

Stanford



Dayoon Kwon

Postdoctoral Scholar, Epidemiology

Bio

BIO

I am an environmental epidemiologist leveraging multi-omics to study how environmental exposures influence human health across the life course. At Stanford, I develop epigenetic biomarkers and aging clocks to capture the impact of early-life exposures. During my PhD at UCLA, I investigated air pollution and Parkinson's disease, focusing on gene–environment interactions and metabolomics. Previously at Columbia, I quantified biological aging using blood-based biomarkers.

STANFORD ADVISORS

- Andres Cardenas, Postdoctoral Faculty Sponsor

LINKS

- Publications: <https://scholar.google.com/citations?user=5L9djqsAAAAJ&hl=en>
- Personal Website: <https://www.dayoonkwon.com/>
- Cardenas Lab: <https://med.stanford.edu/cardenas-lab.html>

Publications

PUBLICATIONS

- **Arsenic exposure at birth, socioeconomic status, and epigenetic aging among adults in northern Chile.** *Environmental research*
Kwon, D., Bozack, A. K., Ferreccio, C., McCormick, N., Steinmaus, C. M., de la Rosa, R., Cardenas, A.
2026: 124377
- **Untargeted serum metabolomics and air pollution in Parkinson's disease.** *Research square*
Kwon, D., Pual, K. C., Lin, Y., Thordarson, D., Wu, J., Su, J., Jones, D. P., Bronstein, J. M., Ritz, B.
2026
- **Pregnancy and breastfeeding are associated with less later-life cognitive decline in a longitudinal, prospective cohort.** *Alzheimer's & dementia : the journal of the Alzheimer's Association*
Fox, M. M., Bramen, J. E., Kwon, D., Espeland, M. A., Sun, Y., Zhang, L., Shadyab, A. H., Casanova, R., Manson, J. E., Chang, M. Y., Porter, V. R., Farland, L. V., Xiao, et al
2026; 22 (1): e71072
- **A unified framework for systematic curation and evaluation of aging biomarkers.** *Nature aging*
Ying, K., Paulson, S., Eames, A., Tyshkovskiy, A., Li, S., Eynon, N., Jacques, M., Grolaux, R., Seale, K., Jacques, E., Goeminne, L. J., Cipriano, A., Perez-Guevara, et al
2025
- **Of scents and cytokines: How olfactory and food aversions relate to nausea and immunomodulation in early pregnancy.** *Evolution, medicine, and public health*

Kwon, D., Fessler, D. M., Knorr, D. A., Wiley, K. S., Sartori, J., Coall, D. A., Fox, M. M.

2025; 13 (1): 269-280

- **Challenges in studying air pollution to neurodegenerative diseases.** *Environmental research*
Kwon, D., Paul, K. C., O'Sharkey, K., Paik, S. A., Yu, Y., Bronstein, J. M., Ritz, B.
2025; 278: 121597
- **Interaction Between Traffic-Related Air Pollution and Parkinson Disease Polygenic Risk Score.** *JAMA network open*
Kwon, D., Paul, K. C., Kusters, C., Wu, J., Bronstein, J. M., Lill, C. M., Ketzell, M., Raachou-Nielsen, O., Hansen, J., Ritz, B.
2025; 8 (3): e250854
- **Regulatory T-Cells During Pregnancy Relate to Women's Own Childhood History of Microbial Exposure.** *American journal of human biology : the official journal of the Human Biology Council*
Fox, M. M., Hassan, A., Wiley, K. S., Kwon, D., Knorr, D. A.
2025; 37 (3): e70013
- **Women's history of pregnancy and breastfeeding are positively associated with postmenopausal cognitive function**
Fox, M., Bramen, J., Kwon, D., Raj, S., Chang, M., Crandall, C., Porter, V., Espeland, M., Siddarth, P.
WILEY.2025
- **Familial social support predicts psychological health and immune function during pregnancy**
Rieman-Klingler, M. C., Kwon, D., Knorr, D. A., Wiley, K. S., Non, A. L., Fox, M. M.
WILEY.2025
- **Regulatory B-Cells Are Associated Negatively With Regulatory T-Cells and Positively With Cytokines in Peripheral Blood of Pregnant Women.** *American journal of reproductive immunology (New York, N.Y. : 1989)*
Wiley, K. S., Martinez, L. E., Kwon, D., Knorr, D. A., Epeldegui, M., Fox, M. M.
2025; 93 (2): e70027
- **Association between ultra-processed food intake and biological ageing in US adults: findings from National Health and Nutrition Examination Survey (NHANES) 2003-2010.** *Age and ageing*
Cardoso, B. R., Liu, J., Machado, P., Kwon, D., Belsky, D. W., Martinez Steele, E.
2024; 53 (12)
- **Association of pica with cortisol and inflammation among Latina pregnant women.** *American journal of human biology : the official journal of the Human Biology Council*
Kwon, D., Knorr, D. A., Wiley, K. S., Young, S. L., Fox, M. M.
2024; 36 (5): e24025
- **Diet and the gut microbiome in patients with Parkinson's disease.** *NPJ Parkinson's disease*
Kwon, D., Zhang, K., Paul, K. C., Folle, A. D., Del Rosario, I., Jacobs, J. P., Keener, A. M., Bronstein, J. M., Ritz, B.
2024; 10 (1): 89
- **Author Reply - Letter to the Editor "Regulatory T-cell phenotypes in prenatal psychological distress"** *BRAIN BEHAVIOR AND IMMUNITY*
Wiley, K. S., Kwon, D., Knorr, D. A., Fox, M. M.
2024; 118: 273-274
- **Regulatory T-cell phenotypes in prenatal psychological distress.** *Brain, behavior, and immunity*
Wiley, K. S., Kwon, D., Knorr, D. A., Fox, M. M.
2024; 116: 62-69
- **Regulatory T-cell levels in pregnancy are correlated with mothers' early-life microbial exposures**
Fox, M. M., Hassan, A., Wiley, K. S., Kwon, D., Knorr, D. A.
WILEY.2024
- **Traffic-related air pollution and Parkinson's disease in central California.** *Environmental research*
Kwon, D., Paul, K. C., Yu, Y., Zhang, K., Folle, A. D., Wu, J., Bronstein, J. M., Ritz, B.
2024; 240 (Pt 1): 117434
- **Patterns and Life Course Determinants of Black-White Disparities in Biological Age Acceleration: A Decomposition Analysis.** *Demography*
Boen, C. E., Yang, Y. C., Aiello, A. E., Dennis, A. C., Harris, K. M., Kwon, D., Belsky, D. W.

2023; 60 (6): 1815-1841

- **Diet quality and Parkinson's disease: Potential strategies for non-motor symptom management.** *Parkinsonism & related disorders*
Kwon, D., Folle, A. D., Del Rosario, I., Zhang, K., Paul, K. C., Keener, A. M., Bronstein, J. M., Ritz, B.
2023; 115: 105816
- **How prenatal cortisol levels relate to grandmother-mother relationships among a cohort of Latina women.** *American journal of human biology : the official journal of the Human Biology Council*
Fox, M. M., Knorr, D. A., Kwon, D., Wiley, K. S., Parrish, M. H.
2023; 35 (7): e23883
- **Association between pica during pregnancy and inflammation in Latina women**
Kwon, D., Wiley, K. S., Johnson, L., Young, S. L., Fox, M.
WILEY.2023
- **Association between pica during pregnancy and inflammation in Latina women**
Kwon, D., Wiley, K. S., Johnson, L., Young, S. L., Fox, M.
WILEY.2023
- **Mothers' prenatal stress and anxiety are associated with impaired immunoregulation**
Fox, M., Wiley, K. S., Kwon, D., Knorr, D. A.
WILEY.2023
- **Biological aging in maltreated children followed up into middle adulthood.** *Psychoneuroendocrinology*
Graf, G. H., Li, X., Kwon, D., Belsky, D. W., Widom, C. S.
2022; 143: 105848
- **Alcohol use during pregnancy: findings from a gender-based violence survey in Mongolia.** *Archives of women's mental health*
Erdenetuya, B., Kwon, D., Choi, S., Choe, S. A.
2022; 25 (4): 789-795
- **Ambient Air Pollution and Kawasaki Disease in Korean Children: A Study of the National Health Insurance Claim Data.** *Journal of the American Heart Association*
Kwon, D., Choe, Y. J., Kim, S. Y., Chun, B. C., Choe, S. A.
2022; 11 (9): e024092
- **Social mobility and biological aging among older adults in the United States.** *PNAS nexus*
Graf, G. H., Zhang, Y., Domingue, B. W., Harris, K. M., Kothari, M., Kwon, D., Muennig, P., Belsky, D. W.
2022; 1 (2): pgac029
- **Testing Black-White Disparities in Biological Aging Among Older Adults in the United States: Analysis of DNA-Methylation and Blood-Chemistry Methods.** *American journal of epidemiology*
Graf, G. H., Crowe, C. L., Kothari, M., Kwon, D., Manly, J. J., Turney, I. C., Valeri, L., Belsky, D. W.
2022; 191 (4): 613-625
- **DunedinPACE, a DNA methylation biomarker of the pace of aging.** *eLife*
Belsky, D. W., Caspi, A., Corcoran, D. L., Sugden, K., Poulton, R., Arseneault, L., Baccarelli, A., Chamarti, K., Gao, X., Hannon, E., Harrington, H. L., Houts, R., Kothari, et al
2022; 11
- **A toolkit for quantification of biological age from blood chemistry and organ function test data: BioAge.** *GeroScience*
Kwon, D., Belsky, D. W.
2021; 43 (6): 2795-2808
- **Associations of Loneliness and Social Isolation with Healthspan and Lifespan in the US Health and Retirement Study.** *The journals of gerontology. Series A, Biological sciences and medical sciences*
Crowe, C. L., Domingue, B. W., Graf, G. H., Keyes, K. M., Kwon, D., Belsky, D. W.
2021
- **Quantification of the pace of biological aging in humans through a blood test, the DunedinPoAm DNA methylation algorithm.** *eLife*

Belsky, D. W., Caspi, A., Arseneault, L., Baccarelli, A., Corcoran, D. L., Gao, X., Hannon, E., Harrington, H. L., Rasmussen, L. J., Houts, R., Huffman, K., Kraus, W. E., Kwon, et al
2020; 9