

Eunhye Ahn, PhD

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EDUCATION

2022	PhD	University of Southern California , Los Angeles, CA <i>Suzanne Dworak-Peck School of Social Work</i> • Dissertation: <i>Fairness in Machine Learning Applied to Child Welfare</i> Committee: Jacquelyn McCroskey (Chair), Emily Putnam-Hornstein, Fred Morstatter, Jungeun Olivia Lee, Rebecca Rebbe
2017	MSW (Qualifying)	Monash University , Melbourne, Australia <i>Department of Social Work</i>
2010	BA	Yonsei University , Seoul, South Korea <i>School of Business</i>
2009		École Supérieure de Commerce et Management (ESCEM) , Poitiers, France <i>School of Business and Management, Student Exchange Program</i>

AREAS OF RESEARCH

Child Welfare; Child and Family Policy; Child Protection Systems; Data Linkage
Data Science; Predictive Risk Modeling; Machine Learning; Algorithmic Fairness

SKILLS

Python, Stata, R, SQL, Power BI, NVivo, SAS, ArcGIS

PEER-REVIEWED PUBLICATIONS

Published / Revise-and-Resubmit

1. **Ahn, E.**, Prindle, J., Reddy, J., & Putnam-Hornstein, E. (2022). Predictors of family-level recidivism with the child protection system. *Child Maltreatment*.
2. Foust, R., Hoonhout, J., Eastman, A.L., Prindle, J., Rebbe, R., Nghiem, H., Suthar, H., Cuccaro-Alamin, S., Palmer, L., Raj, S., **Ahn, E.**, Hammond, I., McNellan, C., Reddy, J., Mayfield, K., Putnam-Hornstein, E., & McCorskey, J. (2022). The Children's Data Network: Harnessing the Scientific Potential of Linked, Administrative Data to Inform Children's Programs and Policies. *International Journal of Population Data Science*. <https://doi.org/10.23889/ijpds.v6i3.1702>
3. **Ahn, E.**, Gil, Y., & Putnam-Hornstein, E. (2021). Predicting youth at high risk of aging out of foster care using machine learning methods. *Child Abuse & Neglect*, 117, 105059. <https://doi.org/10.1016/j.chiabu.2021.105059>
4. Putnam-Hornstein, E., **Ahn, E.**, Prindle, J., Magruder, J., Webster, D., & Wildeman, C. (2021). Cumulative rates of child protection involvement and terminations of parental rights in a California birth cohort, 1999-2017. *American Journal of Public Health*, 111(6), 1157-1163. <https://doi.org/10.2105/AJPH.2021.306214>

- Palmer, L., **Ahn, E.**, Traube, D., Prindle, J., & Putnam-Hornstein, E. (2020). Correlates of entry into congregate care among a cohort of California foster youth. *Child and Youth Services Review*, 110, 104772. <https://doi.org/10.1016/j.childyouth.2020.104772>
- Eastman, A.L., Palmer, L., & **Ahn, E.** (2019). Pregnant and parenting youth in care and their children: A literature review. *Child and Adolescent Social Work Journal*, 36, 571-581. <https://doi.org/10.1007/s10560-019-00598-8>
- Ahn, E.** (2017). Relational barriers and benefits of peer mentoring programs: Focusing on international students in Australia. *Advances in Social Work and Welfare Education*, 19(2), 61-75.

Under Review

- Putnam-Hornstein, E., Foust, R., Cuccaro-Alamin, S., Prindle, J., Nghiem, H., **Ahn, E.**, & Palmer, L. (*under review*). A Population-Based Study of Mental Health Diagnoses and Child Protection System Involvement among Medicaid-Insured Children. *The Journal of Pediatrics*.

In Preparation

- Ahn, E.**, Waters-Roman, D., & McCroskey, J. Using data science to support child welfare professionals with decision-making considering fairness.
- Ahn, E.**, Reddy, J., & Putnam-Hornstein, E. A longitudinal analysis of maternal involvement with the child protection system across children.
- Ahn, E.**, Prindle, J., & Putnam-Hornstein, E. The child protection system involvement patterns among children born to mothers who have a prior termination of parental rights.
- Prado, D., **Ahn, E.**, Vaithianathan, R., & Putnam-Hornstein, E. A universal predictive risk model for documenting children at heightened risk of abuse and neglect based on the US birth record.

OTHER PUBLICATIONS

- Putnam-Hornstein, E., Prindle, J., Cuccaro-Alamin, S., Wiegmann, W., Magruder, J., Webster, D., Ahn, E., & Foust, R. (2021). Methods to Estimate the Community Incidence of Child Maltreatment. <https://www.acf.hhs.gov/sites/default/files/documents/opre/OPRE-Methods-to-Estimate-Community-Incidence-Child-Maltreatment-Dec2021.pdf>
- Putnam-Hornstein, E., **Ahn, E.**, & Prindle, J. (2021). Contact with the child protection system is pervasive, but are recent estimates correct? *Proceedings of the National Academy of Science*. <https://doi.org/10.1073/pnas.2114676118>
- Ahn, E.** (2021). Machine Learning in Child Welfare: Application and Algorithmic Fairness. *Korea Institute for Health and Social Affairs (KIHASA) Trend Report*. [in Korean] 안은혜. (2021). 미국 아동복지 분야에서의 기계학습 활용과 공정성 이슈. 한국보건사회연구원 동향보고서. <http://repository.kihasa.re.kr/handle/201002/38453>
- Putnam-Hornstein, E., **Ahn, E.**, Prindle, J., Magruder, J., Webster, D., & Wildeman, C. (2021). Response to letter to the editor submitted by Schmidt et al. *American Journal of Public Health*.

5. **Ahn, E.,** Foust, R., & Putnam-Hornstein, E. (2020). Charting the Path for Babies in the City and County of San Francisco
6. **Ahn, E.,** Foust, R., Putnam-Hornstein, E., & McCroskey, J. (2020). Charting the Path for Babies in Los Angeles County
7. **Ahn, E.,** Foust, R., & Putnam-Hornstein, E. (2020). Charting the Path for Babies in Orange County

EXPERIENCE

- 2017 – present **Research Assistant, Research Affiliate**
Children’s Data Network, School of Social Work, USC
- 2019 **Research Fellow**
Data Science for Social Good Fellowship, Imperial College, UK
Predictive modeling to identify frequent 911 callers to improve emergency medical services in Memphis Fire Department
- 2015 – 2016 **Graduate Student Researcher**
Department of Human-Centered Computing, Monash University, Australia
Participatory Research and Ownership with Technology Information Project
- 2015 **Social Work Intern**
Homelessness & Domestic Violence Support, WAYSS, Australia
- 2013 **Research Intern**
Psychology Department, University of Toronto, Canada
Parent-Infant Research Lab, Scott Psychology Lab
- 2010-2012 **B2C Sales and Marketing Manager**
Samsung Electronics, South Korea

AWARDS AND SCHOLARSHIPS

- 2021-2022 **Travel/Research Award**, USC Graduate School (\$1,500)
- 2021-2022 **Doctoral Dissertation Fellowship**, USC Graduate School (\$32,000)
- 2020-2021 **Doctoral Dissertation Research Fellowship**, First 5 Orange County Children and Families Commission (\$10,000)
- 2017-2021 **Hamovitch Summer Research Fellowship**, USC Suzanne Dworak-Peck School of Social Work
- 2019 **Research Fellowship**, Data Science for Social Good, Imperial College, London (£10,000)
- 2016 **Better Teaching, Better Learning Grant**, Monash University (\$2,000)
- 2015-2016 **International Leadership Scholarship**, Monash University (merit-based full tuition for 2 years, AU\$50,000)
- 2010 **New Practice Award**, Samsung Electronics Co., Ltd

- 2009 **Exchange Student Scholarship**, Mirae Foundation (tuition and stipend, KRW6,000,000)
- 2007 **Class MVP**, Yonsei University

SELECTED RESEARCH EXPERIENCE

- 2017-present **Research Assistant** (Co-PIs: Dr. McCroskey & Putnam-Hornstein)
Children's Data Network, University of Southern California
- **Predictive Modeling for Identifying Child Maltreatment Incidence**
Applied birth maltreatment incidence model to different birth cohorts and jurisdictions to estimate child maltreatment incidence.
 - **Risk Stratification Project in the Los Angeles County Department of Children and Family Services**
Participated in identifying complex-risk investigations using predictive risk modeling and conducted a racial equity analysis.
 - **Analysis on Cross-sector Service Involvement in Orange County**
Analyzed a linked set of administrative health and birth records to inform children and family support programs and advance the well-being of children under 5 in Orange County.
 - **Charting the Path for Children in Los Angeles County**
Conducted a prospective birth cohort analysis on public service utilization among children under 5 in Los Angeles.
 - **Child Welfare Data SMART Project**
Supported collaborative efforts to establish a common child welfare data structure across states.
 - **Predictive Risk Modeling Informing Aging-Out Youth Prevention**
Trained and tested machine learning models to predict children's risk of aging-out of child protective system based on their prior involvement with services.
 - **Child Maltreatment Recidivism: A Family-Level Analysis**
Conducted a family-level analysis using linked population-level administrative data to understand the impacts of changing birth characteristics on system involvement and reinvolvement.
- 2019 **Research Fellow**
Data Science for Social Good Fellowship, Imperial College in London, UK
- **Improving Outcomes for Frequent 911 Calls to Emergency Services**
Collaboratively developed a machine learning model by partnering with the Memphis Fire Department to predict individuals who are at high risk of becoming high utilizers of emergency medical services for proactive interventions, and to free up resources for high level emergencies.
- 2015-2016 **Graduate Student Research Assistant** (Co-PIs: Dr. Stillman & Dr. Denison)
Department of Human Centred Computing, Monash University, Australia
- **Participatory Research and Ownership with Technology, Information, and Change**
Examined the utilization of mobile devices among the marginalized groups, relating to climate vulnerability in rural areas of Bangladesh.

2013 **Research Intern**

The Centre for Urban Health Solutions, St. Michael's Hospital, Canada

- **CATCH (Coordinated Access to Care from Hospital)-Homeless Project**
Supported interviews with individuals experiencing homelessness to follow their trajectories of health service utilization.

2013 **Research Intern (PI: Dr. Scott)**

Department of Psychology, University of Toronto, Canada

- **Caring Fathers Program for Child Maltreatment Perpetrators**
Supported conducting and arranging interviews with participants.

2013 **Research Intern (PI: Dr. Haley)**

Parent-Infant Research Lab, University of Toronto, Canada

- **Caregivers' Interaction with Infant Stimuli**
Collected data through conducting experiments using EEG to measure electrical activity responding to infant stimuli.

PEER-REVIEWED PRESENTATIONS

1. **Ahn, E., Gil, Y., & Putnam-Hornstein, E.** (Accepted: January 2022, withdrawn due to COVID). Predicting Youth at High Risk of Aging out of Foster Care Using Machine Learning Methods. Paper presented at the 26th Annual Conference of the Society for Social Work and Research (SSWR): San Francisco, CA.
2. **Ahn, E. & Putnam-Hornstein, E.** (Accepted: January 2022, withdrawn due to COVID). Fairness Analysis of a Risk Stratification Model Developed to Support Child Welfare Supervisors. Presented at the 26th Annual Conference of the Society for Social Work and Research (SSWR): San Francisco, CA.
3. **Ahn, E., Prindle, J., & Putnam-Hornstein, E.** (August 2020). A family-level analysis on dynamics of risk factors and child protective service re-referrals. Presented at the Data Days: Online
4. Putnam-Hornstein, E., **Ahn, E.** & Prindle, J. (January 2020). A birth cohort study of termination of parental rights due to child abuse and neglect. Paper presented at the 24th Annual Conference of the Society for Social Work and Research (SSWR): Washington, DC.
5. **Ahn, E., Prindle, J., & Putnam-Hornstein, E.** (January 2019). A family-level analysis on dynamics of risk factors and child protective service re-referrals. Paper presented at the 23rd Annual Conference of the Society for Social Work and Research (SSWR): San Francisco, CA.

COMMUNITY PRESENTATIONS

1. **Ahn, E.** (March 2022). Fairness in Machine Learning Applied to Child Welfare. First 5 Los Angeles: Online
2. **Ahn, E.** (August 2021). Fairness in Machine Learning Applied to Child Welfare. Presented at the PhD Student Research Symposium: Online

3. **Ahn, E.**, Gil, Y., & Putnam-Hornstein, E. (April 2021). Modeling the Risk of Aging Out Among Youth in Foster Care using Machine Learning. Poster Presented at the USC Center for Artificial Intelligence for Society Equity & AI Symposium: Online.
4. **Ahn, E.**, Gil, Y., & Putnam-Hornstein, E. (June 2020). Modeling the Risk of Aging Out Among Youth in Foster Care using Machine Learning. Presented at the CDN Brown Bag: Online.
5. **Ahn, E.** & Putnam-Hornstein, E. (November 2019). Modeling the Risk of Aging Out Among Youth in Foster Care using Machine Learning. Presented at the USC Center for knowledge-Powered Interdisciplinary Data Science: Los Angeles, CA
6. **Ahn, E.***, Sands, H.* , Shewmake, C.* , Sotoodeh, M.* , Eckhoff, M.* , Short, S.* , Spratlin, K.* , & Shah, V.* (August 2019). Helping Emergency Medical Services to identify High Utilizers for Proactive Care Services. Presented at the Data Science for Social Good: London, UK. (*Equally contributed)
7. **Ahn, E.**, Prindle, J., & Putnam-Hornstein, E. (February 2019). A family-level analysis on dynamics of risk factors and child protective service re-referrals. Paper presented at the CDN Brown Bag: Los Angeles, CA
8. **Ahn, E.**, Prerna, G., Liliana, V. H., & Obana, M. (September 2016). Evaluation Research on the Peer Mentoring Program. Department of social work, Monash University: Melbourne, VIC.
9. **Ahn, E.** (April 2016). Presentation on Student Bursaries: The Peer Mentoring Program. Office of the Vice-Provost Learning and Teaching: Melbourne, VIC.
10. **Ahn, E.** (February 2016). Introduction of the Peer Mentoring Program to the Commencing Students. MSW Orientation Day: Melbourne, VIC.

TEACHING

- Fall 2021 **Guest Lecturer**
 “Fairness in Machine Learning Applied to Child Welfare”
 Institutional Inequality in American Political and Social Policy (SOWK 200),
 MSW course, USC
- Summer 2021 **Instructor**
 Data-Driven Decision Making in Social Services (SOWK 721), DSW course,
 USC
- Fall 2020 **Co-Instructor**
 Science of Social Work (SOWK 546), MSW course, USC
- Fall 2019 **Teaching Assistant & Guest Lecturer**
 Research and Critical Analysis for Social Work with Children and Families
 (SOWK 608), MSW course, USC
- Fall 2018 **Teaching Assistant**
 Controversial Issues in Public Child Welfare (SOWK 619), MSW course, USC

COMMUNITY SERVICE

2020-2021 **Student Representative**, Social Justice Oriented Integrative Lens

- 2015-2016 **Organizer**, Peer Mentoring Program in the MSW Program, Australia
2013-2014 **Volunteer**, College Montrose Children's Place, Canada
2013 **Volunteer**, Inner City Health Associates, St. Michael's Hospital, Canada
2006-2009 **Volunteer**, Eden I Ville Children's Center, Korea
2008 **Policy Intern**, The National Assembly of the Republic of Korea, Korea
2008 **Intern**, The Beautiful Foundation, Korea

AD HOC REVIEWER

Child Abuse & Neglect
The Lancet Regional Health - Americas
Social Science Computer Review

PROFESSIONAL AFFILIATIONS

Society for Social Work Research (SSWR)
Korean American Social Work Educators Association (KASWEA)
Data Science for Social Good Alumni

OTHER

["Bringing humanity to data science"](#) (USC Suzanne Dworak-Peck Newsletter, March 2021)