

Yuan S. Zhang
Curriculum Vitae

Assistant Professor of Sociomedical Sciences
Department of Sociomedical Sciences
Robert N. Butler Columbia Aging Center
Columbia University Mailman School of Public Health

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EDUCATION

- Ph.D. in Gerontology** 2019
School of Gerontology
University of Southern California, Los Angeles, CA, USA
Committee: Eileen Crimmins (chair), Jennifer Aishire, John Strauss
- M.S. in Survey Methodology (statistics track)** 2013
Program in Survey and Data Science, Institute for Social Research
University of Michigan, Ann Arbor, MI, USA
- B.A. in Economics** 2009
Central University of Finance and Economics, Beijing, China
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RESEARCH INTERESTS

Demography of Health, Global Aging, Biodemography, Cognitive Aging, Survey Methods

RESEARCH POSITIONS

- 2021-2023 *Postdoctoral Research Associate, K99, NIA*
Carolina Population Center, University of North Carolina at Chapel Hill
Faculty mentors: Elizabeth Frankenberg, Duncan Thomas, and Allison Aiello
- 2009-2021 *T32 Postdoctoral Trainee*
Biosocial Training Program (T32 HD091058)
Carolina Population Center, University of North Carolina at Chapel Hill
Faculty Preceptors: Elizabeth Frankenberg and Allison Aiello
- 2008 *T32 Predoctoral Trainee*
Multidisciplinary Research Training in Gerontology (T32 AG000037)
School of Gerontology, University of Southern California
Faculty Preceptors: Eileen Crimmins and John Strauss
- 2013-2017 *Research Assistant*
School of Gerontology, University of Southern California

Dec 2023

- 2011-2013 *Research Assistant*
Institute for Social Research, University of Michigan
- 2012 *Short-term Consultant*
Development Research Group, World Bank
- 2009-2011 *Project Coordinator*
China Health and Retirement Longitudinal Study, Peking University
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External Research Support

- NIH/NIA R00AG070274 Zhang (PI) 07/2023 – 06/2026
A cross-national comparative study on cardiometabolic risk, education, and cognitive aging
Role: Principal Investigator
- NIH/NIA K99AG070274 Zhang (PI) 04/2021 - 03/2023
A cross-national comparative study on cardiometabolic risk, education, and cognitive aging
Role: Principal Investigator
- NIH/NIA U24AG065182 Weir/Langa (MPI) 2023
Research Network for the Harmonized Cognitive Assessment Protocol (HCAP)
Comparing informant measures of functioning and cognitive decline in international Harmonized
Cognitive Assessment Protocol data
Role: Pilot awardee
- R01AG070953-03S1 Kobayashi/Gross (MPI) 03/2023 - 01/2025
Enhancing data quality for cross-national harmonization: Assessment of cognitive function in the
CHARLS HCAP by language, literacy, and visual impairment
Role: Co-Investigator
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PEER-REVIEWED JOURNAL ARTICLES

1. **Zhang, Y. S.**, O'Shea, B., Yu, X, Cho, T.C., Kler, J., Langa, K. M., Weir, D. R., Gross, A. L., Kobayash, L. C. Educational attainment and later-life cognitive function in high- and middle-income countries: Evidence from the Harmonized Cognitive Assessment Protocol. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*. *Accepted*.
2. **Zhang, Y. S.**, & Chang, V. W. (2024). Time path of weight status before and after incident dementia. *Journal of Aging and Health*, 36(1-2), 98-109.
<https://doi.org/10.1177/08982643231170711> PMID: 37140008
3. Cho, T. C., Yu, X., Gross, A. L., **Zhang, Y. S.**, Lee, J., Langa, K. M., & Kobayashi, L. C. (2023). Negative wealth shocks in later life and subsequent cognitive function in older adults in China, England, Mexico, and the USA, 2012–18: a population-based, cross-nationally harmonised, longitudinal

- study. *The Lancet Healthy Longevity*. [https://doi.org/10.1016/S2666-7568\(23\)00113-7](https://doi.org/10.1016/S2666-7568(23)00113-7) PMID: PMC10529910.
4. Simanek, A. M., Woo, J. M.P. Xiong, M., Zheng, C., **Zhang, Y. S.**, Meier, H.C.S., Aiello, A. E. (2023). Prenatal Socioeconomic Disadvantage, Adverse Birth Outcomes and Inflammatory Response at Birth. *Psychoneuroendocrinology*, 106090. PMID: 37146471
 5. Brown, L. L., **Zhang, Y. S.**, & Mitchell, U. (2023). Black older adults in the age of biomarkers, physical functioning, and genomics. *Annual Review of Gerontology and Geriatrics*, 41, 183-210. PMID: PMC10065475
 6. Farina, M. P., **Zhang, Y. S.**, Kim, J. K., Hayward, M. D., & Crimmins, E. M. (2022). Trends in dementia prevalence, incidence, and mortality in the United States (2000-2016). *Journal of Aging and Health*, 34(1), 100–108. <https://doi.org/10.1177/089826432111029716> PMID: PMC8989461
 7. **Zhang, Y. S.**, Strauss, J. A., Hu, P., Zhao, Y., & Crimmins, E. M. (2021). Links between mortality and socioeconomic characteristics, disease burden, and biological and physical functioning in the aging Chinese population. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, 77(2), 365-377. <https://doi.org/10.1093/geronb/gbab059> PMID: PMC8824635
 8. Hayward, M. D., Farina, M. P., **Zhang, Y. S.**, Kim, J. K., & Crimmins, E. M. (2021). The importance of improving educational attainment for dementia prevalence trends from 2000 to 2014, among older Non-Hispanic Black and White Americans. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, 76(9), 1870–1879. <https://doi.org/10.1093/geronb/gbab015> PMID: PMC8557827
 9. Saenz, J. L., Adar, S. D., **Zhang, Y. S.**, Wilkens, J., Chattopadhyay, A., Lee, J., & Wong, R. (2021). Household use of polluting cooking fuels and late-life cognitive function: A harmonized analysis of India, Mexico, and China. *Environment International*, 156, 106722. <https://doi.org/10.1016/j.envint.2021.106722> PMID: PMC8380666
 10. Sudharsanan, N., **Zhang, Y.**, Payne, C. F., Dow, W., & Crimmins, E. (2020). Education and adult mortality in middle-income countries: Surprising gradients in six nationally-representative longitudinal surveys. *SSM - Population Health*, 12, 100649. <https://doi.org/10.1016/j.ssmph.2020.100649> PMID: PMC7475202
 11. Crimmins, E. M., **Zhang, Y. S.**, Kim, J. K., Frochen, S., Kang, H., Shim, H., Ailshire, J., Potter, A., Cofferen, J., & Faul, J. (2020). Dried blood spots: Effects of less than optimal collection, shipping time, heat, and humidity. *American Journal of Human Biology*, 32(5), e23390. <https://doi.org/10.1002/ajhb.23390> PMID: PMC7347424
 12. **Zhang, Y. S.**, Hu, P., Strauss, J. A., Zhao, Y., Wang, Y., & Crimmins, E. M. (2020). Ascertaining cause of mortality among middle-aged and older persons using computer-coded and expert review verbal autopsies in the China Health and Retirement Longitudinal Study. *Global Health Action*, 13(1), 1768502. <https://doi.org/10.1080/16549716.2020.1768502> PMID: PMC7480525
 13. Chen, X., Crimmins, E., Hu, P. P., Kim, J. K., Meng, Q., Strauss, J., Wang, Y., Zeng, J., **Zhang, Y.**, & Zhao, Y. (2019). Venous blood-based biomarkers in the China Health and Retirement Longitudinal Study: Rationale, design, and results from the 2015 wave. *American Journal of*

Epidemiology, 188(11), 1871–1877. <https://doi.org/10.1093/aje/kwz170> PMID: PMC6825825
*equal contribution

14. Crimmins, E. M., Shim, H., **Zhang, Y. S.**, & Kim, J. K. (2019). Differences between men and women in mortality and the health dimensions of the morbidity process. *Clinical Chemistry*, 65(1), 135–145. <https://doi.org/10.1373/clinchem.2018.288332> PMID: PMC6345642
15. Crimmins, E. M., & **Zhang, Y. S.** (2019). Aging populations, mortality, and life expectancy. *Annual Review of Sociology*, 45(1). <https://doi.org/10.1146/annurev-soc-073117-041351>
16. Crimmins, E. M., **Zhang, Y. S.**, Kim, J. K., & Levine, M. E. (2019). Changing disease prevalence, incidence, and mortality among older cohorts: the Health and Retirement Study. *The Journals of Gerontology. Series A, Biological Sciences and Medical Sciences*, 74(Suppl_1), S21–S26. <https://doi.org/10.1093/gerona/glz075> PMID: PMC6853787
17. **Zhang, Y. S.**, & Crimmins, E. M. (2019). Urban-rural differentials in age-related biological risk among middle-aged and older Chinese. *International Journal of Public Health*, 64(6), 831–839. <https://doi.org/10.1007/s00038-018-1189-0> PMID: PMC6556141
18. **Zhang, Y. S.**, Saito, Y., & Crimmins, E. M. (2019). Changing impact of obesity on active life expectancy of older Americans. *The Journals of Gerontology. Series A, Biological Sciences and Medical Sciences*, 74(12), 1944–1951. <https://doi.org/10.1093/gerona/glz133> PMID: PMC6853657
19. Brown, L. L., **Zhang, Y. S.**, Mitchell, C., & Ailshire, J. (2018). Does telomere length indicate biological, physical, and cognitive health among older adults? Evidence from the Health and Retirement Study. *The Journals of Gerontology. Series A, Biological Sciences and Medical Sciences*, 73(12), 1626–1632. <https://doi.org/10.1093/gerona/gly001> PMID: PMC6230208
20. Crimmins, E. M., Saito, Y., Kim, J. K., **Zhang, Y. S.**, Sasson, I., & Hayward, M. D. (2018). Educational differences in the prevalence of dementia and life expectancy with dementia: Changes from 2000 to 2010. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, 73(suppl_1), S20–S28. <https://doi.org/10.1093/geronb/gbx135> PMID: PMC6019027
21. Crimmins, E. M., **Zhang, Y.**, & Saito, Y. (2016). Trends over 4 decades in disability-free life expectancy in the United States. *American Journal of Public Health*, 106(7), 1287–1293. <https://doi.org/10.2105/AJPH.2016.303120> PMID: PMC4984740
22. Zhao, Y., Crimmins, E. M., Hu, P., Shen, Y., Smith, J. P., Strauss, J., Wang, Y., & **Zhang, Y.** (2016). Prevalence, diagnosis, and management of diabetes mellitus among older Chinese: results from the China Health and Retirement Longitudinal Study. *International Journal of Public Health*, 61(3), 347–356. <https://doi.org/10.1007/s00038-015-0780-x> PMID: PMC4880519

Under review/Revised and Resubmitted

1. **Zhang, Y. S.**, Frankenberg, E. & Thomas, D. Education and cognitive performance in adulthood: Contrasts between siblings.
2. Kobayash, L. C., Jones, R. N., Briceño, E. M., Rentería, M. A., **Zhang, Y. S.**, Meijer, E., Langa, K. M., Lee, J., Gross, A. L. Cross-national comparisons of later-life cognitive function using data

from the Harmonized Cognitive Assessment Protocols (HCAPs): considerations and recommended best practices.

3. MacConnachie L, **Zhang, Y. S.**, Farina, M., Gutierrez, C., Hoover, A., He, Y., Aiello, A. E. & Noppert, G. A. Impact of incarceration and homelessness on immune aging during late life. Submitted to *Social Sciences and Medicine*

Book Chapters and Other Publications

1. Crimmins, E. M., **Zhang, Y. S.**, Kim, J. K., & Levine, M. E. (2021). Trends in morbidity, healthy life expectancy, and the compression of morbidity. In *Handbook of the Biology of Aging* (pp.405-414). Academic Press.
2. **Zhang, Y. S.**, Shim, H., & Crimmins, E. M. (2019). Life expectancy and health expectancy. *Encyclopedia of Biomedical Gerontology*. Elsevier.
3. Herningtyas, E. H., Hu, P., Edenfield, M., Strauss, J., Crimmins, E., Witoelar, F., **Zhang, Y.**, Kim, J. K., Thomas, D., & Sikoki, B. (2018). IFLS wave 5 dried blood spot data user guide. RAND Labor & Population. WR-1143/6-NIA/NICHD. Santa Monica.
4. **Zhang, Y. S.**, & Crimmins, E. M. (2018). Longevity. *The SAGE Encyclopedia of Lifespan Human Development*. <http://dx.doi.org/10.4135/9781506307633.n490>

SELECTED PRESENTATIONS (oral presentations, as presenting author)

Zhang, Y. S., Cantu, P. A., & Saenz, J. Informant Measures of Functioning and Cognitive Decline in the HRS-HCAP and MexCog. HCAP International Network Meeting, National Institute on Aging, Oct, 2023. [invited].

Chen J., Qian, S, & **Zhang, Y. S.** Cumulative (Dis)Advantages in Cognitive Health: Rural/Urban Residency, Household Registration Status, and Cognitive Aging in Older Chinese. - Population Association of America Annual Meeting, New Orleans, LO, 2023.

Zhang, Y. S., Cantu, P. A., & Saenz, J. Comparing informant-based measures of cognitive functioning between the US and Mexico. Gerontological Society of America Annual Meeting, Indianapolis, IN, 2022.

Zhang, Y. S., O'Shea, B., Yu, X., Cho, T., Soori, M., Langa, K. M., Weir, D. R., Gross, A. L., & Kobayashi, L, C. Educational gradients in cognitive function among older adults in high- and middle-income countries: Evidence from Harmonized Cognitive Assessment Protocol data.

- Gerontological Society of America Annual Meeting, Indianapolis, IN, 2022.
- Population Association of America Annual Meeting, New Orleans, LO, 2023.

Chen, J., Song, Q, & **Zhang, Y. S.** The cumulative (dis)advantage in cognitive aging: rural/urban residency, hukou status, and cognitive aging among older Chinese. **equal contribution & corresponding author*. Gerontological Association of America annual meeting, Indianapolis, IN, 2022.

Zhang, Y. S., Zheng, H., & Chang, V. W. Obesity, dementia, and mortality among older Americans. The 33rd REVES meeting, Halifax, Canada, 2022.

Zhang, Y. S., Cantu, P. A., & Saenz, J. Comparing Informant Measures of Functioning and Cognitive Decline in International Harmonized Cognitive Assessment Protocol (HCAP) Data. HCAP International Network Meeting, National Institute on Aging, 2022. [invited].

Zhang, Y. S. & Chang, V. W. The time path of weight status before and after incident dementia. Population Association of America Annual Meeting, 2021. [Virtual]

Zhang, Y. S., Frankenberg, E., & Thomas, D. Contribution of family background to the education-cognition association. Accepted for oral presentation at the Population Association of America annual meeting, Washington, DC. [canceled due to COVID-19]. 2020.

Zhang, Y. S., Kim, J. K., & Crimmins, E. M. Increasing length of life with disease after age 65: United States 1998 to 2014. The 31st REVES meeting, Barcelona, Spain. 2019.

Ailshire, J. A., **Zhang, Y. S.**, & Crimmins, E. M. Disease and disability patterns among older U.S. adults who survive to age 90 and beyond. The 31st REVES meeting, Barcelona, Spain. 2019.

Crimmins, E. M., **Zhang, Y. S.**, Kim, J. K., Frochen, S., Kang, H., Shim, H., Ailshire, J., Potter, A., Cofferan, J., & Faul, J. The effects of sample collection, shipping time, heat, and humidity on biomarkers from dried blood spots.

- Symposium on Biosocial Approaches to Population Health Across the Life Course, Carolina Population Center, UNC-Chapel Hill, NC. 2019.
- The NIA-sponsored Biomarker Network Meeting, the Population Association of America annual meeting, Austin, TX. 2019.

Zhang, Y. S. Early life conditions and later-life biological risk: Evidence from the China Health and Retirement Longitudinal Study.

- The NIA-sponsored Biomarker Network Meeting, the Population Association of America annual meeting, Denver, CO. 2018.
- The Gerontological Association of America annual meeting, Boston, MA. 2018.

Zhang, Y. S., Saito, Y., & Crimmins, E. M. Effect of obesity on active life expectancy in the United States: Changes over time. The 21st International Association of Gerontology and Geriatrics World Congress, San Francisco, CA, 2017.

Zhang, Y. S., Ailshire, J. A., & Crimmins, E. M. Predicting mortality among older US adults using self-rated health, performance-based measures, and biomarkers: Differences by sociodemographic characteristics. Population Association of America Annual Meeting, Washington, D.C., 2016.

Zhang, Y. S., Ailshire, J. A., & Crimmins, E. M. Mortality in China and the United States among those 60+. Cross-National Comparison of Adult Mortality Determinants in Low- and Middle-Income Countries Conference, Los Angeles, CA, 2016.

Zhang, Y. S., Crimmins, E. M., & Ailshire, J. A. Imputation of missing physical performance data: A Comparison of approaches. The 27th REVES meeting, Singapore, 2015.

Zhang, Y. S., & Crimmins, E. M. Biological risk among the middle-aged and older adults in China: Gender, education, and urban-rural differences. Population Association of America Annual Meeting, San Diego, CA, 2015.

PROFESSIONAL ACTIVITIES

- 2022- Member, Network on Education, Biosocial Pathways, and Dementia in Diverse Populations
Grant proposal workshop: grant reviewer
- 2020-2021 Postdoc representative, Carolina Population Center, UNC
- 2015- Member, Réseau Espérance de Vie en Santé (REVES)
International Network on Health Expectancy and the Disability Process
- 2014- Member, Population Association of America
2024 meeting: session chair – “Biosocial Approaches to Morbidity/Mortality”
2021 meeting: poster discussant – “Aging and the Life Course” and “Mortality and Morbidity”
2020 meeting: program committee member
session chair – “Biodemography of Aging” and “Chronic Disease”
- 2014- Member, Gerontological Society of America
Symposium organizer “Biological and Social Determinants of Late-life Disability and Its Implications for Aging Workforce” (2023)
Symposium organizer “Cognitive Aging in Low- and Middle-Income Countries” (2022)
Discussant “Cross-National Perspectives on Health and Well-Being in Later Life” (2021)
Program committee member: Behavioral and Social Science Section (2018)
Session chair “Life Course Development and Aging” (2018)
Symposium organizer “Health and Well-being among Aging Chinese” (2016)
Abstract reviewer (2018, 2019)
- Reviewer** Journal of Gerontology: Social Sciences, Journal of Gerontology: Medical Science, Global Health Action, Biodemography and Human Biology, Journal of Aging and Health, Demographic Research, PLOS ONE, Social Science and Medicine – Population Health, Journal of Marriage and Family, Demography, Journal of Aging & Social Policy. Demographic Research

TEACHING AND MENTORING

- Fall 2023 Instructor: Lifecourse concentration, the Global and Developmental Perspectives studio, the Public Health Core, Columbia University Mailman School of Public Health
- 10/25/2022 & 11/02/2023
Guest lecturer: “Social Connectedness and Healthy Aging”, PLCY 361. Health Policy in the United States. University of North Carolina.
- 10/12/2021 Guest Lecturer: “Global Aging” SOCI180: Introduction to Global Population Health. University of North Carolina.

Dec 2023

- 09/08/2020 Guest Lecturer: “Sex Differences in Physiological Health”
GERO435: Women and Aging, University of Southern California
- Fall 2018 Co-instructor: GERO593 Research Methods (graduate level, 3 credits)
School of Gerontology, University of Southern California
- 04/05/2017 Guest Lecturer: “Imputation of Missing Data”
Quantitative Methods Seminar, University of Southern California
- 2016-2019 Student Mentor for Deborah Hoe (Ph.D. student in Gerontology)
School of Gerontology, University of Southern California
- Fall 2008 Teaching Assistant, Intermediate Microeconomics (undergrad-level)
China Center for Economic Research, Peking University

Mentoring & thesis readership

Faculty advisor for MPH students at the Department of Sociomedical Sciences

2023-2025 Sihan Qiu, Grace Hu, Matthew Jacob Coulson, Kairan Zhang

Master’s thesis for MPH students at the Department of Sociomedical Sciences

2023-2024 Lynn Ngo, Rhea Khanna, Toria Liu

Career development award mentorship

F99/K00 Yingyan Wu (doctoral candidate at UCLA epidemiology)
Submitted in Oct 2023, primary mentor – Adina Zeki Al Hazzouri at Columbia University

HONORS & AWARDS

- 2019 Doctoral Student Award, University of Southern California
- 2019 Heinz Osterburg Prize, University of Southern California
- 2019 Poster Award, the 31st REVES Meeting, Barcelona, Spain
- 2019-2021 Postdoctoral Traineeship, NICHD, Carolina Population Center
University of North Carolina at Chapel Hill
- 2018 Predoctoral Traineeship, NIA, School of Gerontology
University of Southern California
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ADDITIONAL TRAINING

- 2021 Advanced Psychometrics Methods in Cognitive Aging Research
- 2018 Demographic Methods in Public Health Research,
Higher School of Economics & Max Planck Institute for Demographic Research
- 2016 Formal Demography Workshop, University of California, Berkeley
- 2016 Summer School on the Demography of Health and Education,
Wittgenstein Centre, Vienna, Austria
- 2014 RAND Summer Institute on Aging Fellow. The RAND Corporation

REFERENCES

Eileen M. Crimmins, PhD

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Elizabeth Frankenberg, PhD

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Duncan Thomas, PhD

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