



# 9th Annual Association of Pacific Rim Universities (APRU) Research Conference on Population Aging

7-8 December 2018

Lo Ka Chung Building, Lee Shau Kee Campus

The Hong Kong University of Science and Technology, Hong Kong

Theme: Dementia, Cognition, and Healthy and Productive Aging

Hosted by the HKUST Institute for Emerging Market Studies (HKUST IEMS)

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PhD Poster Session

5:30pm – 7:00pm, Friday, 7 December 2018

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## **Care Burden and Other Attitudes in Mother-Daughter Residential Caregiving Relationship**

**Ayako Baba (the University of Tokyo)**

**OBJECTIVE:** Mother-daughter caregiving relationships have especially been found to encounter peculiar difficulties due to the intimacy of the association and the gender division of labour in Japan. There are many psychological interventions for family caregivers focusing on cognition and behavior, but only few of them has sufficiently delved into dyadic caregiving relationship. To bridge this gap, this study aimed to illustrate the manner in which the mother-daughter relationship causes care burden that may be mediated by care attitudes.

**METHOD:** Semi-structured interviews were conducted with 15 daughters who were caring or had cared for their mothers at home. The data were classified into categories with reference to Grounded Theory.

**RESULT:** Four categories of care attitudes were extracted from the data: "Initiative (Activeness or Autopilot)," "Autonomy (Release or Overwork)," "Preparedness (Follow or Resist)," and "Openness (Help-seeking or Self-Containment)." Daughters tended to complain about the mental burden when they had 'Autopilot,' 'Overwork,' 'Resist,' and 'Self-Containment' attitudes. Each category seemed to be affected by boundaries dividing and placing appropriate distance between the mothers and daughters.

**CONCLUSION:** This study observed four categories of care attitude and indicated that care attitude mediated mother-daughter relationship and care burden.

## **The Economic Consequences of Health Shocks for Older Workers across Countries**

**Syed Hassan Raza (City University of Hong Kong)**, Yu Zheng (Queen Mary University of London), Corina Mommaerts (University of Wisconsin – Madison)

This paper estimates the effect of hospital admissions on economic outcomes across countries. We use harmonized longitudinal survey data from the United States, China, and 17 countries in Europe, and follow the event study design of Dobkin et al. (2018) to estimate dynamic effects of a hospitalization on out-of-pocket health expenditures, labor market outcomes, social insurance payments, and household income. We find distinctly different patterns across countries. In contrast to the United States, where hospitalizations lead to large health expenditures and decreases in earnings, individuals in Northern and Southern Europe are largely protected from negative outcomes. Hospitalizations in China lead to even larger out-of-pocket expenditures as a percent of prior income, but do not negatively affect labor market outcomes. Our results largely align with the differences in generosity across countries in social protection institutions.

## **A cross-sectional study of mental health status of oldest old population in Japan -- a report from Arakawa 85+ study and 95+ study**

**Kouta Suzuki (Keio University)**, Hidehito Niimura, Hisashi Kida, Yoko Eguchi , Masaru Mimura (Department of Neuropsychiatry, Keio University School of Medicine, Japan), Chiho Kitashima (Graduate School of System Design and Management, Keio University, Japan) and Midori Takayama (Faculty of Science and Technology, Keio University, Japan)

The “oldest old”, people over 85 years old, generally face a deterioration of both physical and mental function. For healthy aging without need of geriatric care, mental health care is an essential. However, this has scarcely been investigated. Our cohort consists of all consented residents in Arakawa district, Tokyo, with age 85 to 87 (85+ group) or above 95(95+ group). Through our survey, we examined follows: current lifestyle, cognitive function, depressive symptom, physical examination included physical exercise capacity, activity level, and lab data etc. At the end of August 2018, we completed the survey of 231 subjects (mean age 88.0 years old, 108 males (46.8%)) in the 85+ group and 26 subjects (mean age 97.7 years old, 10 males (38.4 %)) in the 95+ group. In our cohort, we are tackling to unveil about-- such as association between activity level and cognitive function, gerotranscendence in oldest old, a more in-depth investigation about cognitive deterioration, effect of social support, qualitative interview of participants’ interpretation about aging. We are one of the few prospective cohorts of the oldest old population-- we are convinced that our research can cast light on the future of the ongoing aging which is a worldwide phenomenon.

## **Subjective psychological well-being among community-dwelling senior citizens in the Philippines**

**Rogie Royce Carandang (Department of Community and Global Health, Graduate School of Medicine, Institute of Gerontology, The University of Tokyo)**, Akira Shibamura, Junko Kiriya, Masamine Jimba, (Department of Community and Global Health, Graduate School of Medicine, The University of Tokyo), Edward Asis (Graduate School of Global Studies, Sophia University), Dominga Carolina Chavez (Office for Senior Citizens Affairs-Muntinlupa), Magdalena Meana (City Health Office-Muntinlupa), Hiroshi Murayama (Institute of Gerontology, The University of Tokyo)

The study of subjective psychological well-being (SPWB) seeks to understand individuals' assessment of their lives from their perspective. The concept does not only refer to the absence of mental problems, but to the individual's positive evaluation of their psychological functioning and experience. Though wellbeing varies over the lifespan, findings show senior citizens to be generally satisfied with their lives than other age groups. However, we must interject a note of caution, for they are a heterogeneous group. Therefore, to develop a more precise understanding of wellbeing among senior citizens, we need to focus on particular aged populations and the psychosocial factors that influence the wellbeing. Thus, this study aims to identify the wide range of factors that might be associated with SPWB among community-dwelling senior citizens in one urban city in the National Capital Region, Philippines. This study is just one step to understand this particular segment of the population and to ascertain their needs for mental health.

## **Continuing to Work and Cognitive Functioning in Later Life**

**Shohei Okamoto (Keio University)**

Many countries have introduced policies to extend working lives in response to population ageing; however, inconsistent results were reported regarding the impact on health. In addition, most of the epidemiological studies fail to address the issue of 'healthy worker effect' in this theme. This investigation aimed to verify the causal impact on health of being in paid work in later life. Data came from an observational study for Japanese men aged 60 years or over. The onsets of cognitive decline, assessed by the short portable mental status questionnaire, was followed up for at most 15 years. To adjust differences in characteristics of individuals in and not in paid work (i.e. health, health behaviour, demographic and socioeconomic variables), the propensity score method with survival analysis was adopted. Even after controlling the differences, this empirical study found that being in paid work after retirement was beneficial in cognitive functioning. This study suggests that continuing work in later has a positive impact on cognitive functioning of the sample of Japanese elderly men, potentially explained by the human capital model, social network or the latent functions model.

## **Healthy life expectancy changes in China (2002-2014)**

**Liangjun Song (Fudan University)**

Objective: China is getting older with the mounting proportion of people above 65 years older. There is few comprehensive research, however, shows any evidence that these unprecedented demographic changes in Chinese history are accompanying by increase of healthy or frail people. We

are more interested in the trends of healthy life years or the ratio of HLYs to life expectancy in the past 15 years rather than the rising life expectancy per se.

Design: 1) Data: Chinese Longitudinal Healthy Longevity Survey (CLHLS), 2002-2014, the national representative large population datasets provide cross-sectional and longitudinal microdata information; 2) Indicators: health-specific life expectancies; 3) Methods: Multistate life tables; 4) Expected results: we will compute healthy life years(HLYs) or disability-free life expectancy and the ratio of HLYs to life expectancy by sex/5-year age groups/urban-rural in China between 2002-2005;2005-2008;2008-2011;2011-2014 respectively. Based on the above results, we try to make a conclusion of the health status and policy implications derived from it.

## **Feel the burn: Mental and behavioral responses to agricultural straw burning and air pollution in China**

**Tong Liu (Hong Kong University of Science and Technology)**

Air pollution has detrimental impacts on human capital including physical health, productivity and labor supply, but observations on mental health consequences are limited. This study utilizes a traditional rural source of pollution, namely agricultural straw burning, to explore the role of air pollution in determining mental health. Mental health data for the middle-aged group and the elderly were collected from two recent national waves of China Health and Retirement Longitudinal Study (CHARLS) in 2013 and 2015. Straw burning primarily elevates average particulate matter (PM) concentrations in cities. The deterioration in PM due to straw burning then makes urban non-farmers depressed and unhappy. In sharp contrast, rural residents, particularly rural farmers, feel happier and more satisfied when there are more fires. In addition, straw burning induces various types of avoidance behaviors in Chinese cities in autumn but not in summer. This further allows using summer straw burning as an instrument for PM to estimate its physiological impact on mental health. The mental health losses and defensive costs of pollution from straw burning are substantial, calling for incentive-based instruments to restrain straw burning and protect the interests of both rural and urban residents.

## **From Children to Pensions: Old-age Support and Human Capital Investment**

**Xiaoyue Shan (University of Zurich)** and Albert Park (HKUST)

In societies lacking pension programs, child support is important for elderly parents, which also motivates parents to invest heavily in children's human capital. The entry of pension plans, in such societies, is likely to crowd out the reliance on children for old-age support, and consequently, child investment. In this paper, we first construct an overlapping generation model with two-way transfers, old-age support and child investment, motivated by both altruistic and self-interested incentives. From the model, we derive predictions about the short-run and long-run impact of pension availability. We then utilize the county and time specific introduction of a pension program in rural China to empirically examine the short-run impact. We find that pension availability results in less monetary support from adult children, and meanwhile parents lower their expectations for future reliance on children. An overall crowd-out effect on child investment is also observed, but it is mainly driven by the negative impact on girls, especially those with male siblings. We argue the gender difference is due to patrilineal traditions and son preferences in China.

## **Does the Absence of Adult Children Migration Influence the Health of Parents Left Behind? The Impact from Rural to Urban Migration in China**

**He Zhu (Osaka University)**

This study focuses on those who are left-behind parents. In this research, we use the RUMiC (2008) data set that has individual measures of migrants and their parents to empirically investigate the effect of adult children's rural-urban migration on the health of the left-behind parents. Based on an endogenous probability model with instrumental variable correction, this research provides empirical evidence that the percentage for health outcomes decrease almost 50 percent if their migrant children do not live with them at all. Even worse, for those left-behind parents who live alone, this number rise up to 60 percent due to the absence of their migrate children.

## **HEALTH AND EMPLOYMENT AMONG ADULTS: A PANEL ANALYSIS FOR CHINA**

**Wei Chen, Sophie Mitra, Qin Gao, Yalu Zhang (Fordham University and Columbia University),**

This paper analyzes for the first time changes in health experienced by middle age and older adults in China and the extent to which they affect labor market outcomes. The paper uses a fixed effect specification, three measures of health (self-reported health status, activities of daily living (ADLs) and mental health) and data from the China Health and Retirement Longitudinal Survey (CHARLS). We find a rural-urban gap in levels and rates of decline in the health of older Chinese with worse health outcomes overall and a worse decline in the ADLs in rural areas, especially for women with rural Hukou-rural residence. In addition, among Chinese men (age 45 to 59) with rural Hukou-rural residence, health decrements are significantly associated with a lower likelihood of working, reduced work hours, earnings and income. The employment status and work hours of older women (age 60-69) with a rural Hukou are affected by health changes, but not their earnings or income. These results suggest that in China, gender, Hukou and residence are particularly robust predictors of the impact of health on employment outcomes. Overall, they point towards a need in China for policies that support health and employment in rural areas.

## **Study on the correlation between cognitive impairment and mortality risk in Chinese elderly women**

**Xin Jin and Yanan Luo (Peking University)**

Aims To explore the correlation between cognitive impairment and mortality risk in Chinese elderly women.

Methodology Based on data from the Chinese Longitudinal Healthy Longevity Survey (2002-2011) , using Cox Proportional Hazard Model to analyze the correlation between cognitive impairment and mortality risk, taking cognitive impairment as dependent variable, adjusting demographic variables(age, sex, residence, ethnic, marriage and education) and healthy variables(activity of daily living, hypertension, stroke and diabetes, as well as optimism and happiness).

Results The mortality risk of cognition impaired group is 2.02 times that of control group (95% CI: 2.08-2.37). After adjusting confounding factors, cognitive impairment is still related with high mortality risk among the whole sample (HR=1.14,95% CI: 1.05-1.22, P=0.001). There is a sex

difference in rural areas. The correlation still exists among urban women (HR=1.21, 95% CI: 1.08, 1.36), the relation among rural women is not significant (HR=1.09, 95% CI: 0.99~1.20, P=0.075).

Conclusions Cognitive impairment is associated with high mortality risk in elderly women, and has a rural-urban difference. Intervening factors influencing the occurrence and development of cognitive impairment can play an important part in reducing mortality risk of the elderly and improving their health and quality of life.

### **The causal effect of a transition to co-residence with adult children on the parental subjective well-being — Evidence from the CLHLS using a difference-in-differences propensity score matching approach**

**Man Li and Shanwen Zhu, Renyao Zhong, Peter C. Coyte (East China Normal University)**

Background: The international literature has yet to reach consensus on the directional effect of co-residence with adult children on older adults' well-being. The purposes of this study were: 1) to examine the potential causal effects of a transition to co-residence with adult children on older adults' well-being; 2) to evaluate the potential differences in the effect of this transition due to the sex of the adult children and urban-rural status.

Data and Methods: Two waves of the "Chinese Longitudinal Healthy Longevity Survey (CLHLS)" which took place in 2008 and 2011/12 were used in our analysis. We employed a difference-in-differences (DID) approach in this study.

Results: Transferring to co-residence with adult child had a significant effect on positive well-being but not on negative well-being. Transferring to live with a son significantly increased older adults' well-being, and negative well-being fell if transferring to live with an adult daughter. In rural China, co-reside with adult children significantly increased positive well-being.

Conclusion: Our findings suggest that transferring to co-residence with adult children causally significantly influence Chinese elderly well-being. Policy-makers are suggested to develop some support program for the family may help improve elderly well-being.

### **The Relation between Informal and Formal Care of Elderly in China**

**Ruili Zhang and Lin Mingang (Nanjing University of Chinese Medicine)**

With the growing population aging problem, the care deficit issue has attracted wide attention. The intrinsic relationship between informal care and formal care is the key to the policy design of care services for the disabled elderly in China. Using the microcosmic data of 2005-2014 years of Chinese Longitudinal Healthy Longevity Survey (CLHLS), this paper analyzes the time and regional differences of the use of informal care services for the elderly, and uses Mixed Logit Model to investigate the effect of government payment services on the use of informal care services. It found that the utilization rate of informal care service is high, the characteristics of regional difference are obvious, the level of government payment service utilization is low, and the substitution effect is obvious to the informal care service, and the resource deficient disabled elderly who have low income, human capital and social capital are more dependent on informal care services. There is an urgent need to improve the availability of formal care services and improve the integrated care service system.

## **Cognition and Household Wealth**

### **Rong Dai (the Graduate Institute of International and Development Studies (IHEID))**

Cognition plays the central role in decision making, and it varies over human life cycle. Aging is commonly associated with cognitive decline, though it differs in extent between individuals (Deary et al., 2009). As aging is inevitable for humans and aging population is increasing globally, a key question worth investigation is the economic consequence of cognitive change among elderly.

This paper aims to study the economic consequences of cognitive variation among elderly in a family context with data from China Health and Retirement Longitudinal Study (CHARLS). This topic is especially relevant to China not only because China has a rapidly increasing aging population, but also for the reason that current healthcare supply is unable to provide sufficient intervention to prevent or decelerate cognitive decline, and cognitive decline may occur to Chinese elderly earlier than their cohorts living in developed countries.

I focus on impacts of cognition on wealth accumulation of households. This paper makes following contributions to literature. Firstly, I include cognition of the husband and the wife separately in analyses of coupled household. Since males and females in a family have heterogeneous preferences (Thomas, 1990) and it is easier for the one of better cognition to achieve his or her goals, cognition may lead to different economic outcomes by gender. Secondly, difference of cognitive scores between spouses is included in specification in order to examine consequence of assortive mating strategy in marriage (Becker, 1974). Thirdly, in specification, I include cognition scores as well as the physical health variable to separate effects of the two.

## **Relationships between supporting facilities and likelihood of hypertension for young-old elderly people in residential apartments**

### **Ibukun Famakin, Dr. Mei-yung Leung and Chendi WANG (City University of Hong Kong)**

Despite advancement in health care and increasing allocation to health cost, diseases causes decline in the defense mechanism of young-old elderly. Hypertension, a prevalent cause of mortality in the young-old elderly, is induced by age-related vascular, neuro-hormonal changes and both systolic and diastolic blood pressure. To reduce the risk of hypertension and ensure a better living environment, there is need to install appropriate supporting facilities (SF). The current study seeks to investigate the relationships between SF and the likelihood of hypertension for young-old elderly people living in different residential buildings in Hong Kong. A questionnaire survey was designed to investigate the relationships between 35 SF items and the likelihood of hypertension in the young-old elderly in residential buildings. A total of 84 respondents participated in the study, while binary logistic regression analysis was adopted. The results indicate that height of fixture and furniture, width of doors, clearance between grab bar and wall and height of grab bar are significantly important for reporting the likelihood of hypertension. Based on the established significant relationships, the study suggests the positioning of furniture at appropriate heights, adequate door width, sufficient clearance between grab bars and walls, and at comfortable heights to ensure good blood circulation.

## **Internet Use and Depressive Symptoms among Older Men and Women in the U.S. and Korea**

**Hyunju Shim and Eileen M. Crimmins (University of Southern California)**

More than half of people aged 60 and over in the world live in the Asia Pacific region (United Nations, 2017). Technology use has been proposed as one of the potential intervention strategies to deal with the progress of population aging in the region. Yet, the digital divide in access to technology use still exists. Ono & Zavodny (2007), through a cross-country comparison of 15-59 year-olds, found that women use computers and internet less than men in Japan and Korea but not in the U.S. and Sweden.

Prior studies found that internet use was associated with reduced depression (Cotten, Ford, Ford & Hale, 2012; Elliot, Mooney, Douthit & Lynch, 2014). Yet, most studies were conducted in the U.S., and little is known about the effect of internet usage outside the U.S. Additionally, while depressive symptoms have been found to be higher among women (Crimmins, Kim & Solé-Auró, 2010; Kuehner, 2017), gender-stratified examination of the effect of internet use on depressive symptoms has received surprisingly little attention. We used two different sources of nationally representative data in the U.S. and Korea to examine the association between internet use and depressive symptoms, adjusting for demographic, socioeconomic, and intergenerational characteristics.

**Age of retirement and consumption**

**Zhan Cao and Yizhou Tang (Tongji University)**

This article proposes a new factor that affects consumption by highlighting the effects of age of retirement on household consumption. We build an improved continuous OLG model and prove theoretically that there is a positive correlation between consumption and the age of retirement. Based on the China Health and Retirement Longitudinal Study (CHARLS), our empirical calculations show that near the equilibrium growth path, if the average age of retirement had been delayed for one year in the year of 2015, consumption would have increased by 0.998 percentage points holding the value of other variables constant and that there is a causal link between the extension of the age of retirement and the increase in consumption.

**Intergenerational geographical distance and old age support in rural China**

**Chaohua Cai, Qinying He and Huiting Liu (South China Agricultural University)**

As the foundation of elderly care, living arrangements and distance with their adult children are closely connected with physical and psychological well-being of the elderly. This study examines the effects of the geographical distance between adult children and their parents on the receipt of support by the elderly parents in rural China. To infer the causal effect, we employ the instrumental variable Tobit and ordered Probit models to deal with the problem of endogeneity using data from the three waves of the China Health and Retirement Longitudinal Study (CHARLS). We find that effects vary with type of support: specifically the intergenerational geographical distance positively affects the adult children's financial support to their elderly parents. Although the frequency of visit decreases with the geographical distance, the frequency of contact increases. In general, intergenerational geographical distance does not hinder the adult children's support to their elderly parents in rural China and only changes the channel of emotional support from in-person contact to remote contact.



Further information and updates about the conference can be found on <http://iems.ust.hk/apru-aging-conference>

