

Adverse and Positive Childhood Experiences and General Health among Asian American Emerging Adults

Wenyi Chen, PhD, MSN, CPNP-PC, RN
Sigma Foundation for Nursing
Grant Report

Aim/Purpose/Objective: The purpose of this study was to (1) investigate whether disparities in ACE and PCE exposures exist in a diverse Asian American population of emerging adults (i.e., Asian Indian, Chinese, Hmong American) differing in their US immigration histories, cultures, language, and countries of origin and (2) describe the relationships among ACEs, PCEs, and self-reported general health among Asian American emerging adults.

Sample: A total of 814 Asian American emerging adults (18 - 25 years) self-identified as Asian Indian, Chinese, or Hmong Americans were recruited from 46 U.S. states and the District of Columbia, with approximately 20.0% of participants from California. The sample consisted of 27.2% Asian Indian (n = 221), 30.6% Chinese (n = 249), and 42.3% Hmong (n = 344).

Setting: The cross-sectional survey study used Research Electronic Data Capture (REDCap), a secure HIPAA-compliant web-based application (REDCap Project, n.d.), to design and distribute the study survey. This study recruited Asian American emerging adults from various sources, including U.S.-based community organizations, university student groups, ResearchMatch.org, and Facebook groups.

Methodology: Quantitative, Surveys

Participants completed online surveys measuring ACEs (Philadelphia ACEs Survey), PCEs (Benevolent Childhood Experiences Scale), general health (PROMIS Adult Global Health Scale v1.2), and childhood socioeconomic position (CSEP).

Results: Differences in ACEs and PCEs exposures were observed between Hmong and Asian Indian (ACEs: p < .001; PCEs: p = .005) and Hmong and Chinese (ACEs: p < .001; PCEs: p < .001). CSEP variables partially explain the observed disparities. ACE score was negatively associated with general health score ($\beta = -1.16$, p < .001). The interaction term of ACEs x PCEs was significant ($\beta = -0.06$, p = .009).

Conclusions: Significant differences in ACEs and PCEs exposures were observed between Hmong, Asian Indian, and Chinese participants. CSEP factors accounted for some variations in the disparities of ACEs and PCEs. Higher cumulative ACE score was significantly associated with poorer general health; PCEs moderated the relationship between ACEs and general health in this sample of Asian American emerging adult.

Implications: Nurses and other health care professionals should be aware of and routinely screen for both ACEs and PCEs. Individuals from lower socioeconomic backgrounds may be more susceptible to ACEs and their negative impacts. Future policy initiatives should target support towards these vulnerable groups to prevent ACEs and mitigate the negative impact of ACEs on health.

References:

- Abbott, M. (2021). The interplay between adverse and positive childhood experiences: An exploration of risk and resilience in health and parenting (Publication No. 28716423) [Doctoral dissertation, University of Wisconsin-Madison]. ProQuest Dissertations & Theses Global.
- Arnett J. J. (2000). Emerging adulthood. A theory of development from the late teens through the twenties. *The American psychologist*, 55(5), 469–480.
- Areba, E., Taliaferro, L., Forster, M., McMorris, B. J., Mathiason, M. A., & Eisenberg, M. E. (2021). Adverse childhood experiences and suicidality: School connectedness as a protective factor for ethnic minority adolescents. *Children and Youth Services Review*, 120, Article 105637. <https://doi.org/10.1016/j.childyouth.2020.105637>
- Assini-Meytin, L. C., Fix, R. L., Green, K. M., Nair, R., & Letourneau, E. J. (2022). Adverse childhood experiences, mental health, and risk behaviors in adulthood: Exploring sex, racial, and ethnic group differences in a nationally representative sample. *Journal of Child & Adolescent Trauma*, 15(3), 833-845. <https://doi.org/10.1007/s40653-021-00424-3>
- Badrinathan, S., Kapur, D., Kay, J., & Vaishnav, M. (2021). Social realities of Indian Americans: Results from the 2020 Indian American Attitudes Survey. Carnegie Endowment for International Peace. https://carnegieendowment.org/files/Vaishnav_etal_IAASpt3_Final.pdf
- Bethell, C. D., Davis, M. B., Gombojav, N., Stumbo, S., Powers, K. (2017). Issue brief: Adverse childhood experiences among US children. Child and Adolescent Health Measurement Initiative, Johns Hopkins Bloomberg School of Public Health. [https://www.cahmi.org/docs/default-source/resources/issue-brief-adverse-childhood-experiences-among-us-children-\(2017\).pdf](https://www.cahmi.org/docs/default-source/resources/issue-brief-adverse-childhood-experiences-among-us-children-(2017).pdf)
- Bethell, C., Jones, J., Gombojav, N., Linkenbach, J., & Sege, R. (2019). Positive childhood experiences and adult mental and relational health in a statewide sample: Associations across adverse childhood experiences levels. *JAMA Pediatrics*, 173(11), e193007. <https://doi.org/10.1001/jamapediatrics.2019.3007>
- Bhandari, S. (2022). South Asians in the United States: A guide for social workers and other helping professionals. (Shreya, B., Ed.). NASW Press.
- Budiman, A. & Ruiz, N. G. (2021, April 29). Key facts about Asian origin groups in the U.S. Pew Research Center. <https://www.pewresearch.org/shortreads/2021/04/29/key-facts-about-asian-origin-groups-in-the-u-s/>
- Budiman, A. (2021, April 29). Indians in the U.S. face sheet. Pew Research Center. <https://www.pewresearch.org/social-trends/fact-sheet/asian-americans-indians-in-the-u-s/>

Centers for Disease Control and Prevention. (n.d.) Essentials for childhood: Creating safe, stable, nurturing relationships and environments for all children. <https://www.cdc.gov/violenceprevention/pdf/essentials-for-childhood-framework508.pdf>

Chasson, M., & Taubman-Ben-Ari, O. (2023). The contribution of adverse childhood experiences to postpartum maternal reflective functioning: A prospective examination of the role of maternal disintegrative responses and personal growth. *Child Abuse & Neglect*, 143, 106250. <https://doi.org/10.1016/j.chabu.2023.106250>

Crandall, A., Miller, J. R., Cheung, A., Novilla, L. K., Glade, R., Novilla, M. L. B., Magnusson, B. M., Leavitt, B. L., Barnes, M. D., & Hanson, C. L. (2019). ACEs and counter-ACEs: How positive and negative childhood experiences influence adult health. *Child Abuse & Neglect*, 96, 104089. <https://doi.org/10.1016/j.chabu.2019.104089>

Crandall, A., Broadbent, E., Stanfill, M., Magnusson, B. M., Novilla, M. L. B., Hanson, C. L., & Barnes, M. D. (2020). The influence of adverse and advantageous childhood experiences during adolescence on young adult health. *Child Abuse & Neglect*, 108, 104644. <https://doi.org/10.1016/j.chabu.2020.104644>

Cronholm, P. F., Forke, C. M., Wade, R., Bair-Merritt, M. H., Davis, M., Harkins-Schwarz, M., Pachter, L. M., & Fein, J. A. (2015). Adverse childhood experiences: Expanding the concept of adversity. *American Journal of Preventive Medicine*, 49(3), 354-361. <https://doi.org/10.1016/j.amepre.2015.02.001>

Crouch, E., Probst, J. C., Radcliff, E., Bennett, K. J., & McKinney, S. H. (2019). Prevalence of adverse childhood experiences (ACEs) among US children. *Child Abuse & Neglect*, 92, 209-218. <https://doi.org/10.1016/j.chabu.2019.04.010>

Doom, J. R., Seok, D., Narayan, A. J., & Fox, K. R. (2021). Adverse and benevolent childhood experiences predict mental health during the COVID-19 pandemic. *Adversity and Resilience Science*, 2(3), 193–204. <https://doi.org/10.1007/s42844-021-00038-6>

Dube, S. R., Williamson, D. F., Thompson, T., Felitti, V. J., & Anda, R. F. (2004). Assessing the reliability of retrospective reports of adverse childhood experiences among adult HMO members attending a primary care clinic. *Child Abuse & Neglect*, 28(7), 729–737. <https://doi.org/10.1016/j.chabu.2003.08.009>

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, 14(4), 245 - 258. [https://doi.org/10.1016/s0749-3797\(98\)00017-8](https://doi.org/10.1016/s0749-3797(98)00017-8)

Finkelhor, D., Shattuck, A., Turner, H., & Hamby, S. (2015). A revised inventory of Adverse Childhood Experiences. *Child Abuse & Neglect*, 48, 13–

21. <https://doi.org/10.1016/j.chabu.2015.07.011>

Forster, M., Rogers, C. J., Benjamin, S. M., Grigsby, T., Lust, K., & Eisenberg, M. E. (2019). Adverse childhood experiences, ethnicity, and substance use among college students: Findings from a two-state sample. *Substance Use & Misuse*, 54(14), 2368–2379. <https://doi.org/10.1080/10826084.2019.1650772>

Fortson, B. L., Klevens, J., Merrick, M. T., Gilbert, L. K., & Alexander, S. P. (2016). Preventing child abuse and neglect: A technical package for policy, norm, and programmatic activities. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. <https://www.cdc.gov/violenceprevention/pdf/can-prevention-technical-package.pdf>.

Giedd J. N. (2004). Structural magnetic resonance imaging of the adolescent brain. *Annals of the New York Academy of Sciences*, 1021, 77–85. <https://doi.org/10.1196/annals.1308.009>

Hamilton-Merritt, J. (1993). Tragic Mountains: The Hmong, the Americans, and the secret wars for Laos, 1942–1992. Indiana University Press.

Han, D., Diejuste, N., Doom, J. R., & Narayan, A. J. (2023). A systematic review of positive childhood experiences and adult outcomes: Promotive and protective processes for resilience in the context of childhood adversity. *Child Abuse & Neglect*, 144, 106346. <https://doi.org/10.1016/j.chabu.2023.106346>

Han, S., Riddell, J. R., & Piquero, A. R. (2023). Anti-Asian American hate crimes spike during the early stages of the COVID-19 pandemic. *Journal of Interpersonal Violence*, 38(3-4), 3513–3533. <https://doi.org/10.1177/08862605221107056>

Harris, P. A., Scott, K. W., Lebo, L., Hassan, N., Lightner, C., & Pulley, J. (2012). ResearchMatch: A national registry to recruit volunteers for clinical research. *Academic Medicine*, 87(1), 66–73. <https://doi.org/10.1097/ACM.0b013e31823ab7d2>

Ho, G. W. K., Chan, A. C. Y., Chien, W. T., Bressington, D. T., & Karatzias, T. (2019). Examining patterns of adversity in Chinese young adults using the Adverse Childhood Experiences-International Questionnaire (ACE-IQ). *Child Abuse & Neglect*, 88, 179–188. <https://doi.org/10.1016/j.chabu.2018.11.009>

Huang, C. X., Halfon, N., Sastry, N., Chung, P. J., & Schickedanz, A. (2023). Positive Childhood experiences and adult health outcomes. *Pediatrics*, 152(1). <https://doi.org/10.1542/peds.2022-060951>

Hughes, K., Ford, K., Bellis, M. A., Glendinning, F., Harrison, E., & Passmore, J. (2021). Health and financial costs of adverse childhood experiences in 28 European countries: A systematic review and meta-analysis. *The Lancet. Public health*, 6(11), e848–e857. [https://doi.org/10.1016/S2468-2667\(21\)00232-2](https://doi.org/10.1016/S2468-2667(21)00232-2)

Hsu, E., Davies, C. A., & Hansen, D. J. (2004). Understanding mental health needs of Southeast Asian refugees: historical, cultural, and contextual challenges. *Clinical Psychology Review*, 24(2), 193–213. <https://doi.org/10.1016/j.cpr.2003.10.003>

Ibrahim, A., Wong, S. H., Kim, S. E., Wong, G. T. F., Macaranas, A., Rastogi, R., Chang, A. R., Wang, J.J., Hibara, A., Larkin, P., Yang, S., Chen, J.A., Liu, C. H. (2024). A scoping review of mental health and discrimination of Asian Americans and Pacific Islanders in the United States during the COVID-19 pandemic. *Nature Mental Health*. <https://doi.org/10.1038/s44220-023-00177-y>

Jang, M., & Vorderstrasse, A. (2019). Socioeconomic status and racial or ethnic differences in participation: Web-based survey. *JMIR Research Protocols*, 8(4), e11865. <https://doi.org/10.2196/11865>

Kessler, R. C., McLaughlin, K. A., Green, J. G., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M., Aguilar-Gaxiola, S., Alhamzawi, A. O., Alonso, J., Angermeyer, M., Benjet, C., Bromet, E., Chatterji, S., De Girolamo, G., Demyttenaere, K., Fayyad, J., Florescu, S., Gal, G., Gureje, O., ... Williams, D. R. (2010). Childhood adversities and adult psychopathology in the WHO World Mental Health Surveys. *The British Journal of Psychiatry*, 197(5), 378–385. <https://doi.org/10.1192/bjp.bp.110.080499>

Kiang, L., Tseng, V., & Yip, T. (2016). Placing Asian American child development within historical context. *Child Development*, 87(4), 995–1013. <https://doi.org/10.1111/cdev.12578>

Lomuscio, S. (2021). Getting started with Kruskal-Wallis test. University of Virginia Library. <https://library.virginia.edu/data/articles/getting-started-with-the-kruskal-wallis-test>

Lee, J., & Howard, J. T. (2023). Increased self-reported mental health problems among Asian-Americans during the COVID-19 Pandemic in the United States: Evidence from a nationally representative database. *Journal of Racial and Ethnic Health Disparities*, 10(5), 2344–2353. <https://doi.org/10.1007/s40615-022-01414-3>

Lor M. (2018). Systematic review: Health promotion and disease prevention among Hmong adults in the USA. *Journal of Racial and Ethnic Health Disparities*, 5(3), 638–661. <https://doi.org/10.1007/s40615-017-0410-9>

Madigan, S., Deneault, A.-A., Racine, N., Park, J., Thiemann, R., Zhu, J., Dimitropoulos, G., Williamson, T., Fearon, P., Cénat, J. M., McDonald, S., Devereux, C., & Neville, R. D. (2023). Adverse childhood experiences: A meta-analysis of prevalence and moderators among half a million adults in 206 studies. *World Psychiatry*, 22(3), 463–471. <https://doi.org/10.1002/wps.21122>

Merrick, M. T., Ford, D. C., Ports, K. A., Guinn, A. S., Chen, J., Klevens, J., Metzler, M., Jones, C. M., Simon, T. R., Daniel, V. M., Ottley, P., & Mercy, J. A. (2019). Vital signs: Estimated proportion of adult health problems attributable to adverse childhood experiences and implications for prevention - 25 States, 2015-2017. *MMWR. Morbidity and mortality weekly*

report, 68(44), 999–1005. <https://doi.org/10.15585/mmwr.mm6844e1>

Merrick, J. S., Narayan, A. J., DePasquale, C. E., & Masten, A. S. (2019). Benevolent childhood experiences (BCEs) in homeless parents: A validation and replication study. *Journal of Family Psychology*, 33(4), 493–498. <https://doi.org/10.1037/fam0000521>

Merrick, J. S., & Narayan, A. J. (2020). Assessment and screening of positive childhood experiences along with childhood adversity in research, practice, and policy. *Journal of Children and Poverty*, 26(2), 269–281. <https://doi.org/10.1080/10796126.2020.1799338>

Mersky, J. P., & Janczewski, C. E. (2018). Racial and ethnic differences in the prevalence of adverse childhood experiences: Findings from a low-income sample of U.S. women. *Child Abuse & Neglect*, 76, 480–487. <https://doi.org/10.1016/j.chabu.2017.12.012>

Mersky, J. P., Choi, C., Plummer Lee, C., & Janczewski, C. E. (2021). Disparities in adverse childhood experiences by race/ethnicity, gender, and economic status: Intersectional analysis of a nationally representative sample. *Child Abuse & Neglect*, 117, 105066. <https://doi.org/10.1016/j.chabu.2021.105066>

Morris, A. S., Hays-Grudo, J., Zapata, M. I., Treat, A., & Kerr, K. L. (2021). Adverse and protective childhood experiences and parenting attitudes: The role of cumulative protection in understanding resilience. *Adversity and Resilience Science*, 2(3), 181–192. <https://doi.org/10.1007/s42844-021-00036-8>

Narayana, A. J., Rivera, L. M., Bernstein, R. E., Harris, W. H., & Lieberman, A. F. (2018). Positive childhood experiences predict less psychopathology and stress in pregnant women with childhood adversity: A pilot study of the benevolent childhood experiences (BCEs) scale. *Child Abuse & Neglect*, 78, 19–30. <https://doi.org/10.1016/j.chabu.2017.09.022>

Narayan, A. J., Atzl, V. M., Merrick, J. S., Harris, W. W., & Lieberman, A. F. (2020). Developmental origins of ghosts and angels in the nursery: Adverse and benevolent childhood experiences. *Adversity and Resilience Science*, 1(2), 121–134. <https://doi.org/10.1007/s42844-020-00008-4>

Overholser, B. R., & Sowinski, K. M. (2008). Biostatistics primer: Part 2. Nutrition in Clinical Practice, 23(1), 76–84. <https://doi.org/10.1177/011542650802300176>

Organization for Economic Cooperation and Development. (2019). SF3.1: Marriage and divorce rates. OECD. https://www.oecd.org/els/family/SF_3_1_Marriage_and_divorce_rates.pdf

Park, E., Lee, J., & Han, J. (2021). The association between adverse childhood experiences and young adult outcomes: A scoping study. *Children and Youth Services Review*, 123, 105916. <https://doi.org/10.1016/j.childyouth.2020.105916>

Petrucelli, K., Davis, J., & Berman, T. (2019). Adverse childhood experiences and associated

health outcomes: A systematic review and meta-analysis. *Child Abuse & Neglect*, 97, 104127. <https://doi.org/10.1016/j.chabu.2019.104127>

Periyakoil, V. J. & Dara, S. (2010). Health and health care of Asian Indian American older adults. Stanford School of Medicine. https://geriatrics.stanford.edu/wp-content/uploads/downloads/ethnomed/asian_indian/downloads/asian_indian.pdf

Pew Research Center (2012, June 19). The rise of Asian Americans. <https://www.pewresearch.org/socialtrends/wpcontent/uploads/sites/3/2013/04/Asian-Americans-new-full-report-04-2013.pdf>

Okamoto, D. G. (2014). Redefining race. Russell Sage Foundation.

Quint, J. J., Van Dyke, M. E., Maeda, H., Worthington, J. K., Dela Cruz, M. R., Kaholokula, J. K., Matagi, C. E., Pirkle, C. M., Roberson, E. K., Sentell, T. Vo, C. Q., Samuels, P. J., Sommerseth, H. L., Wisløff, T., Wilsgaard, T., & Eggen, A. E. (2023). Comparing the sociodemographic characteristics of participants and non-participants in the population-based Tromsø Study. *BMC Public Health*, 23(1), 994. <https://doi.org/10.1186/s12889-023-15928-w>

Ruiz, N. G., Noe-Bustamante, L., & Shan, S. (2023, May 8). Diverse cultures and shared experiences shape Asian American Identities. Pew Research Center. <https://www.pewresearch.org/race-ethnicity/2023/05/08/diverse-cultures-and-shared-experiences-shape-asian-american-identities/>

Rangaswamy, P. (2000). Namaste America: Indian immigrants in an American metropolis. Pennsylvania State University Press.

Reuben, A., Moffitt, T. E., Caspi, A., Belsky, D. W., Harrington, H., Schroeder, F., Hogan, S., Ramrakha, S., Poulton, R., & Danese, A. (2016). Lest we forget: Comparing retrospective and prospective assessments of adverse childhood experiences in the prediction of adult health. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, 57(10), 1103–1112. <https://doi.org/10.1111/jcpp.12621>

Redcap Project (n.d.). About. <https://projectredcap.org/about/>

Sangalang, C. C., & Vang, C. (2017). Intergenerational Trauma in Refugee Families: A Systematic Review. *Journal of Immigrant and Minority Health*, 19(3), 745–754. <https://doi.org/10.1007/s10903-016-0499-7>

Santoro, A. F., Suchday, S., Robbins, R. N., Benkhoukha, A., & Zemon, V. (2021). Childhood adversity and physical health among Asian Indian emerging adults in the United States: Exploring disease-specific vulnerabilities and the role of anger. *Psychological Trauma: Theory, Research, Practice and Policy*, 13(2), 214–222. <https://doi.org/10.1037/tra0000942>

Schickedanz, A., Escarce, J. J., Halfon, N., Sastry, N., & Chung, P. J. (2021). Intergenerational

associations between parents' and children's adverse childhood experience scores. *Children*, 8(9), 747. <https://doi.org/10.3390/children8090747>

Schofield, T. J., Lee, R. D., & Merrick, M. T. (2013). Safe, stable, nurturing relationships as a moderator of intergenerational continuity of child maltreatment: A meta-analysis. *The Journal of Adolescent Health*, 53(4 Suppl), S32-S38.
<https://doi.org/10.1016/j.jadohealth.2013.05.004>

Shonkoff, J. P., Garner, A. S., Committee on Psychosocial Aspects of Child and Family Health, Committee on Early Childhood, Adoption, and Dependent Care, & Section on Developmental and Behavioral Pediatrics (2012). The lifelong effects of early childhood adversity and toxic stress. *Pediatrics*, 129(1), e232–e246. <https://doi.org/10.1542/peds.2011-2663>

Strompolis, M., Tucker, W., Crouch, E., & Radcliff, E. (2019). The intersectionality of adverse childhood experiences, race/ethnicity, and income: Implications for policy. *Journal of Prevention & Intervention in the Community*, 47(4), 310–324. <https://doi.org/10.1080/10852352.2019.1617387>

Suglia, S. F., Saelee, R., Guzmán, I. A., Elsenburg, L. K., Clark, C. J., Link, B. G., & Koenen, K. C. (2022). Child socioeconomic status, childhood adversity and adult socioeconomic status in a nationally representative sample of young adults. *SSM - population health*, 18, 101094.

<https://doi.org/10.1016/j.ssmph.2022.101094>

Swedo, E. A., Aslam, M. V., Dahlberg, L. L., Nilon, P. H., Guinn, A. S., Simon, T. R., & Mercy, J. A. (2023). Prevalence of adverse childhood experiences among U.S. Adults - Behavioral Risk Factor Surveillance System, 2011-2020. *MMWR. Morbidity and mortality weekly report*, 72(26), 707–715. <https://doi.org/10.15585/mmwr.mm7226a2>

U.S. Census Bureau. (n.d.). Race. <https://www.census.gov/quickfacts/fact/note/US/RHI625219>

U.S. Census Bureau. (2022). Table ID DP05. ACS Demographic and Housing Estimates. <https://data.census.gov/table/ACSDP1Y2022.DP05?q=DP05>

Wade, R., Shea, J., Rubin, D., & Wood, J. (2014). Adverse childhood experiences of low-income urban youth. *Pediatrics*, 134(1), e13–e20. <https://doi.org/10.1542/peds.2013-2475>

Wade, R., Jr, Cronholm, P. F., Fein, J. A., Forke, C. M., Davis, M. B., Harkins-Schwarz, M., Pachter, L. M., & Bair-Merritt, M. H. (2016). Household and community-level adverse childhood experiences and adult health outcomes in a diverse urban population. *Child Abuse & Neglect*, 52, 135–145. <https://doi.org/10.1016/j.chab.2015.11.021>

Walsh, D., McCartney, G., Smith, M., & Armour, G. (2019). Relationship between childhood socioeconomic position and adverse childhood experiences (ACEs): A systematic review. *Journal of Epidemiology and Community Health*, 73(12), 1087–1093. <https://doi.org/10.1136/jech-2019-212738>

Wang, L., Yu, Z., Chen, W., Zhang, J., & Bettencourt, A. F. (2022). Higher exposure to childhood adversity associates with lower adult flourishing. *BMC Public Health*, 22(1), 612. <https://doi.org/10.1186/s12889-022-13063-6>

Zhang, L., Mersky, J. P., Gruber, A. M. H., & Kim, J. Y. (2023). Intergenerational transmission of parental adverse childhood experiences and children's outcomes: A scoping review. *Trauma, violence & abuse*, 24(5), 3251–3264. <https://doi.org/10.1177/15248380221126186>