

The association of retirement decision in late middle-aged population with psychological well-being

Bing-Jie Yen

Washington University in St. Louis

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Longevity and retirement

- Longevity in USA has increased from 47.3 years in 1900 to 78.8 years in 2015 (National Center for Health Statistics, 2016).
- Baby boomers are adults ages 44 – 62 years old in 2008, born between 1946 and 1964.
- The length of retirement has increased because the length of employment can hardly keep pace with the increase in life expectancy and the retirement

Population and longevity

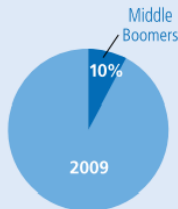
Middle Boomers

Middle Boomers are adults ages 51–57 years old in 2009, born between 1952 and 1958.

	2009	2030
Middle Boomer Males	14,214,527	10,242,422
Middle Boomer Females	14,874,987	12,272,045
Total:	29,089,514	22,514,467

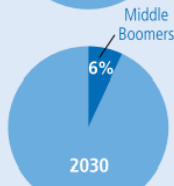
Total U.S. Population in 2009

- › In 2009, Middle Boomers represented **10% of the total population**, or about 1 in 10 people.
- › 49% male
- › 51% female



Total U.S. Population by 2030

- › By 2030, Middle Boomers will be ages 72–78 and make up **6% of the total population**.



Source: U.S. Census Bureau, National

Literature review

What could policymakers do to address this issue?

What are the potential consequences?

- Association between retirement and health
 - Retirement \rightarrow *health* \downarrow (income effects)
 - Retirement \rightarrow *health* \uparrow (de-stress)
- Retirement \rightarrow *health*??

Research question

What is the mental health trajectories associated with retirement decision among groups defined by gender, race, education levels, income, wealth, and cognitive limitations?

US Health and Retirement Study (HRS)

- Four waves : 2008, 2010, 2012 and 2014
- Age group: older than 50 years old but younger than 62 years old at first wave (born in 1946-1958)

Dependent variable

Measurement of psychological well-being

- Center for Epidemiological Studies-Depression (CESD) scores
- Scores range from 0 to 60, with high scores indicating greater depressive symptoms
- In HRS, `R$CESD` is the sum of 8 questions. `range` $\in [0, 8]$

Independent variables

- Demographic characteristics: age, gender, race, education levels...etc.
- Health status:
 - Quality of life
 - ADLA (Activities of daily living) including ve tasks: bathing, eating, dressing, walking across a room, and getting in or out of bed.
 - IADLs (Instrumental activities of daily living)
 - Number of chronic disease
- Medical care utilization
 - Number of hospital stays
 - Nursing home stays, previous 2 yrs
 - Doctor visits, previous 2 yrs
- Cognitive limitation
 - Difficulty to walk across room

Independent variables(continued)

- Financial stability
 - Total household income
 - Whether family income is below poverty threshold
 - Income: R Pension + Annuity
- Out of pocket medical expenditure
- Health insurance: Medicaid, Medicare or other insurance

Definition of retirement and living arrangement

Retirement: retired or not retired (2 categories)

- Self-retirement status
- Labor force status

I defined cohort as “retired” if they claim self-retirement with completely retired and response labor force status with retire.

Statistical analysis

Linear Mixed-Effects Models (lmer)

- Random effects: which simply include constant term (the predictor "1") and allows it to vary by wave and household ID
 - Year
 - Household ID

Fitting Linear Mixed-Effects Models Using lme4

Regression results

Demographic characteristics

- female \oplus CESD
- age \ominus CESD
- Other race ¹ \oplus CESD

Quality of life

- ADLA \oplus CESD
- IADLA \oplus CESD

¹Other race is defined not White/Caucasian and not Black/African American

Regression results(continued)

Health insurance status

- Only with Medicare or Medicaid \oplus CESD, in comparison with without any government nor private insurance coverage

Education levels (comparing with those without degree)

- Education \perp CESD scores

Medical care utilization

- hospital stays \oplus CESD
- Nursing home stays, previous 2 yrs \ominus CESD
- Doctor visits, previous 2 yrs \oplus CESD

Regression results (continued)

Cognitive limitation

- Difficulty to walk across room \ominus CESD in comparison with cohort without walking difficulties

Financial stability

- Total household income
- Whether family income is below poverty threshold \oplus CESD in comparison with cohort who is not below poverty threshold
- Income: R Pension + Annuity \perp CESD scores

Out of pocket medical expenditure \oplus CESD

Conclusion

- Financial stability and medical care utilization are the risk factors for psychological disorder among late-middle aged population
- Cohort with only government provided insurance coverage is at risk population