colleagues' model of competence, this study examines the predictors of volunteerism among older adults in Japan. Data from a city located northeast of Tokyo was used (n=703). Results indicated that basic competence does not predict volunteerism, but rather competence gained from experiences. To increase the number of older volunteers, the study suggests that civic engagement must start at an earlier age coupled with financial stability.

Keywords: volunteerism, older adults, Japan, competence, long-term care insurance

1. Introduction

There are good reasons for Japan to promote senior volunteerism. Reasons to promote senior volunteerism are a by-product of three intersecting points. First, Japan's aging population has reached 23% and has become a super-aging society. Moreover, Japanese are living longer with better health, which means that there will be older adults who are capable of being independent and productive. Today, approximately one out of every five adults ages 50 years and above volunteers in Japan, a higher rate than for their younger counterparts. Volunteerism is concentrated mainly among older adults in their 50s and 60s (25.2% and 25.1%), and the rate declines for those 70 years and older (14.1%) (Ministry of Health Welfare and Labour, 2002).

Second, volunteerism may become the solution to a decreasing national social spending. Japan's real spending growth has outpaced sluggish real GDP-growth since 1990, so much that the public social expenditure-to-GDP ratio increased from 11.3% in 1990 to 18.7% in 2007 (Adema, Fron, & Maxime, 2011). The government foresees that older volunteers will play an important role in providing community-based social services (Ministry of Health Welfare and Labour, 1999). According to the White Paper on Older Adult's Lifestyle and Social Contribution by the Cabinet Office (2006), areas of interest for volunteering include nature and environmental protection, local and neighborhood activities, and caring for older adults and persons with disabilities.

Thirdly, volunteerism is considered as a healthy activity. Studies conducted in the United States show that volunteering decreases depressive symptomatology among older adults (Musick & Wilson, 2003). Local municipalities – responsible for planning and implementing long-term care insurance services – have increasingly added older adults' volunteerism as an activity to promote health and prevent long-term care needs.

When compared to older adults in other countries, Japanese older adults still volunteer at a lower rate. The number of older volunteers is growing, but only 2% in five years (46.6% in 2005, 48.3% in 2010) (Cabinet Office, 2011). A five country comparison study examined the percentage of older adults who have never participated in volunteer activities. In their sample, Japan had the second highest rate (51.7%) of older adults who have never participated in volunteerism or other civic activities after South Korea (74.2%). The three other countries - Germany (42.9%), the United States (33.1%), and Sweden (28.3%) - had more than half of their older adults volunteering or engaging in civic activities (Cabinet Office, 2010).

In the same study of the five countries, the top two reasons for not volunteering were “too occupied psychologically and time-wise” (32.2%) and “health reasons and lack of confidence in physical strength” (31.5%). While the top reason for all the other four countries was “not interested” (the United States 45.8%, South Korea 47.6%, Germany 37.3%, and Sweden 28%), only 15.9% of older Japanese answered the same. Similar results were found from the data collected for this study on community-dwelling older adults living in a City, located 60 kilometers northeast of Tokyo. As shown in Table 1, the top two reasons for not participating in any type of volunteerism were “not having the time” (19.2%) and “don’t have the chance” (15.5%), while 6.2% of the older respondents answered “not interested” or “bothersome.” These studies suggest that Japanese non-volunteers have an interest in volunteerism, but don’t think they are competent enough psychologically and physically to deal with volunteer activities. Studies have reported that the hierarchical progression in loss of competence exists as people age (Diehl, 1998). In face of a super-aging society, this suggests that there is a need among older adults wishing to participate in volunteerism.

Baltes and colleagues (1993) define the role of competence in face of everyday life. The model is separated into two components. The first component is basic competence, includes those activities that individuals must do to maintain health and independence in the community. They are defined by the individual on the basis of biological needs and sociocultural norms. Baltes and colleagues operationalized this basic component on the items of selected Activities of Daily Living (ADLs) (Katz, Ford, Moskowitz, Jackson, & Jaffe, 1963) and Instrumental Activities of Daily Living (IADLs) (Lawton & Brody, 1969). The second component, expanded competence was hypothesized to include the broader range of activities that are determined by individual preferences, motives, and interests.

Despite the importance of volunteering, the determinants of older adults’ participation in volunteerism in Japan are still largely unknown. There is a need for more empirical research to determine ways to promote older adults’ engagement with volunteer activities. As shown in Table 1, the review of the Japanese literature on why older adults decide to volunteer show that the number of studies are limited.

However, from what we know, there are three additional areas pertaining to Japan that may require scrutiny. In addition to Baltes and colleagues’ model on competence, there are two more components which may influence human competence. First, various experiences seem to motivate volunteerism. Current and past membership in other local community organizations and activities predict volunteerism (Okamoto, 2006; Okuyama, 2009). Furthermore, personal challenging experiences such as caregiving which motivate older adults to extend their assistance to others. Japanese experienced with caregiving for older adults or for children were more involved in volunteerism (Atoda & Fukushige, 2000; Nakajima, Nakano, & Imada, 2005). Personal experiences seem to motivate them to care for others through volunteerism.

Another aspect which is considered highly related is the evidence of mental health issues. A study on middle-aged and older Japanese men reported that participating in either volunteer work or paid work was associated with decreasing depressive symptoms (Sugihara, Sugisawa, Shibata, & Harada, 2008). Men who lost their paid work roles reported more depressive symptoms, and volunteer work attenuated the negative effect of losing these roles. As for women, paid or volunteer work had no independent association with depressive symptoms. However, engaging in multiple productive roles, in comparison with doing only housework, was related to fewer depressive symptoms.

In addition to the above, the third component of interest is work. In Japan, the employment rate for Japanese older adults is among the highest in OECD nations, exceeding the OECD average rate. Japanese men aged 55-59 had the second highest employment rate (89.2%), and those aged 60-64 (72.5%) and 65-69 (47.8%) had the third highest percentages among OECD nations. A survey on Japanese aged 55-69 showed that a greater percentage worked into old age for financial reasons (men 79.2%, women 67.6%). The Japanese national pension seems to promote work at old age. According to an OECD report (2007), the average gross replacement rate for mandatory pensions in OECD countries was 58.7%, while Japan (36.8%) had one of the lowest replacement rates for average earners along with the United Kingdom (34.4%) and Ireland (38.2%). Prior to the reform, the pension income replacement rate in Japan was 41% of average earnings, which was already below the average for OECD countries. That being said, studies show that older adults who are financially well-off or satisfied were more likely to volunteer (Atoda & Fukushige, 2000; Nakajima, et al., 2005), and those who were receiving a monthly working wage (i.e., employed) were less likely to volunteer (Ono, 2012).

The research aims to contribute to the literature in two ways. First, a sociodemographic profile of volunteers and non-volunteers is constructed to examine any differences in the two groups. Moreover, reasons stated by older adults who have not volunteered in the past five years are reported. Second, the research attempts

to examine what characteristics of older adults affect their decision to volunteer. This study will examine the predictability of competence, especially expanded competence with additional variables including financial, mental, and experiential competencies for engaging in volunteer activities.

2. Methods

2.1 Source of data

This study uses data collected for a city located 60 kilometers northeast of Tokyo, the capital city of Japan. The data collection is mandated by the Long-term Care Insurance Law for the use of municipal planning of elderly social services. The data collection consists of four target groups: (1) older adults ages 65 and older who are not long-term care insurance program beneficiaries, (2) community-dwelling older beneficiaries who are certified for use of long-term care insurance services, (3) adults ages 40 to 64 years old, and (4) care managers who work in the city's social service agencies. The data collection was done by mail between February 1 to 14, 2011. The average response rate for all four target groups was 51.5%. For this study, data collected from older adults who are not beneficiaries of the long-term care insurance program was used. The surveys were mailed to 1,400 adults, and the response rate was 62.1% (n=869).

2.2 Analysis

SPSS version 21 was used for the analysis. First, variables forming two components of competence were created. Factor analysis was conducted with oblique rotation to determine the factor structure within each standardized subscale to test for the two components of competence. Maximum likelihood estimation was performed to determine the factor loadings. An item was identified to load on a given factor if the factor loading was .40 or greater. Cronbach's alpha was computed as a reliability test for each subscale with a standardized scaling. The cutoff point was .60.

Next, descriptive statistics was obtained to create the profile of the two groups of older adults who have volunteered and those who have not volunteered in the past five years.

Finally, logistic regression was used to examine the predictor variables of engagement in volunteer activity in the past 5 years (yes=1, no=0).

2.3 Variables

A modified version of Baltes and colleagues will be used to examine the competence. Basic competence was measured by the following two summed scores. First, physical competence was measured by five 3-point Likert questions on whether one can do the following activities-of-daily living: "bathing," "toileting," "changing clothes," "washing or brushing your teeth," and "going to bed." Physical competence ranged from 0 to 10 and Cronbach's alpha was .96. Second, instrumental competence was measured by four 3-point Likert questions asking whether one can do the following four instrumental activities of daily living: "paying bills," "shopping for daily items," "depositing or taking money out," and "going out alone on a bus or train." Instrumental competence ranged from 0 to 8 and Cronbach's alpha was .80.

Expanded competence was measured with the following two summed measures. First, social competence was measured by six yes/no questions which ask whether one is able to "provide advice to your family and friends," "initiate a talk with a young person," "visit friends home or see friends outside," "feel meaning in life," "visit a sick person," and "have a hobby." Social competence ranged from 0 to 6, and Cronbach's alpha was .74. Intellectual competence was measured by 3 yes/no questions on whether one is able to, "read the newspaper," "read books or magazines," and "fill out forms for pension or other documents." It ranged from 0 to 3, and Cronbach's alpha was .64.

Additionally, three more variables will be examined. To see how past or current experiences in other community-related activities or membership influence participation in volunteerism, a variable examining the summed score of participated local activities will be used. This will be called experiential competence. To examine the role of mental health, a summed score of questions related to mental health will be used. Mental health was measured by four yes/no questions which asks whether one feels "lack of enjoyment in what one used to enjoy," "bothersome about something you used to enjoy," "useless," and "lethargic for unknown reasons." It ranged from 0 to 4, and Cronbach alpha was .76. To examine financial competence, a question, "Are you interested if there is paid work available?" will be used to figure out the interest of the older adult in paid work.

Available demographic variables included age, sex, living arrangement (living with a spouse, no. of cohabiting family members), whether the respondent is alone during the day, self-rated health, self-rated happiness will be also included.

3. Results

Table 3 shows the descriptive statistics of the two groups, volunteers and non-volunteers. Volunteers was younger (71.8, SD=5.0) than the non-volunteers (73.9, SD=6.3). More males than females were volunteers (58.7% vs. 41.3%), while more females than males were non-volunteers (47.4% vs. 52.6%). As for living arrangement, volunteers had fewer cohabiting members (3.2 vs. 3.6), but were living with a spouse (89.3% vs. 74.8%) compared to non-volunteers. Chances that volunteers were alone during the day were more frequent than non-volunteers (1.8 vs. 1.9, 1= frequently ~ 3= never).

In the scale of 0 to 10 (as 10 being happiest), volunteers were happier than non-volunteers (7.4 vs. 6.8). There was no difference by health, but difference was found for drinking. Non-volunteers drank more frequently than volunteers (2.8 vs. 2.5).

As for basic competence, there was no difference in ADLs between the two groups, but difference was detected for IADLs. Volunteers were slightly more competent than non-volunteers in performing instrumental activities of daily living (7.7 vs. 7.0). As for expanded competence, differences were found for both intellectual and social competences. Volunteers scored higher for intellectual (2.9 vs. 2.5) and social (5.7 vs. 5.0) than non-volunteers.

Interestingly, volunteers had slightly higher mental health issues than non-volunteers (3.5 vs. 3.3). And, financial competence explained by interest in paid work showed a difference. Volunteers were also more interested in paid work compared to non-volunteers (33.6 vs. 18.6). Experiential competence as explained by number of participated local activities showed that volunteers had higher total score than non-volunteers (2.1 vs. 1.3).

Table 4 shows the results of the logistic regression model was conducted using a binary dependent variable (yes=1, no=0) asking whether the respondent volunteered in the past 5 years. Three models were conducted to examine the effects of the control variables, the competence variables (variables of interest), and the full model (with control and competence variables). ADL as a basic competence was dropped because there was no significant difference between the two groups. Age, living with a spouse, self-rated happiness, and a component of basic competence – IADL was significant. Persons who were younger, not living with a spouse, and had a higher rating for subjective happiness were more likely to volunteer. More competence in IADLs was also more likely to volunteer.

When examining the modified expanded competence, financial competence explained by persons interested in paid work were less likely to volunteer. Persons with higher score on intellectual competence and higher number of participated local activities were also more likely to volunteer.

Finally, in the full model, out of seven significant variables, four variables: age, self-rated happiness, interest in paid work, and number of participated local activities remained statistically significant.

4. Discussion

Strengthening the range of human competence of older adults and their social and physical environments is mutually beneficial to them, as well as other members of the younger generations. In this study, a modified version of Baltes and colleagues' competence was used to examine their relation to whether an older adult volunteers or not. Results shows that both basic competence explained by IADLs and expanded competence explained by intellectual, financial, and experiential competence were found to be important to volunteers. However, when controlled for sociodemographic variables, self-rated happiness, financial and experiential competencies remained significant. This may suggest that the original competencies by Baltes and colleagues are not necessarily important for older adults to volunteer.

Simply, one being happy is important for him/her to take on volunteer activities. A positive subjective well-being seems to be the key to being motivated to make others happy as well. Happiness is defined differently by person, so it will be a challenge as to how to increase happier people. One way is by achieving financial

stability. Persons uninterested in paid work were more likely to volunteer. Persons who are financially stable at old age have more elbowroom to take on a non-paid activity like volunteerism.

Earlier or current experiences in local activities seem to encourage older adults to volunteer. Being involved in the community is the closest door to civic engagement such as local festivals, school events, and neighborhood activities. The more involved you are in your own community, the more likely you will be connected to the people, information, and opportunities in volunteerism than those who are not involved in local activities. Competence gained from experiences suggests increased confidence in taking on volunteer activities at old age. Hence, it may be more important to help people to start early in participating in local activities, so they can also be engaged in volunteering at old age.

5. Conclusion

As volunteerism is viewed as an activity necessary for Japan's super-aging society, this study indicates that financial security, better quality of life, and experiences in civic engagement are necessary to fostering volunteerism at old age. These aspects are more likely to be fostered over time, even before people reach old age. In order to create a larger cadre of older volunteers, Japanese policy must take on a life course perspective in bettering the lives of people for preparation of old age. In this regard, maintaining the current social security structure to achieve income security at old age is important. Additionally, as Japanese society has become increasingly losing ties amongst each other, creating and strengthening their roles in the community is important. As the community plays a larger role in society, it subsequently invites community members to take part in the activities. More children and younger adults need to be involved in such activities so that they are trained to become lifelong volunteers as they age.

References

- Adema, W., Fron, P., & Maxime, L. (2011). Is the European Welfare State Really More Expensive?: Indicators on Social Spending, 1980-2012; and a Manual to the OECD Social Expenditure Database (SOCX). *OECD Social, Employment and Migration Working Papers*, 1-131. Retrieved from <http://www.oecd-ilibrary.org/docserver/download/5kg2d2d4pbf0.pdf?expires=1362045591&id=id&accname=guest&checksum=CF113D1C245590DE816BAB9035D63548> doi:10.1787/5kg2d2d4pbf0-en
- Atoda, N., & Fukushima, M. (2000). Participation behavior of middle and old age volunteers. *Shakai Hoshou Kenkyu*, 36(2), 246-255.
- Baltes, M. M., Mayr, U., Borchelt, M., Maas, L., & Wilms, H.-U. (1993). Everyday competence in old and very old age: The inter-disciplinary perspective. *Ageing and Society*, 13, 657-680.
- Cabinet Office. (2006). *Heisei 18 White Paper on People's Lives: Older Adult's Life and Social Contribution Activities*. Retrieved from http://www5.cao.go.jp/seikatsu/whitepaper/h18/10_pdf/01_honpen/pdf/06ksha0303.pdf.
- Cabinet Office. (2010). *Seventh International Study of the Lifestyles and Values of Senior Citizens*. Retrieved from <http://www8.cao.go.jp/kourei/ishiki/h22/kiso/zentai/index.html>.
- Cabinet Office. (2011). *Heisei 23 White Paper on Aging Society*. Retrieved from <http://www8.cao.go.jp/kourei/whitepaper/w-2011/zenbun/html/s1-1-1-02.html>.
- Diehl, M. (1998). Everyday competence in later life: current status and future directions. *Gerontologist*, 38(4), 422-433.
- Katz, S., Ford, A. B., Moskowitz, R. W., Jackson, B. A., & Jaffe, M. W. (1963). Studies of Illness in the Aged. The Index of Adl: A Standardized Measure of Biological and Psychosocial Function. *JAMA*, 185, 914-919.
- Lawton, M. P., & Brody, E. M. (1969). Assessment of older people: self-maintaining and instrumental activities of daily living. *Gerontologist*, 9(3), 179-186.
- Ministry of Health Welfare and Labour. (1999). *Heisei 11 White Paper on Health, Welfare and Labour*. Tokyo: Retrieved from <http://www.hakusyo.mhlw.go.jp/wpdocs/hpaz199901/body.html>.
- Ministry of Health Welfare and Labour. (2002). *Heisei 12 White Paper on Older Adults and Society*. Retrieved from <http://www.hakusyo.mhlw.go.jp/wp/index.htm>
- Musick, M. A., & Wilson, J. (2003). Volunteering and depression: The role of psychological and social resources in different age groups. *Social Science & Medicine*, 56, 259-269.
- Nakajima, T., Nakano, S., & Imada, S. (2005). Labor supply of our country's volunteerism. *PRI Discussion Paper Series*, 05A-02, 1-114.
- Okamoto, H. (2006). Correlates of volunteer activities by city-dwelling older adults.

- Okuyama, N. (2009). Determinants of volunteer activities in local communities: An empirical analysis using JGSS-2006. *JGSS Research Series, 6*, 107-122.
- Ono, A. (2012). Research on older adults' social contribution activities *Research on older adults' social contribution activities* (Vol. 142): The Japan Institute for Labour Policy and Training.
- Sugihara, Y., Sugisawa, H., Shibata, H., & Harada, K. (2008). Productive roles, gender, and depressive symptoms: Evidence from a national longitudinal study of late-middle-aged Japanese. *Journals of gerontology: Psychological sciences, 63B*, 227-234.

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Table 1. Empirical research examining predictors of volunteerism among older adults.

Authors, Year	Sample	Data	Methods	Independent variables	Significant variables
Atoda & Fukushige, 2000	Age 40≤ living in Tokyo (n=694), Nagano (n=407), or Oita (n=526)	Survey on the middle-aged and older adults' lifestyle and the function of social security 1997	Probit model	Age, sex, spouse, no. of children, oldest child (spouse or respondent), outpatient, inpatient, caregiving, education, annual income, wealth	Tokyo: no. of children (+), high school graduate (+), college (+) graduate, wage (-); Nagano: outpatient (+); Oita: no. of children (+), caregiving (+), high school graduate (+), wealth (+)
Nakajima, Nakano, & Imada, 2005	Unemployed women (or men) with spouse, unemployed women (or men) with spouse, employed women (or men) with spouse, self-employed with spouse 10≤	Survey on Time Use and Leisure Activities 1981, 1986, 1991, 1996, 2001	Multinomial logit model	Age, spouse, education, housing type, total income, having child(ren) under 6, having older adult(s) 65+, having a family member requiring caregiving, 2 days off from work per week or not, area of residence, having a spouse who volunteers	Education (+), Own home (+), Higher total income (+), 2 days off from work per week (+), Women having child(ren) under 6 (-) while men having child(ren) under 6 (+), having older adult(s) 65+ depends on work, having a family member requiring caregiving (+), area of residence especially big cities (-) but depends on work, having a spouse (+), having a spouse who volunteers (+)
Okamoto, 2006	Older adults 65-84 living in A City, (ave. age 71.7) Chiba (n=755)	Mailed survey 2009	Logit model	Preferred life style, IADL, subjective health, wanting to contribute to community, wanting to have contact with younger generation, skills/knowledge/certified, volunteer experience at middle age, no. of close friends or group of friends, awareness of volunteer activity information, age, sex	IADL (+), wanting to contribute to community (+), volunteer experience at middle age, no. of close friends or group of friends (+), awareness of volunteer activity information (+)
Okuyama 2009	Age 20-89 participating in cleaning activity (n=1,239), recycling activity (n=806), patrol activity (n=1,217)	JGSS 2006	Probit model	Sec, age, age (log), spouse, female household, female x household (with child, with spouse, with live-in parent), having a child requiring compulsory education, education, area of residence, housing type, years of residence, satisfaction with area of residence, health satisfaction, intent of continuing to live in same area, membership to organized group, weekly working hours, income wage rate, rate of nuclear family households, rate of single person households, no. of city parks per 100 persons, rate of garbage recycle, no. of crimes per 100 persons, opinion about government spending, and local municipality's expenditures	Cleaning activity: female, age, age (log), spouse, female x household, having a child requiring compulsory education, education (college/ grad school), area of residence (with lots of shopping and offices), area of residence (with old neighborhoods), health satisfaction, housing type (apartments), membership in organized group (trade), membership in organized group (volunteer), membership in organized group (grassroots), rate of single person households, no. of crimes per 100 persons, opinion about government spending (environmental problems), local municipality's expenditures x opinion about government spending (environmental problems) Recycling activity: female, age, age (log), spouse, having a child requiring compulsory education, housing type (apartments), membership in organized group (volunteer) Local patrol activity: Age, age (log), spouse, having a child requiring compulsory education, education (college/ grad school), health satisfaction, satisfaction with area of residence, membership in organized group (volunteer), membership in organized group (grassroots), no. of crimes per 100 persons, opinion about government spending (environmental problems), opinion about government spending (crimes), local municipality's expenditures x opinion about government spending (safety)
Shishido, 2009	Age 30≤	Japan General Social Survey (JGSS) 2000-2006	Logit model	Working hours, frequency of housework, 7-12 yrs. old child(ren), children living in the same home, rate of moving to other communities, financial indicator of local municipality, rate of information support of local municipality, participation rate of senior clubs, no. of NPOs/100,000 population Control variables: sex, age, SES, education, subjective health, spouse, years of residence, population density	Local recycling activity: sex (+), age (+), SES (+), spouse (+), shorter years of residence (-), density (-), working hours (-), frequency of housework (+), children living in the same home (+), participation rate of senior clubs (+), no. of NPOs/100,000 population (-)

Table 1(continued)

Terazawa, 2012	Age 20-89 who volunteer frequently and temporarily (n=4,976)	Japan General Social Survey (JGSS) 2002, 2005	Logit model	Religion (Buddhism, Christianity, New Religion, Other, No religion), level of devotion, membership in an organized religious group, age, age (log), sex, education, are of residence (city or other), spouse, work type (self-employed or temporary employed, unemployed, full time employed)	Frequent volunteering: New religion, age, age(log), education, spouse Infrequent volunteering: Buddhism (individual), Buddhism (family), age, age (log), education
Ono, 2012			Probit Model	Age, age (log), sex, education, having children, caregiving, breadwinner, monthly non-working wage, monthly working wage, savings, loans, health, life satisfaction, area of residence	Age (-), age (log) (+), having children (+), monthly working wage (-), savings (+), health (+), life satisfaction (+), area of residence (towns and villages) (+)
Ishida, 2012	Ages 55-70 (n=230)	Study on the Current Status of Employment among the Elderly JILPT 2009 and Ministry of Home Affairs Census Survey Report	Tobit Model	Participation in social contribution activity, intent to participate in social contribution activity, population, unemployment rate, average age, rate of older adult workforce, rate of having person living in the same household, education, health, own home, apartment, social education expenditures, municipal law implemented for social contribution activity/ volunteerism, community building	Average age (+), education (+), health (+), own home (+), social education expenditures (+)

Table 2. Reasons why he/she did not volunteer in the past 5 years (multiple responses)

Reasons	Responses (%)	Cases (%)
Don't have the time	19.2	33.9
Don't know anyone	7.6	13.6
Don't have enough information	10.2	18.5
Don't have the chance	15.5	27.6
Don't know how to participate	6.6	12.0
Want to protect my own time	9.4	16.9
Not interest in the activities	3.3	5.9
Physically unwell	9.7	17.2
Activities are unrelated to my daily life	1.5	2.7
Bothersome	2.9	5.2
Can't get support from my family	0.6	1.1
Other reasons	13.4	22.4
Total=1017	100%	176.3%

Table 3. Characteristics of older adults ages 65+ with and without volunteer experience in the past 5 years

	N	Volunteer Experience		X ² (df)	t		
		Yes (n=156)				No (n=547)	
		M(SD)	%			M(SD)	%
Age (Range 65-94)	689	71.8(5.0)		73.9(6.3)		4.1***	
Gender							
Male	355		58.7		47.4	6.65(1)**	
Female	343		41.3		52.6		
Number of cohabiting family members (including respondent)	480	3.2(1.5)		3.6(1.7)		2.1*	
Living with spouse							
Yes	500		89.3		74.8	12.0(1)***	
No	122		10.7		25.2		
Alone during the day (1=frequently, 2=sometimes, 3 never)	605	1.8(0.7)		1.9(0.7)		2.3*	
Self-rated happiness (Likert scale 0= very unhappy – 10= very happy)	671	7.4(1.9)		6.8(2.1)		3.3***	
Self-rated health	694						
Somewhat or very healthy			79.9		76.9	.626(1)	
Somewhat or unhealthy			20.1		23.1		
Drink	685	2.5(1.1)		2.8(1.1)		2.5**	
Smoke	677	3.3(0.9)		3.4(0.9)		1.15	
Basic Competence							
ADL	693	10.0(0.1)		9.9(0.7)		1.05	
IADL	672	7.7(0.7)		7.0(1.7)		4.4***	
Expanded Competence							
Intellectual competence	677	2.9(0.4)		2.5(0.8)		4.7***	
Social competence	640	5.7(0.9)		5.0(1.4)		5.1***	
Mental health	644	3.5(0.9)		3.3(1.2)		2.4***	
Interested in paid work							
Yes	119		33.6		18.6	11.9(1)***	
No	382		66.4		81.4		
No. of participated local activities	667	2.1(1.3)		1.3(0.6)		12.7***	

*=p<0.5, **=p<0.01, ***=p<0.001