



Ixel Hernandez-Castro

Postdoctoral Scholar, Epidemiology

Bio

BIO

Environmental epidemiologist focused on understanding how cumulative environmental exposures during pregnancy and early life shape maternal and child health across the life course. My work integrates epidemiologic methods and molecular biomarkers to uncover shared biological pathways linking chemical and social exposures to pregnancy complications and adverse cardiometabolic and neurodevelopmental outcomes, with the goal of informing early prevention strategies and supporting health.

INSTITUTE AFFILIATIONS

- Member, Maternal & Child Health Research Institute (MCHRI)

HONORS AND AWARDS

- Propel Postdoctoral Scholar, Stanford University School of Medicine (August 2023)
- Career MODE, Columbia University (August 2025)
- Gates Millenium Scholar, Bill and Melinda Gates Foundation (May 2014-May 2023)
- PRISM, Stanford University (May 2023)
- Randall Lewis Health Policy Fellowship, Randall Lewis (August 2018-May 2019)
- Travel Award to Promote Equity, Diversity, Inclusion, SPER (March 2021)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, Society of Epidemiologic Research (2023 - present)
- Member, International Society of Exposure Science (2023 - present)
- Member, Society for Pediatric and Perinatal Epidemiologic Research (2021 - present)
- Member, International Society of Environmental Epidemiology (2021 - present)

STANFORD ADVISORS

- Andres Cardenas, Postdoctoral Faculty Sponsor

LINKS

- Google Scholar: <https://scholar.google.com/citations?user=hN9Ef4gAAAAJ&hl=en&oi=sra>
- LinkedIn: <https://www.linkedin.com/in/ixel-hernandez-castro-phd-8b7b91171/>
- Twitter/X: <https://twitter.com/ixelhern>
- Cardenas Lab: <https://med.stanford.edu/cardenas-lab.html>

Publications

PUBLICATIONS

- **Exposure to Organophosphate Ester Flame Retardants and Plasticizers during Pregnancy and Autism-Related Outcomes in the ECHO Cohort** *ENVIRONMENTAL HEALTH PERSPECTIVES*
Ames, J. L., Ferrara, A., Feng, J., Alexeeff, S., Avalos, L. A., Barrett, E. S., Bastain, T. M., Bennett, D. H., Buckley, J. P., Carignan, C. C., Cintora, P., Ghassabian, A., Hedderson, et al
2026
- **Association of depressive and/or pregnancy-related anxiety symptoms in pregnancy with maternal and neonatal biologic aging** *BMC Pregnancy and Childbirth*
Panelli, D. M., Bianco, K., Rifas-Shiman, S. L., Oken, E., Hivert, M., Hernandez-Castro, I., Shaw, G. M., Cardenas, A.
2026
- **Changes to Family Life, Youth COVID-19 Pandemic-Related Traumatic Stress, and the Youth Mental Health Crisis.** *Journal of clinical child and adolescent psychology : the official journal for the Society of Clinical Child and Adolescent Psychology, American Psychological Association, Division 53*
Margolis, A. E., Law, A., Knapp, E. A., Greenwood, P., Algermissen, M., Avalos, L. A., Birnhak, Z., Blackwell, C., Breton, C., Bush, N. R., Duarte, C., Frazier, J., Ganiban, et al
2025: 1-16
- **Associations of maternal neighborhood and trauma-related stressors with mitochondrial DNA copy number and telomere length in maternal and cord blood.** *Scientific reports*
Hernandez-Castro, I., Rifas-Shiman, S. L., Panelli, D. M., Smith, A. R., Yi, L., Aris, I. M., Tiemeier, H., Belfort, M. B., Qureshi, F., Gold, D. R., Hivert, M., Oken, E., Cardenas, et al
2025; 15 (1): 29143
- **Higher fat-soluble vitamin and phosphorus intake are associated with less dental caries among children and adolescents in the United States, NHANES 2011–2018** *Frontiers in Oral Health*
Khan, D., Hernandez-Castro, I., Larvie, D. Y., Armah, S. M., Cardenas, A., Malin, A. J.
2025: 1617695
- **Prenatal exposure to organophosphate ester flame retardants and behavioral outcomes in early childhood in the Environmental influences on Child Health Outcomes (ECHO) cohort** *Environment International*
Oh, J., et al
2025: 109649
- **Exposure to organophosphate ester flame retardants and plasticizers during pregnancy and autism-related outcomes in the ECHO Cohort.** *Environmental health perspectives*
Ames, J. L., Ferrara, A., Feng, J., Alexeeff, S., Avalos, L. A., Barrett, E. S., Bastain, T. M., Bennett, D. H., Buckley, J. P., Carignan, C. C., Cintora, P., Ghassabian, A., Hedderson, et al
2025
- **Examining the Effect of Household Pesticide Exposure on Infants' Temperament and Children's Behavioural and Emotional Problems** *Infant and Child Development*
Hernandez, A., Hernandez-Castro, I., Yang, T., Dunton, G. F., Farzan, S., Breton, C., Bastain, T., Morales, S.
2025
- **Non-inclusive language in human subjects questionnaires: addressing racial, ethnic, heteronormative, and gender bias.** *BMC Public Health*
Hernandez, I., Nuñez, V., Reynaga, L., Stewart, K., Hernandez-Castro, I., et al
2025
- **Maternal Urinary Fluoride and Child Neurobehavior at Age 36 Months.** *JAMA network open*
Malin, A. J., Eckel, S. P., Hu, H., Martinez-Mier, E. A., Hernandez-Castro, I., Yang, T., Farzan, S. F., Habre, R., Breton, C. V., Bastain, T. M.
2024; 7 (5): e2411987
- **Associations of Organophosphate Ester Flame Retardant Exposures during Pregnancy with Gestational Duration and Fetal Growth: The Environmental influences on Child Health Outcomes (ECHO) Program** *Environmental Health Perspectives*

- Oh, J., Buckley, J. P., Li, X., Gachigi, K. K., Kannan, K., Lyu, W., Ames, J. L., Barrett, E. S., Bastain, T. M., Breton, C. V., Buss, C., Croen, L. A., Dunlop, et al
2024
- **First Trimester Prenatal Metal Mixtures, Methyl Donors, and Hypertensive Disorders of Pregnancy in Project Viva**
Hernandez-Castro, I., Rifas-Shiman, S. L., Lin, P. D., Chavarro, J. E., Gold, D. R., Zhang, M., Mueller, N. T., James-Todd, T., Coull, B., Hivert, M., Oken, E., Cardenas, A.
2024
 - **Organophosphate ester flame retardant chemicals and maternal depression during pregnancy** *Environmental Research*
Hernandez-Castro, I., Eckel, S. P., Howe, C. G., Aung, M. T., Kannan, K., Robinson, M., Foley, H. B., Yang, T., Vigil, M. J., Chen, X., Grubbs, B., Al-Marayati, L., Toledo-Corral, et al
2024
 - **Prenatal exposures to organophosphate ester metabolites and early motor development in the MADRES cohort** *Environmental Pollution*
Hernandez-Castro, I., Eckel, S. P., Chen, X., Yang, T., Vigil, M. J., Foley, H. B., Kannan, K., Robinson, M., Grubbs, B., Lerner, D., Lurvey, N., Al-Marayati, L., Habre, et al
2024
 - **First trimester prenatal metal mixtures, vitamins, and hypertensive disorders of pregnancy in the project viva cohort** *Environment International*
Hernandez-Castro, I., Rifas-Shiman, S. L., Lin, P. D., Chavarro, J. E., Gold, D. R., Zhang, M., Mueller, N. T., James-Todd, T., Coull, B., Hivert, M., Oken, E., Cardenas, A.
2024
 - **Prenatal exposures to organophosphate ester metabolite mixtures and children's neurobehavioral outcomes in the MADRES pregnancy cohort.** *Environmental health : a global access science source*
Hernandez-Castro, I., Eckel, S. P., Howe, C. G., Niu, Z., Kannan, K., Robinson, M., Foley, H. B., Yang, T., Vigil, M. J., Chen, X., Grubbs, B., Lerner, D., Lurvey, et al
2023; 22 (1): 66
 - **Sex-specific effects of prenatal organophosphate ester (OPE) metabolite mixtures and adverse infant birth outcomes in the maternal and developmental risks from environmental and social stressors (MADRES) pregnancy cohort** *ENVIRONMENTAL RESEARCH*
Hernandez-Castro, I., Eckel, S. P., Howe, C. G., Niu, Z., Kannan, K., Robinson, M., Foley, H. B., Grubbs, B., Al-Marayati, L., Lerner, D., Lurvey, N., Aung, M. T., Habre, et al
2023; 226: 115703
 - **COVID-19 Pandemic Experiences and Symptoms of Pandemic-Associated Traumatic Stress Among Mothers in the US** *JAMA NETWORK OPEN*
Bastain, T. M., Knapp, E. A., Law, A., Algermissen, M., Avalos, L. A., Birnhak, Z., Blackwell, C., Breton, C., Duarte, C., Frazier, J., Ganiban, J., Greenwood, P., Herbstman, et al
2022; 5 (12): e2247330
 - **Perceived vulnerability to immigration policies among postpartum Hispanic/Latina women in the MADRES pregnancy cohort before and during the COVID-19 pandemic** *WOMENS HEALTH*
Hernandez-Castro, I., Toledo-Corral, C. M., Chavez, T., Habre, R., Grubbs, B., Al-Marayati, L., Lerner, D., Lurvey, N., Lagomasino, I., Eckel, S. P., Dunton, G. F., Farzan, S. F., Breton, et al
2022; 18: 17455057221125103
 - **Organophosphate Flame Retardant Exposures and Maternal Depression During Pregnancy in the Maternal and Developmental Risks from Environmental and Social Stressors (MADRES) Pregnancy Cohort**
Hernandez-Castro, I., et al
2022
 - **Prenatal exposure to mixtures of replacement flame retardant chemicals and children's neuro-behavioral outcomes in a sample of children from socioeconomically disadvantaged communities**
Hernandez-Castro, I., et al
2022
 - **Household pesticide exposures and infant gross motor development in the MADRES cohort** *PAEDIATRIC AND PERINATAL EPIDEMIOLOGY*
Hernandez-Castro, I., Eckel, S. P., Chavez, T., Johnson, M., Lerner, D., Grubbs, B., Toledo-Corral, C. M., Farzan, S. F., Habre, R., Dunton, G. F., Breton, C., Bastain, T. M.

2022; 36 (2): 220-229

- **Prenatal ambient air pollution and maternal depression at 12 months postpartum in the MADRES pregnancy cohort** *ENVIRONMENTAL HEALTH*

Bastain, T. M., Chavez, T., Habre, R., Hernandez-Castro, I., Grubbs, B., Toledo-Corral, C. M., Farzan, S. F., Lurvey, N., Lerner, D., Eckel, S. P., Lurmann, F., Lagomasino, I., Breton, et al

2021; 20 (1): 121

- **Perceived Discrimination and Social Isolation Among Postpartum Hispanic Women in the MADRES Pregnancy Cohort Before and After the COVID-19 Pandemic**

Hernandez-Castro, I., et al

2021