

EMORY | Healthy Brain Study

The list below contains publications that include data generated from the EHBS cohort. Although several of the publication's pre-date the R01 award, they illustrate the breadth of work that data from the cohort has been able to support.

1. *Goetz, M. E., Hanfelt, J. J., John, S. E., Bergquist, S. H., Loring, D. W., Quyyumi, A., Clifford, G. D., Vaccarino, V., Goldstein, F., Johnson Nd, T. M., Kuerston, R., Marcus, M., Levey, A. I., & Lah, J. J. (2019). Rationale and Design of the Emory Healthy Aging and Emory Healthy Brain Studies. *Neuroepidemiology*, 53(3-4), 187–200. <https://doi.org/10.1159/000501856>
2. Haque, R. U., Manzanares, C. M., Brown, L. N., Pongos, A. L., Lah, J. J., Clifford, G. D., & Levey, A. I. (2019). VisMET: a passive, efficient, and sensitive assessment of visuospatial memory in healthy aging, mild cognitive impairment, and Alzheimer's disease. *Learning & memory* (Cold Spring Harbor, N.Y.), 26(3), 93–100. <https://doi.org/10.1101/lm.048124.118>
3. *Higginbotham, L., Ping, L., Dammer, E. B., Duong, D. M., Zhou, M., Gearing, M., Hurst, C., Glass, J. D., Factor, S. A., Johnson, E., Hajjar, I., Lah, J. J., Levey, A. I., & Seyfried, N. T. (2020). Integrated proteomics reveals brain-based cerebrospinal fluid biomarkers in asymptomatic and symptomatic Alzheimer's disease. *Science advances*, 6(43), eaaz9360. <https://doi.org/10.1126/sciadv.aaz9360>
4. Hajjar, I., Quyyumi, A., Zhao, L., Hanfelt, J., Goldstein, F. C., Levey, A. I., & Lah, J. J. (2020). Higher arterial stiffness but not blood pressure is associated with brain amyloidosis and preclinical AD in healthy adults: results from the Emory Healthy Brain Study: biomarkers (non-neuroimaging)/Novel biomarkers. *Alzheimer's & Dementia*, 16, e046629. <https://doi.org/10.1002/alz.046629>
5. Haque, R. U., Pongos, A. L., Manzanares, C. M., Lah, J. J., Levey, A. I., & Clifford, G. D. (2021). Deep Convolutional Neural Networks and Transfer Learning for Measuring Cognitive Impairment Using Eye-Tracking in a Distributed Tablet-Based Environment. *IEEE transactions on bio-medical engineering*, 68(1), 11–18. <https://doi.org/10.1109/TBME.2020.2990734>
6. John, S. E., Evans, S. A., Kim, B., Ozgul, P., Loring, D. W., Parker, M., Lah, J. J., Levey, A. I., & Goldstein, F. C. (2021). Examination of the reliability and feasibility of two smartphone applications to assess executive functioning in racially diverse older adults. *Neuropsychology, development, and cognition*. Section B, Aging, neuropsychology and cognition, 1–19. <https://doi.org/10.1080/13825585.2021.1962790>
7. Borkowski, K., Pedersen, T. L., Seyfried, N. T., Lah, J. J., Levey, A. I., Hales, C. M., Dammer, E. B., Blach, C., Louie, G., Kaddurah-Daouk, R., Newman, J. W., & Alzheimer's Disease Metabolomics Consortium (2021). Association of plasma and CSF cytochrome P450, soluble epoxide hydrolase, and ethanolamide metabolism with Alzheimer's disease. *Alzheimer's research & therapy*, 13(1), 149. <https://doi.org/10.1186/s13195-021-00893-6>

*Publications of relevance/importance

8. Hone-Blanchet, A., Bhosali, A., Krishnamurthy, L. C., Shahid, S. S., Lin, Q., Zhao, L., Bisht, A. S., John, S. E., Loring, D., Goldstein, F., Levey, A., Lah, J., Qiu, D., & Crosson, B. (2022). Frontal Metabolites and Alzheimer's Disease Biomarkers in Healthy Older Women and Women Diagnosed with Mild Cognitive Impairment. *Journal of Alzheimer's disease*. JAD, 10.3233/JAD-215431. Advance online publication. <https://doi.org/10.3233/JAD-215431>
9. Hone-Blanchet, A., Bohsali, A., Krishnamurthy, L. C., Shahid, S., Lin, Q., Zhao, L., Loring, D., Goldstein, F., John, S. E., Fleischer, C. C., Levey, A., Lah, J., Qiu, D., & Crosson, B. (2022). Relationships between frontal metabolites and Alzheimer's disease biomarkers in cognitively normal older adults. *Neurobiology of aging*, 109, 22–30. <https://doi.org/10.1016/j.neurobiolaging.2021.09.016>
10. Huang, S., Lah, J. J., Allen, J. W., & Qiu, D. (2022). A probabilistic Bayesian approach to recover R2* map and phase images for quantitative susceptibility mapping. *Magnetic Resonance in Medicine*, 88(4), 1624-1642. <https://doi.org/10.1002/mrm.29303>
11. Jiang, Z., Seyedi, S., Haque, R. U., Pongos, A. L., Vickers, K. L., Manzanares, C. M., Lah, J. J., Levey, A. I., & Clifford, G. D. (2022). Automated analysis of facial emotions in subjects with cognitive impairment. *PloS one*, 17(1), e0262527. <https://doi.org/10.1371/journal.pone.0262527>
12. Loring, D. W., Saurman, J. L., John, S. E., Bowden, S. C., Lah, J. J., & Goldstein, F. C. (2022). The Rey Auditory Verbal Learning Test: Cross-validation of Mayo Normative Studies (MNS) demographically corrected norms with confidence interval estimates. *Journal of the International Neuropsychological Society : JINS*, 1–9. <https://doi.org/10.1017/S1355617722000248>
13. Wu, J., Shahid, S.S., Lin, Q., Hone-Blanchet, A., Smith, J.L., Risk, B.B., Bisht, A.S., Loring, D.W., Goldstein, F.C., Levey, A.I. and Lah, J.J. (2022). Multimodal magnetic resonance imaging reveals distinct sensitivity of hippocampal subfields in asymptomatic stage of Alzheimer's disease. *Frontiers in Aging Neuroscience*, 14, 901140. <https://doi.org/10.3389/fnagi.2022.901140>
14. Loring, D. W., Lah, J. J., & Goldstein, F. C. (2023). Telehealth equivalence of the Montreal cognitive assessment (MoCA): Results from the Emory healthy brain study (EHBS). *Journal of the American Geriatrics Society (JAGS)*, 71(6), 1931–1936. <https://doi.org/10.1111/jgs.18271>
15. Lin, Q., Shahid, S., Hone-Blanchet, A., Huang, S., Wu, J., Bisht, A., Loring, D. W., Goldstein, F.C., Lah, J.J., & Qiu, D. (2023). Magnetic resonance evidence of increased iron content in subcortical brain regions in asymptomatic Alzheimer's disease. *Human Brain Mapping*, 44(8), 3072-3083. <https://doi.org/10.1002/hbm.26263>
16. Watson, C.M., Dammer, E.B., Ping, L., Duong, D.M., Modeste, E., Carter, E.K., Johnson, E.C., Levey, A.I., Lah, J.J., Roberts, B.R. & Seyfried, N.T. (2023). Quantitative Mass Spectrometry Analysis of Cerebrospinal Fluid Protein Biomarkers in Alzheimer's Disease. *Scientific Data*, 10(1), 1-14. <https://doi.org/10.1038/s41597-023-02158-3>

17. Borkowski, K., Seyfried, N.T., Arnold, M., Lah, J.J., Levey, A.I., Hales, C.M., Dammer, E.B., Blach, C., Louie, G., Kaddurah-Daouk, R. & Newman, J.W. (2023). Integration of plasma and CSF metabolomics with CSF proteomic reveals novel associations between lipid mediators and central nervous system vascular and energy metabolism. *Scientific Reports*, 13(1), 13752. <https://doi.org/10.1038/s41598-023-39737-8>
18. Modeste, E.S., Ping, L., Watson, C.M., Duong, D.M., Dammer, E.B., Johnson, E.C., Roberts, B.R., Lah, J.J., Levey, A.I. and Seyfried, N.T. (2023). Quantitative proteomics of cerebrospinal fluid from African Americans and Caucasians reveals shared and divergent changes in Alzheimer's disease. *Molecular Neurodegeneration*, 18(1), 48. <https://doi.org/10.1186/s13024-023-00638-z>
19. Tandon, R., Levey, A. I., Lah, J. J., Seyfried, N. T., & Mitchell, C. S. (2023). Machine Learning Selection of Most Predictive Brain Proteins Suggests Role of Sugar Metabolism in Alzheimer's Disease. *Journal of Alzheimer's disease: JAD*, 92(2), 411–424. <https://doi.org/10.3233/JAD-220683>

EHBS Preprints

1. Casey, E., Li, Z., Liang, D., Ebelt, S., Levey, A.I., Lah, J.J., Wingo, T.S. and Huels, A. (2023). Association between Fine Particulate Matter Exposure and Cerebrospinal Fluid Biomarkers of Alzheimer's Disease among a Cognitively Healthy Population-based Cohort. *medRxiv*, 2023-06. <https://www.medrxiv.org/content/10.1101/2023.06.15.23291452v1>

Emory Healthy Aging Study Cohort

1. *Goetz, M. E., Hanfelt, J. J., John, S. E., Bergquist, S. H., Loring, D. W., Quyyumi, A., Clifford, G. D., Vaccarino, V., Goldstein, F., Johnson Nd, T. M., Kuerston, R., Marcus, M., Levey, A. I., & Lah, J. J. (2019). Rationale and Design of the Emory Healthy Aging and Emory Healthy Brain Studies. *Neuroepidemiology*, 53(3-4), 187–200. <https://doi.org/10.1159/000501856>
2. Wingo, A. P., Wingo, T. S., Fan, W., Bergquist, S., Alonso, A., Marcus, M., Levey, A. I., & Lah, J. J. (2020). Purpose in life is a robust protective factor of reported cognitive decline among late middle-aged adults: The Emory Healthy Aging Study. *Journal of affective disorders*, 263, 310–317. <https://doi.org/10.1016/j.jad.2019.11.124>
3. Christensen, G. M., Li, Z., Pearce, J., Marcus, M., Lah, J. J., Waller, L. A., Ebelt, S., & Hüls, A. (2022). The complex relationship of air pollution and neighborhood socioeconomic status and their association with cognitive decline. *Environment International*, 167, 107416–107416. <https://doi.org/10.1016/j.envint.2022.107416>

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4. Li, Z., Christensen, G. M., Lah, J. J., Marcus, M., Russell, A. G., Ebel, S., Waller, L. A., & Hüls, A. (2022). Neighborhood characteristics as confounders and effect modifiers for the association between air pollution exposure and subjective cognitive functioning. *Environmental research*, 212(Pt A), 113221. Advance online publication. <https://doi.org/10.1016/j.envres.2022.113221>
5. Patterson, S. L., Marcus, M., Goetz, M., Vaccarino, V., & Gooding, H. C. (2022). Depression and Anxiety Are Associated With Cardiovascular Health in Young Adults. *Journal of the American Heart Association*, 11(24), e027610. <https://doi.org/10.1161/JAHA.122.027610>