

Joanna Sue Zeiger



PERSONAL

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EDUCATION

- 2001-2003 Post-doctoral Fellowship in Cardiovascular Disease
 NHLBI Training Grant
 Johns Hopkins University Bloomberg School of Hygiene & Public Health
 Baltimore, MD
- 2001 Genetic Epidemiology, Ph.D.
 Johns Hopkins University Bloomberg School of Hygiene & Public Health
 Baltimore, MD
- 1995 Genetic Counseling, M.S.
 Northwestern University, Chicago, IL
- 1992 Psychology, B.A.
 Brown University, Providence, RI
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RESEARCH EXPERIENCE

- 2018 Principal Investigator for *The Athlete PEACE Survey*
- Online survey with 1,161 athletes to characterize cannabis use patterns in athletes and whether cannabis is associated with pain and well-being.
 - Led study from conception to publication.
- 2016 Principal Investigator for *The Sisu Study*
- Developed study protocol to examine mental toughness latent in 1,250 endurance athletes.
 - Analyzed results, prepared tables, and wrote the manuscript.
- 2013-2017 Statistical consultant
- Worked with clients regarding: operationalizing hypotheses, choosing appropriate measures for analysis, determining proper statistical tests, reviewing results.
 - Tutor clients on statistical methods enabling them to carry out their analyses.
 - Perform data preparation and cleaning, data analysis, structuring results tables.
 - Provide written interpretation of results and preparation of papers for publication.

- 2004-2013 Institute for Behavioral Genetics, University of Colorado at Boulder, Boulder, CO
 “Research on the genetic and environmental bases of individual differences in behavior”
- Interests included: impact of physical activity on physical and mental health, subjective effects of drugs on drug use outcomes.
 - Worked with large data sets including twin studies, family studies, adoption studies, clinical subjects, and community-based studies.
 - Statistical analysis including: multiple regression, cluster analysis, item response theory, longitudinal analysis, mixed-effects models, survival analysis, latent class analysis, Mokken scaling, structural equation modeling.
 - Performed extensive literature reviews.
 - Prepared papers for journals, grant writing, and survey design.
- 1995-2003 Bloomberg School of Hygiene & Public Health, Johns Hopkins University, Baltimore, MD
 "Gene-environment interaction in birth defects"
- Focused on birth defects including oral clefts, craniosynostosis, and congenital heart defects
 - Association studies, linkage analysis, grant writing, questionnaire development
- 1993-1995 Northwestern University, Chicago, IL
 "The Effect of Knowledge and Attitudes on Decision Making Regarding Prenatal Diagnosis"
- 1991-1992 Brown University, Providence, RI
 "Social Categorization and the Truly False Consensus Effect"
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AFFILIATIONS

Industrial Hemp Research Foundation Scientific Advisory Committee Member (2018-present)

Institute of Cannabis Research Scientific Advisory Board Member (2019)

Journal of Cannabis Research Reviewer (2019)

JACI In Practice Reviewer (2018-present)

The International Cannabinoid Research Society Member (2018-present)

OTHER ACHIEVEMENTS

- Author of *The Champion Mindset: An Athletes Guide to Mental Toughness* (St. Martin's Press, 2017)
- Ironman 70.3 World Champion (2008)
- United States Olympic Team Member, 4th place triathlon (2000)
- 7x Olympic Trials qualifier in three sports (swimming, triathlon, marathon)

PUBLICATIONS AND PRESENTATIONS

ARTICLES

1. **Zeiger, JS &** Weiler, JM (2020). Special Considerations and Perspectives for Exercise-Induced Bronchoconstriction (EIB) in Olympic and Other Elite Athletes. *The Journal of Allergy and Clinical Immunology: In Practice*. Jan 30. doi: 10.1016/j.jaip.2020.01.041.
2. **Zeiger JS,** Silvers WS, Fleegler EM, Zeiger RS. (2019) Knowledge mediates the relationship between attitudes toward cannabis and cannabis use behavior in active adult athletes. *Journal of Cannabis Research*. In review.
3. **Zeiger JS,** Silvers WS, Fleegler EM, Zeiger RS. (2019) Co-use of THC and CBD most effective for pain relief, insomnia, and anxiety in active adult athletes. *Scientific Reports*. In Review.
4. **Zeiger JS,** Silvers WS, Fleegler EM, Zeiger RS. (2019) Age related differences in cannabis use and subjective effects in a large population-based survey of adult athletes. *Journal of Cannabis Research*. 1: July 29.
5. **Zeiger JS,** Silvers WS, Fleegler EM, Zeiger RS. (2019) Cannabis use in active athletes: Behaviors related to subjective effects. June 28. *PLOS ONE*. <https://doi.org/10.1371/journal.pone.0218998>
6. **Zeiger JS,** Zeiger RS. (2018) Mental Toughness Latent Classes in Endurance Athletes. *PLOS ONE*. 13(2), e0193071.
7. Weiler JM, Brannan JD, Randolph CC, Hallstrand TS, Parsons J, Silvers W, Storms W, **Zeiger J,** Bernstein DI, Blessing-Moore J, Greenhawt M. (2016) Exercise-induced bronchoconstriction update—2016. *Journal of Allergy and Clinical Immunology*. Nov 1;138(5):1292-5.
8. Haberstick BS, **Zeiger JS,** Corley, RP. (2014) Genetic and Environmental Influences on the Allocation of Adolescent Leisure Time Activities. *BioMed Research International*. 2014: 1-12.
9. Haberstick BS, Young SE, **Zeiger JS,** Lessem, JM, Hewitt JK, Hopfer CJ. (2014) Prevalence and correlates of alcohol and cannabis use disorders in the United States: Results from the national longitudinal study of adolescent health. *Drug and Alcohol Dependence*. 136: 158-161.
10. **Zeiger JS,** Haberstick BC, Corley RP, Ehringer MA, Crowley TJ, Hewitt JK, Hopfer CJ, Stallings MC, Young SE, Rhee SH. (2012) Subjective effects for alcohol, tobacco, and marijuana associated with cross-drug outcomes. *Drug and Alcohol Dependence*. 123: Suppl 1.
11. Haberstick BS, **Zeiger JS,** Corely RP, Hopfer CJ, Stallings MC, Rhee SH, Hewitt JK. (2010) Common and drug-specific genetic influences on subjective effects to alcohol, tobacco and marijuana use. *Addiction*. 106: 215–224.
12. **Zeiger JS,** Haberstick BS, Corley RP, Ehringer MA, Crowley TJ, Hewitt JK, Hopfer CJ, Stallings MC, Young SE, Ree SH.(2010) Subjective effects to marijuana associated with marijuana use in community and clinical subjects. *Drug and Alcohol Dependence*. 109(1-3):161-166.
13. Corley RP, **Zeiger JS,** Crowley T, Ehringer ME, Hewitt JK, Hopfer CJ, Lessem J, McQueen MB, Rhee SH, Smolen A, Stallings MC, Young SE, Krauter K. (2008). Association of candidate genes with antisocial drug dependence in adolescents. *Drug and Alcohol Dependence*. 96(1-2):90-98.

14. **Zeiger JS**, Haberstick BC, Schlaepfer I, Collins AC, Corley RP, Crowley TJ, Hewitt JK, Hopfer CJ, Lessem J, McQueen MB, Rhee SH, Ehringer MA The neuronal nicotinic receptor subunit genes (CHRNA6 and CHRNB3) are associated with subjective responses to tobacco. (2008) *Hum. Mol. Genet.* 17(5):724-34.
15. Ehringer MA, Clegg HV, Collins AC, Corley RP, Crowley T, Hewitt JK, Hopfer CJ, Krauter K, Lessem J, Rhee SH, Schlaepfer I, Smolen A, Stallings MC, Young SE, **Zeiger JS**. (2007) Association of the neuronal nicotinic receptor beta2 subunit gene (CHRNB2) with subjective responses to alcohol and nicotine. *Am J Med Genet B Neuropsychiatr Genet.* 144(5):596-604.
16. **Zeiger JS**, Beaty TH, Liang KY. (2005) Oral Clefts, Maternal Smoking, and TGFA: A Meta-Analysis of Gene-Environment Interaction. *Cleft Palate Craniofac J.* 42(1):58-63.
17. Faber MJ, **Zeiger JS**, Spevak PJ, Brenner JI, Ravekes WJ. (2004) Coronary Artery Dilatation and Aortic Outflow Tract Enlargement in Children with Unicommissural Aortic Valves. *Pediatr Cardiol.* Nov 18 (epub).
18. **Zeiger JS**, Beaty TH, Hetmanski JB, VanderKolk CA, McIntosh I, Wyszynski DF, Bailey-Wilson JE, Ortiz de Luna R, Perandones C, Tolarova MM, Mosby T, Bennun R, Segovia M, Calda P. (2003) Evidence for Linkage of Non-syndromic Cleft Lip and Palate to a Region on Chromosome 2. *European Journal of Human Genetics.* 11:835-39.
19. **Zeiger JS**, Beaty TH. Invited Editorial: Is there a relationship between risk factors for oral clefts? (2002) *Teratology.* 66:205-208.
20. **Zeiger JS**, Beaty TH, Hetmanski J, Wang H, Scott AF, Kasch L, Raymond G, Jabs EW, VanderKolk C. (2002) Genetic and environmental risk factors for sagittal craniosynostosis. *The Journal of Craniofacial Surgery.* 13(5):602-606.
21. **Zeiger JS**, Beaty TH. Gene-environment interaction and risk to oral clefts. In: Wyszynski DF (editor) *Cleft Lip and Palate: From Origin to Treatment.* Oxford University Press: New York. 2002 pp 283-289.
22. Beaty TH, Hetmanski JB, **Zeiger JS**, Fan YT, Liang KY, VanderKolk CA, McIntosh I. (2002). Testing candidate genes for non-syndromic oral clefts using a case-parent trio design. *Genetic Epidemiology.* 22(1):1-11.
23. Beaty TH, Wang H, Hetmanski JB, Fan YT, **Zeiger JS**, Liang KY, Chiu YF, Vanderkolk CA, Seifert KC, Wulfsberg EA, Raymond G, Panny SR, McIntosh I. (2001) A Case-Control Study of Nonsyndromic Oral Clefts in Maryland. *Annals of Epidemiology.* 11(6):434-42.
24. Beaty T, Maestri N, Hetmanski J, Wyszynski D, VanderKolk C, Simpson J, McIntosh I, Smith EA, **Zeiger JS**, Raymond G, Panny S, Tiffit C, Lewanda A, Cristion C, Wulfsber E. (1997) Testing for interaction between maternal smoking and TGFA genotype among oral cleft cases born in Maryland 1992-1996. *Cleft Palate and Craniofacial Journal.* 34(5):447-54.
25. Wyszynski DF, **Zeiger J**, Tilli MT, Bailey-Wilson JE, Beaty TH (1998) Survey of genetic counselors and clinical geneticists regarding recurrence risks for families with nonsyndromic cleft lip with or without cleft palate. *American Journal of Medical Genetics.* 79(3):184-90.
26. Juo SH, Beaty TH, Duffy DL, Maestri NE, Prenger VL, **Zeiger J**, Lei HH, Coresh J (1997) A comprehensive analysis of complex traits in problem 2A. *Genetic Epidemiology.* 14(6):815-20.

27. Krueger J and **Zeiger J**. (1993) Social categorization and the truly false consensus effect. *Journal of Personality & Social Psychology*. Vol 65(4) 670-680.

ABSTRACTS

1. **Zeiger JS**, Silvers WS, Fleegler EM, Zeiger RS. (2019) Cannabinoid use in a population-based survey of adult athletes. *International Cannabinoid Research Society*.
2. **Zeiger JS**, Silvers WS, Fleegler EM, Zeiger RS. (2019) Cannabis use for pain in a large population-based survey of adult athletes. *Institute for Cannabis Research*.
3. Schlaepfer I, Collins A, Corley R, Crowley T, Hewitt J, Hopfer C, Krauter K, Lessem J, Rhee S, Stallings M, Young S, **Zeiger J**, Ehringer M. (2006) The CHRNA5/A3/B4 gene cluster variability as an important determinant of alcohol and tobacco initiation in young adults. *American Society of Human Genetics Meeting*.
4. **Zeiger JS**, Hetmanski JB, McIntosh I, Loffredo C, Beaty TH. (2001) Methylene-tetrahydrofolate reductase and congenital heart defects: Evidence for gene-environment interaction. *American Journal of Human Genetics*. 69(4): supplement
5. **Zeiger JS**, Beaty T, Hetmanski J, McIntosh, I Hwang S-J. (1997) Gene-environment interaction and oral clefts. *Genetic Epidemiology*. 14(5):545.
6. **Zeiger JS**, Beaty T, Hetmanski J, VanderKolk C, Scott A, Kasch L, The Johns Hopkins Craniofacial Clinic (1998) Genetic and environmental risk factors for sagittal craniosynostosis. *American Journal of Human Genetics*. 63(4):A125.
7. **Zeiger JS**, Fan Y-T, Hetmanski J, Mracna M, McIntosh I, VanderKolk C, Beaty T. (1999) Testing candidate genes for risk to oral clefts using case-parent trios. *American Journal of Epidemiology*. 149(11):S67.

POSTERS

1. **Zeiger JS**, Silvers WS, Fleegler EM, Zeiger RS. (2019) Cannabinoid use in a population-based survey of adult athletes. International Cannabinoid Research Society.
2. Corley RP, **Zeiger JS**, Stallings MC, Ehringer MA, Hewitt JK, Lessem J, McQueen M, Rhee SH, Smolen A, Young SE, Krauter K, Crowley T, Hopfer CJ. Association of Candidate Genes with Antisocial Drug Dependence in Adolescents. Behavior Genetics Association 37th Annual Meeting. Amsterdam, Netherlands. June, 2007
3. Corley RP, Stallings MC, Hewitt JK, Young SE, **Zeiger JS**. Robustness of genome scan results on adolescent dependence vulnerability from the Colorado CADD. Behavior Genetics Association 34th Annual Meeting. Aix-en-Provence, France, June, 2004.
4. **Zeiger JS**, Hetmanski JB, McIntosh I, Loffredo C, Beaty TH. Methylene-tetrahydrofolate reductase and congenital heart defects: Evidence for gene-environment interaction. American Society for Human Genetics, San Diego, CA, October 2001.

5. **Zeiger JS**, Fan Y-T, Hetmanski J, Mracna M, McIntosh I, VanderKolk C, Beaty T. Testing candidate genes for risk to oral clefts using case-parent trios. Society for Epidemiologic Research. Baltimore, MD. September, 1999.
6. **Zeiger JS**, Beaty T, Hetmanski J, VanderKolk C, Scott A, Kasch L, The Johns Hopkins Craniofacial Clinic Genetic and environmental risk factors for sagittal craniosynostosis. American Society for Human Genetics. Denver, CO. October, 1998.
7. **Zeiger JS**, Beaty T, Hetmanski J, McIntosh, I Hwang S-J. Gene-environment interaction and oral clefts. International Genetic Epidemiology Society, Baltimore, MD, October 1997.
8. Wyszinski DF, **Zeiger JS**, Tilli E, Bailey-Wilson JE, Beaty TH. Survey of Genetic Counselors and Clinical Geneticists on Recurrence Risks for Nonsyndromic Oral Clefts. American Society of Human Genetics, Baltimore, MD, October, 1997.
9. Krueger J and **Zeiger JS**. Social Categorization and the Truly False Consensus Effect, Joint Conference of the Society of Experimental Social Psychology and the European Association of Experimental Social Psychology, Louvain, Belgium, July 1992.