

Curriculum Vitae
Sarah L. Karalunas, PhD

1) Academic record

- Ph.D. 2011 Child Clinical Psychology, *The Pennsylvania State University*
Minor: Specialization in Cognitive & Affective Neuroscience
- Pre-doctoral Internship: *The Children's Hospital of Philadelphia*,
Neuropsychology Track
- Leadership Education in Neurodevelopmental and Related Disabilities (LEND)
Program Fellow
- M.S. 2008 Clinical Psychology, *The Pennsylvania State University*
- B.S. 2005 Neuroscience, *Hamilton College*, 2000-2004
Minor: History
Summa Cum Laude, Phi Beta Kappa, Departmental honors

2) Academic appointments

- 2022- current Associate Professor of Psychological Science, *Purdue University*, West
Lafayette, IN
- 2020-2022 Assistant Professor of Psychological Sciences, *Purdue University*, West
Lafayette, IN
- 2020 Associate Professor*, Departments of Psychiatry & Behavioral Neuroscience,
Oregon Health & Science University, Portland, OR
(*rank awarded after Purdue position was accepted)
- 2017-2020 Psychology Director, Child & Adolescent Psychiatry ADHD Clinic, *Oregon Health
& Science University*, Portland, OR
- 2014-2020 Assistant Professor, Departments of Psychiatry & Behavioral Neuroscience,
Oregon Health & Science University, Portland, OR
- 2011-2014 Postdoctoral Fellow, Center for ADHD Research, *Oregon Health & Science
University*, Portland, OR

3) Licenses, registrations, and certifications

- 2014-present Licensed Clinical Psychologist (OR License #2414)

4) Awards and honors

- 2022 HHS Early Career Research Award, *Purdue University*
- 2019 Erskine Fellowship, *University of Canterbury*
- 2015 NIH-funded ERP Boot Camp (competitive training program)
- 2013-2017 NIH Loan Repayment Program Award Recipient, *National Institutes of Health*
- 2013 Sagvolden Eunethydis Junior Scholar Travel Scholarship, *European Network of
Hyperkinetic Disorders* (Eunethydis)

5) Memberships in academic, professional, and scholarly societies

2021-present Society for Psychophysiological Research

2013-present International Society for Research in Child & Adolescent Psychopathology

2011-present Association for Psychological Science (APS)

2009-2018 American Psychological Association

Section A: DISCOVERY

1. Published work

(*designates primary author; superscripts designate mentored work by ^uundergraduate students, ^ggraduate students, and ^ppost-doctoral fellows).

a. Refereed articles

Dudley*, J., Maloney, T.C., Simon, J.O., Atluri, G., **Karalunas, S.L.**, Altaye, M., Epstein, J., Tamm, L. (in press). Harmonization of baseline image features from the Adolescent Brain Cognitive Development study 3.0 curated release data. *Neuroinformatics*.

Mooney*, M.A., Neighbor, C., **Karalunas, S.L.**, Dieckmann, N.F., Nikolas, M., Nousen, E., Tipsord, J., Song, X., Nigg, J.T. (2023). Prediction of ADHD diagnosis using brief, low-cost, clinical measures: a competitive model evaluation. *Clinical Psychological Science*, 11(3), 458–475. <https://doi.org/10.1177/21677026221120236>

Dash*, G., **Karalunas, S.L.**, Kenyon, E.A., Carter, E.K., Mooney, M.A., Nigg, J.T., Feldstein Ewing, S.W. (2023). Gene-by-environment interaction effects of social adversity on externalizing behavior in ABCD youth. *Behavioral Genetics*, 53(3), 219-231. <https://doi.org/10.1007/s10519-023-10136-z>

Nigg*, J.T., **Karalunas***, **S.L.**, Mooney*, M., Wilmot, B., Nikolas, M., Martel, M., Tipsord, J., Nousen, E., Schmitt, C., Ryabinin, P., Musser, E., Nagel, B., Fair*, D. (2023). The Oregon ADHD-1000: A new longitudinal data resource enriched for clinical cases and multiple levels of analysis. *Developmental Cognitive Neuroscience*, 60, 101222. <https://doi.org/10.1016/j.dcn.2023.101222>

Miller, M.*, Arnett, A.B., Shephard, E., Charman, T., Gustafsson, H.C., Joseph, H.M., **Karalunas, S.L.**, Nigg, J.T., Polanczyk, G.V., Sullivan, E.L, Jones, E. (2023). Delineating Early Developmental Pathways to ADHD: Setting an International Research Agenda. *Journal of Child Psychology & Psychiatry – Advances*, e12144. <https://doi.org/10.1002/jcv2.12144>

Dash*, G., Carter, E., **Karalunas, S.L.**, Hudson, K., Nagel, B., Fair, D., Feldstein Ewing, S.W. (2022) Brief Report: Twin Study of Caffeine Use, ADHD, and Disrupted Sleep in ABCD Youth. *Health Psychology*. <https://doi.org/10.1037/hea0001252>

Kozlowski, M.B., Antovich, D., **Karalunas, S.L.**, Nigg, J.T. (2022). Temperament in middle childhood questionnaire: New data on factor structure and applicability in a child clinical sample. *Psychological Assessment*, 34(12), 1081-1092. <https://doi.org/10.1037/pas0001180>

Karalunas*, **S. L.**, Antovich^p, D., Miller, N., Nigg, J. T. (2022). Prospective prediction of developing internalizing disorders in ADHD. *Journal of Child Psychology & Psychiatry*. <https://doi.org/10.1111/jcpp.13731>

- Epstein*, J. N., **Karalunas, S.L.**, Tamm, L., Dudley, J. A., Lynch, J.D., Altaye, M., Simon, J. O., Maloney, T. C., & Atluri, G. (2022). Examining reaction time variability on the stop signal task in the ABCD study. *Journal of the International Neuropsychological Society*, 1-11. <https://doi.org/10.1017/S1355617722000431>
- Jones*, S., Nagel, B., Nigg, J.T., **Karalunas*, S.L.** (2022). Attention-deficit/hyperactive disorder and white matter microstructure: the importance of dimensional analyses and sex differences. *Journal of Child Psychology & Psychiatry – Advances*, e12109. <http://doi.org/10.1002/jcv2.12109>
- Naim*, R., Shaughnessy, S., Smith, A., **Karalunas, S.L.**, Kircanski, K, Brotman*, M.A. (*in press*). Real-time assessment of positive and negative affective fluctuations and mood lability in a transdiagnostic sample of youth. *Depression & Anxiety*, 39(12), 870-880. <https://doi.org/10.1002/da.23293>
- Feldstein-Ewing*, S., **Karalunas*, S.L.**, Kenyon, E., Yang, M., Hudson, K., Filbey*, F. (2022). Intersection between social inequality and emotion regulation on emerging adult cannabis use. *Drug and Alcohol Dependence Reports*, 3, 1-8. <https://doi.org/10.1016/j.dadr.2022.100050>
- Karalunas*, S. L.**, Ostlund^p, B. D., Alperin, B. A., Figuracion^q, M., Gustafsson, H. C., Deming-Michiko^u, E., Foti, D., Antovich, D., Nigg, J.T., Sullivan, E. (2022). Electroencephalogram aperiodic power spectral slope can be reliably measured and predicts ADHD risk in early development. *Developmental Psychobiology*, 64(3), e22228, 1-13. <https://doi.org/10.1002/dev.22228>
- Ostlund, B.*, Donoghue, T., Anaya, B., Gunther, K.E., **Karalunas, S.L.**, Voytek, B., & Pérez-Edgar, K. E. (2022). Spectral parameterization for studying neurodevelopment: How and why. *Developmental Cognitive Neuroscience*, 54, 1-14. <https://doi.org/j.dcn.2022.101073>
- Martel, M.M.*, Elkins, A.R., Eng, A.E., Goh, P.K., Bansal, P.S., Thomas-Smith, T.E., Thaxton, M., H., Ryabinin, P., Mooney, M.A., Gustafsson, H.C., **Karalunas*, S.L.**, & Nigg*, J.T. (2022). Longitudinal temperament pathways to ADHD between childhood and adolescence. *Research on Child and Adolescent Psychopathology*. <https://doi.org/10.1007/s10802-022-00902-8>
- Martel*, M., Goh, P., **Karalunas, S. L.**, Nigg, J. T. (2021) Longitudinal ADHD Symptom Networks in Childhood and Adolescence: Key Symptoms, Stability, and Predictive Validity. *Journal of Abnormal Psychology*, 130(5), 562-574. <https://doi.org/10.1037/abn0000661>
- Karalunas*, S. L.**, Antovich^p, D., Goh, P. K., Martel, M. M., Tipsord, J., Nousen, E. K., Nigg, J.T. (2021). Longitudinal network model of the co-development of temperament, executive functioning, and psychopathology symptoms in youth with and without ADHD. *Development & Psychopathology*, 33, 1803-1820. <https://doi:10.1017/S0954579421000900>
- Alperin^g, B., Christoff, K., Mills, C., **Karalunas, S. L.** (2021). More than off task: Increased freely moving thought in ADHD. *Consciousness & Cognition*, 93, 1-13. <https://doi.org/10.1016/j.concog.2021.103156>
- Ostlund^{*p}, B., Alperin^q, B., Drew, T., **Karalunas*, S. L.** (2021). Behavioral and cognitive correlates of the aperiodic (1/f-like) exponent of the EEG power spectrum in adolescents

with and without ADHD. *Developmental Cognitive Neuroscience*, 48, 1-9.
<https://doi.org/10.1016/j.dcn.2021.100931>

- Nigg*, J. T., **Karalunas, S. L.**, Sibley, M., Thapar, A. (2020). Development of ADHD: Etiology, Heterogeneity, and Early Life Course. *Annual Review of Developmental Psychology*, 2(1), 559-583. <https://doi.org/10.1146/annurev-clinpsy-071119-115831>
- Goh*^g, P., **Karalunas*, S. L.**, Lee, C., Nigg, J. T., Martel, M. (2020). Subgroups of Childhood ADHD Based on Temperament Traits and Cognition: Concurrent and Predictive Validity. *Journal of Abnormal Child Psychology*, 48(10), 1251-1264.
<https://doi.org/10.1007/s10802-020-00668-x>
- Nigg*, J. T., **Karalunas, S. L.**, Feczko, E., Fair, D. (2020). Toward a Revised Nosology for ADHD Heterogeneity. *Biological Psychiatry: Cognitive Neuroscience & Neuroimaging*, 5, 726-737. <https://doi.org/10.1016/j.bpsc.2020.02.005>
- Gustafsson*, H. C., Sullivan, E. L., Battison, E. A. J., Holton, K. F., Graham, A. M., **Karalunas, S. L.**, Fair, D. A., Loftis, J. M., & Nigg J. T. (2020). Evaluation of maternal inflammation as a marker of future offspring ADHD symptoms: A prospective investigation. *Brain, Behavior, and Immunity*, 89, 350-356. <https://doi.org/10.1016/j.bbi.2020.07.019>
- Karalunas*, S. L.**, Weigard^p, A., Alperin^g, B., Schwartz^u, A. (2020). Emotion-cognition interactions in ADHD: Early attention capture by emotional stimuli impairs cognitive control. *Biological Psychiatry: CNI*, 5(5), 520-529.
<https://doi.org/10.1016/j.bpsc.2019.12.021>
- Karalunas*, S. L.** & Nigg, J. T. (2020). Heterogeneity and subtyping in attention-deficit/hyperactivity disorder— Considerations for emerging research using person-centered computational approaches. *Biological Psychiatry*, 88(1), 103-110.
<https://doi.org/10.1016/j.biopsych.2019.11.002>
- Karalunas*, S. L.**, Bierman, K. L., & Huang-Pollock, C. L. (2020). Test–Retest Reliability and Measurement Invariance of Executive Function Tasks in Young Children with and Without ADHD. *Journal of Attention Disorders*, 24(13), 1891-1904.
<https://doi.org/10.1177/108705471562748>
- Nigg*, J. T., **Karalunas, S. L.**, Gustafsson, H. C., Bhatt, P., Ryaninin, P., Mooney, M. A., Faraone, S. V., Fair, D. A., Wilmot, B. (2019). Evaluating Chronic Emotional Dysregulation and Irritability in Relation to ADHD or MDD genetic risk. *Journal of Child Psychology & Psychiatry*, 61(2), 205-214.<https://doi.org/10.1111/jcpp.13132>
- Alperin*^g, B., Smith^u, C., Gustafsson, H., Figuracion^u, M., **Karalunas*, S. L.** (2019). The relationship between alpha asymmetry and ADHD depends on negative affect level and parenting practices. *Journal of Psychiatric Research*, 116, 138-146.
<https://doi.org/10.1016/j.jpsychires.2019.06.016>
- Karalunas*, S. L.**, Gustafsson, H. C., Fair, D., Musser, E. D., Nigg, J. T. (2019). Do we need an irritable subtype of ADHD? Replication and extension of a promising temperament profile approach to ADHD subtyping. *Psychological Assessment*, 31(2), 236-247.
<https://doi.org/10.1037/pas0000664>
- Anandakumar*, J., Mills, K. L., Earl, E. A., Irwin, L., Miranda-Dominguez, O., Demeter, D. V., Walton-Weston, A., **Karalunas, S. L.**, Nigg, J., Fair, D. A. (2018). Individual differences in functional brain connectivity predict temporal discounting preference in the transition

to adolescence. *Developmental Cognitive Neuroscience*, 34,101-113.
<https://doi.org/10.1016/j.dcn.2018.07.003>

Nigg*, J. T., Gustafsson, H. C., **Karalunas, S. L.**, Ryabinin, P., Mooney, M., Faraone, S. V., Neale, B. M., McWeeney, S., Fair, D. A., Wilmot, B. (2018). Working memory and vigilance as multivariate endophenotypes related to common genetic risk for ADHD in a case-control design. *Journal of the American Academy of Child & Adolescent Psychiatry*, 57(3), 175-182. <https://doi.org/10.1016/j.jaac.2017.12.013>

Karalunas*, S. L., Hawkey^u, E., Gustafsson, H., Miller, M., Langhorst, M., Cordova, M., Fair, D., Nigg, J. T. (2018). Overlapping and Distinct Cognitive Impairments in Attention-Deficit/Hyperactivity and Autism Spectrum Disorder without Intellectual Disability. *Journal of Abnormal Child Psychology*, 1705-1716. <https://doi.org/10.1007/s10802-017-0394-2>

Bauer*^g, B., Gustafsson, H., Nigg, J. T., **Karalunas***, S. L. (2018). Working memory mediates increased negative affect and suicidal ideation in childhood attention-deficit/hyperactivity disorder. *Journal of Psychopathology and Behavioral Assessment*, 40(2), 180-193. <https://doi.org/10.1007/s10862-017-9635-5>

Feczko*, E., Balba, N., Miranda-Dominguez, O., Cordova, M., **Karalunas, S. L.**, Irwin, L., Demeter, D. V., Hill, A.P., Langhorst, B. H., Grieser Painter, J., Graham, A. G., Van Santen, J., Fombonne, E. J., Nigg, J. T., Fair, D. A. (2018). Subtyping Cognitive Profiles in Autism Spectrum Disorder Using a Random Forest Algorithm. *NeuroImage*, 172, 674-688. <https://doi.org/10.1016/j.neuroimage.2017.12.044>

Mills*, B. D., Miranda-Dominguez, O., Earl, E., Mills, K., Cordova, M., Painter, J., **Karalunas, S. L.**, Nigg, J. T., Fair, D.A. (2017). ADHD and attentional control: Impaired segregation of task positive and task negative brain networks. *Network Neuroscience*, 2(02), 200-217.

Karalunas*, S. L., Gustafsson, H. C., Dieckmann, N. F., Tipsord, J., Mitchell, S. H., & Nigg, J. T. (2017). Heterogeneity in development of aspects of working memory predicts longitudinal attention deficit hyperactivity disorder symptom change. *Journal of Abnormal Psychology*, 126(6), 774-802. https://doi.org/10.1162/netn_a_00034

Alperin*^g, B. R., Gustafsson, H., Smith^u, C., & **Karalunas***, S. L. (2017). The relationship between early and late event-related potentials and temperament in adolescents with and without ADHD. *PLOS ONE*, 12(7), e0180627, 1-17. <https://doi.org/10.1371/journal.pone.0180627>

LaGasse*, L. L., Conradt*, E., **Karalunas, S. L.**, Dansereau, L. M., Butner, J. E., Shankaran, S., Bada, H., Bauer, C. R., Whitaker, T. M., and Lester, B. M. (2016). Transactional relations between caregiving stress, executive functioning, and problem behavior from early childhood to early adolescence. *Development & Psychopathology*, 28(3), 743-756. <https://doi.org/10.1017/S0954579416000286>

Musser*, E. D., **Karalunas***, S. L., Dieckmann, N., Peris, T. S., & Nigg, J. T. (2016). Attention-deficit/hyperactivity disorder developmental trajectories related to parental expressed emotion. *Journal of Abnormal Psychology*, 125(2), 182-195. <https://doi.org/10.1037/abn0000097>

Mitchell*, S. H., Wilson, V. B., **Karalunas, S. L.** (2015). Comparing hyperbolic, delay-amount sensitivity and present-bias models of delay discounting. *Behavioural Processes*, 114, 52-62. <https://doi.org/10.1016/j.beproc.2015.03.006>

- DuPuis*, D., Ram, N., Willner, C. J., **Karalunas, S. L.**, Segalowitz, S. J., & Gatzke-Kopp, L. M. (2015). Implications of ongoing neural development for the measurement of the error-related negativity in childhood. *Developmental Science*, 18(3), 452-468. <https://doi.org/10.1111/desc.12229>
- Ray*, S., Miller, M., **Karalunas, S. L.**, Robertson, C., Grayson, D., Cary, P., Hawkey, E., Painter, J.G., Kriz, D., Fombonne, E., Nigg, J.T., Fair, D.A. (2014). Structural and functional connectivity of the human brain in autism spectrum disorders and attention-deficit/hyperactivity disorder: A rich club organization study. *Human Brain Mapping*, 35(12), 6032-6048. <https://doi.org/10.1002/hbm.22603>
- Karalunas***, S. L., Fair, D., Musser, E. D., Aykes^u, K., Iyer, S. P., Nigg, J. T. (2014). Subtyping attention-deficit/hyperactivity disorder using temperament dimensions: toward biologically based nosologic criteria. *JAMA Psychiatry*. 71(9), 1015-1024. <https://doi.org/10.1001/jamapsychiatry.2014.763>
- Karalunas***, S. L., Geurts, H. M., Konrad, K., Bender, S., Nigg, J. T. (2014). Annual research review: Reaction time variability in ADHD and autism spectrum disorders: measurement and mechanisms of a proposed trans-diagnostic phenotype. *Journal of Child Psychology & Psychiatry*, 55 (6), 685-710. <https://doi.org/10.1111/jcpp.12217>
- Karalunas***, S. L. & Huang-Pollock, C. L. (2013). Integrating impairments in reaction time and executive function using a diffusion model framework. *Journal of Abnormal Child Psychology*, 41(5), 837-850. <https://doi.org/10.1007/s10802-013-9715-2>
- Karalunas***, S. L., Huang-Pollock, C. L., & Nigg, J. T. (2012). Is Reaction Time Variability in ADHD Mainly at Low Frequencies? *Journal of Child Psychology & Psychiatry*, 54(5), 536-544. <https://doi.org/10.1111/jcpp.12028>
- Karalunas***, S. L., Huang-Pollock, C. L., & Nigg, J. T. (2012). Decomposing ADHD-Related Effects in Response Speed and Variability. *Neuropsychology*, 26(6), 684-694. <https://doi.org/10.1037/a0029936>
- Huang-Pollock*, C. L., **Karalunas, S. L.**, Tam, H., Moore, A. (2012). Evaluating vigilance deficits in ADHD: A meta-analysis of CPT performance. *Journal of Abnormal Psychology*, 121(2), 360-371. <https://doi.org/10.1037/a0027205>
- Karalunas***, S. L. & Huang-Pollock, C. L. (2011). Examining relationships between executive functioning and delay aversion in attention deficit hyperactivity disorder. *Journal of Clinical Child & Adolescent Psychology*, 40(6), 837-847. <https://doi.org/10.1080/15374416.2011.614578>
- Huang-Pollock*, C., Maddox, T., & **Karalunas, S. L.** (2011). Development of implicit and explicit category learning. *Journal of Experimental Child Psychology*, 109, 321-335. <https://doi.org/10.1016/j.jecp.2011.02.002>
- Huang-Pollock*, C. L. & **Karalunas, S. L.** (2010). Working memory demands impair skill acquisition in children with ADHD. *Journal of Abnormal Psychology*, 119, 174-185. <https://doi.org/10.1037/a0017862>
- Gescheider*, G., Güçlü, B., Sexton, J., **Karalunas, S.L.**, Fontana, A. (2005). Spatial summation in the tactile sensory system: Probability summation and neural integration. *Somatosensory and Motor Research*, 22, 239-253.

b. Book reviews & Editorials

Karalunas*, S.L., EEG biomarkers in psychiatry— how do we make good on promises? (*in press*). *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*

Karalunas, S. L.* Book Review: Benjamin Lahey: Dimensions of Psychological Problems. (*in press*) *Journal of the American Academy of Child & Adolescent Psychiatry*.

Karalunas, S.L.* Editorial: Can we accurately screen for ADHD? Moving to a dimensional, multi-step assessment process. (2022). *Journal of the American Academy of Child & Adolescent Psychopathology*, doi:10.1016/j.jaac.2022.02.011.

Karalunas, S. L.* Book Review: Stijn Vanheule Psychiatric Diagnosis Revisited: From DSM to Clinical Case Formulation. *Journal of the American Academy of Child & Adolescent Psychiatry*, 2018; 57(3), 212-213.

2. Conference presentations

(Superscripts designate mentored work by ^uundergraduate students, ^ggraduate students, and ^ppost-doctoral fellows)

Karalunas, S.L. (chair). *Contributions of Momentary Assessment Approaches to Understanding Within- and Between-Person Variation in Emotion Dysregulation and ADHD*. Symposium presented at the bi-annual meeting of the International Society for Research in Child & Adolescent Psychopathology (ISRCAP), London, UK 2023.

Karalunas, S.L., Dude, J., Shiro^u, L., Gustafsson, H.C., Morton^p, H., Nigg, J.T. Biobehavioral markers of working memory impairment and ADHD risk. Symposium talk presented at the annual meeting of the Society for Research on Child Development, Salt Lake City, UT 2023.

Napolitano^g, S.C., Lane, S.P., Tipsord, J., Nousen, L., Nigg, J., **Karalunas, S.L.** *Elevated trait negative affect and time distortion in ADHD*. Paper presented to the annual meeting of the Missouri Psychological Association, Columbia, MI, 2023.

Morton^p, H., Kozlowski, M., **Karalunas, S.L.**, Nigg, J.T. *The Overlap and Distinction of Childhood Temperament Profiles for Autistic and ADHD Youth*. Talk presented at the International Society for Autism Research, Stockholm, Sweden 2023.

Karalunas, S.L. (chair), Beauchaine, T., Morton, M., Nigg, J.T. *Multimodal Prediction of Mood Disorders and Suicide Risk in ADHD*. Symposium session accepted at 2023 annual meeting of the American Professional Association of ADHD and Related Disorders, Orlando, Florida 2023.

Karalunas, S.L., Dude, J., Alperin, B., Figuracion, M. *Multi-method evidence that individual differences in attention control explain working memory impairment in ADHD*. Poster presented at the Society for Psychophysiological Research annual conference, Vancouver, BC 2022.

Figuracion^g, M., Alperin, B., & **Karalunas, S.L.** *Clarifying sex differences in ADHD-related alpha asymmetry patterns accounting for aperiodic EEG power spectrum features*. Poster presented at the Society for Psychophysiological Research annual conference,

Vancouver, BC 2022.

Sullivan, E.L., Nigg, J.T., Karalunas, S.L., & Gustafsson, H.C. *The maternal tryptophan-kynurenine pathway mediates the association between maternal adiposity and child risk for psychopathology*. Talk presented at 2022 FLUX Congress, Paris, France, 2022.

Sridhar, N., Hayes, M.D., Figuracion M.T., Nigg, J.T., Karalunas, S.L., Gustafsson, H.C. & Sullivan, E.L. *An Examination of the Relationship Between Maternal ACEs and Infant Frontal EEG Asymmetry*. Poster presented at OHSU Research Week, Portland, OR, 2022.

Martel, M., Elkins, A., Eng, A., Goh, P., Bansal, P., Karalunas, S.L., Nigg, J. *Longitudinal Temperament Pathways to ADHD Between Childhood and Adolescence*. Talk presented at the annual European Conference of Personality, Madrid, Spain, 2022.

Naim, R., Shaughnessy, S., Smith, A., **Karalunas, S.L.**, Kircanski, K., & Brotman, M. *Real-time assessment of daily affective fluctuations in a transdiagnostic sample of youth*. Poster presented at the annual conference of the Anxiety & Depression Association of America, Denver, CO, 2022.

Figuracion⁹, M., Alperin, B., & **Karalunas, S.L.** *Clarifying sex differences in ADHD-related alpha asymmetry patterns accounting for aperiodic EEG power spectrum features*. Poster submitted to the bi-annual meeting of the International Society for Research in Child & Adolescent Psychopathology. (2022 conference cancelled due to COVID)

Karalunas, S.L., Lane, S., Dude, J., & Nigg, J.T. *Using longitudinal approaches at multiple timescales to clarify the dynamic role of negative affect in ADHD*. Talk submitted to the bi-annual meeting of the International Society for Research in Child & Adolescent Psychopathology. (2022 conference cancelled due to COVID)

Gustafsson, H. C., Sullivan, E. L., Nikolas, M., Martel, M., Mooney, M. A., Vartanian, K., **Karalunas, S. L.**, & Nigg, J. T. *Prenatal maternal distress association with offspring ADHD symptoms is independent of pre- and post-natal confounds and child polygenic risk for ADHD*. Poster presented at the 54th annual meeting of the International Society for Developmental Psychobiology. Chicago, IL, 2021.

Karalunas, S. L., Ostlund⁹, B., Alperin⁹, B., Foti, D., Gustafsson, H., Nigg, J. T., Sullivan, E. *Aperiodic EEG power spectrum predicts ADHD risk in infancy and adolescence*. Presented as a Big Ideas Symposium talk at the Annual Meeting of the Society for Psychophysiological Research (SPR), 2021.

van der Hoorn, K., Miller, N. **Karalunas, S. L.**, Peris, T., Nigg, J. T. *A Computational Method for Scoring Parent Expressed Emotion in ADHD and Other Child Conditions*. Poster presented at the Society for Research on Child Development, virtual conference, 2021.

Thomeson⁴, E., Tipsord, J., **Karalunas, S. L.** *Low parental criticism predicts growth in child self-efficacy in ADHD*. Presentation at OHSU Research Week, Portland, OR, 2018.

Overton⁴, A., Tipsord, J., **Karalunas, S. L.** *Sex differences in relationships between BMI & ADHD symptoms*. Presentation at OHSU Research Week, Portland, OR, 2018.

Figuracion⁴, M., Tipsord, J., **Karalunas, S. L.** *Sex differences in rates of diagnosis and neurophysiological profiles in ADHD*. Presentation at OHSU Research Week, Portland, OR, 2018.

McLelland^u, M., Tipsord, J., **Karalunas, S. L.** EEG correlates of callous-unemotional traits in ADHD. Presentation at OHSU Research Week, Portland, OR, 2018.

Karalunas, S. L. *Multi-Method Evidence for Impairing Effects of Emotional Arousal on Cognitive Control in ADHD.* Symposium talk at the American Academy of Child & Adolescent Psychiatry, Chicago, IL 2019.

Karalunas, S. L. *Dynamic emotion-cognition interactions in ADHD: evidence from sequential sampling models and event-related potentials.* Presentation at Biennial meeting of the International Society for Research in Child & Adolescent Psychopathology, Los Angeles, CA, June 2019.

Figuracion^u, M., Alperin^g, B., **Karalunas, S. L.** *Alpha Asymmetry Effects in ADHD Depend on Sex and Level of Comorbid Negative Affect.* Poster presentation at the Association for Psychological Science, Washington, D.C., 2019.

Schwartz^u, A., Tipsord, J., Alperin^g, B., **Karalunas, S. L.** *Predicting ADHD Symptoms in Adolescents Using Error-Related Brain Potentials.* Poster presentation at Annual Biomedical Research Conference for Minority Students (ABRCMS), Indianapolis, IN, 2018.

Karalunas, S. L., Weigard^g, A., Alperin^g, B. *Emotional content disrupts cognitive control in ADHD.* Presentation at the annual meeting of the Cognitive Science Association for Interdisciplinary Learning, Hood River, OR 2018.

Schwartz^u, A., Tipsord, J., Alperin^g, B., **Karalunas, S. L.** *Predicting ADHD Symptoms in Adolescents Using Error-Related Brain Potentials.* Poster presented at OHSU Research Week, Portland, OR, 2018.

Savoy^u, A., Jones, S., Nigg, J. T., Nagel, B., **Karalunas, S. L.** *Frontal white matter microstructural differences predict cognitive and behavioral impulsivity in ADHD.* Poster presented at the annual meeting of Association for Psychological Science, San Francisco, CA, 2018.

Karalunas, S. L., Alperin^g, B., Smith^u, C. *Variability in attentional control explains working memory impairments in ADHD.* Poster presentation at the annual meeting of the Cognitive Neuroscience Society, San Francisco, 2017.

Karalunas, S. L., Alperin^g, B., Nigg, J. T. *Novel approaches to characterizing mechanisms of change in developmental psychopathology.* Symposium at the International Society for Research in Child and Adolescent Psychopathology (ISRCAP), Amsterdam, 2017.

Alperin^g, B., Smith^u, C., Gustafsson, H., **Karalunas, S. L.** *Alpha asymmetry interacts with family environment to predict ADHD diagnosis.* Poster presentation at the International Society for Research in Child and Adolescent Psychopathology (ISRCAP), Amsterdam, 2017.

Alperin^g, B., Smith^u, C., **Karalunas, S. L.** *Emotional heterogeneity in ADHD: Bottom-up or Top-down processing of emotional stimuli?* Poster presentation at Cognitive Neuroscience Society, New York, NY, 2016.

Bauer^u, B., Nigg, J. T., **Karalunas, S. L.** *Working Memory and Negative Affect Mediate Increased Suicidal Ideation in Childhood Attention-Deficit/Hyperactivity Disorder.* Poster presentation at American Academy of Child & Adolescent Psychiatry, San Antonio, TX,

2015.

- Karalunas, S. L.** & Alperin⁹, B. *Cognitive response style in ADHD corresponds to physiological and clinical heterogeneity*. Poster presentation at Cognitive Science Association for Interdisciplinary Learning, Hood River, OR, 2015.
- Karalunas, S. L.**, Wilson, V.B., Mitchell, S. H., Nigg, J. T. *Distinct roles for cognitive control and delay discounting as “biomarkers” in ADHD*. Symposium presentation at the International Society for Research in Child and Adolescent Psychopathology (ISRCAP), Portland, Oregon, 2015.
- Karalunas, S. L.**, Musser, E. D., Ward^u, A., Nigg, J. T. *Individual differences in cognitive response style in ADHD associated with unique patterns of physiological response and functional impairment*. Symposium presentation at the International Society for Research in Child and Adolescent Psychopathology (ISRCAP), Portland, Oregon, 2015.
- Karalunas, S. L.**, Musser, E. D., Aykes^u, K., Fair, D. A., Nigg, J. T. *Neurobiologic and predictive validation of a temperament-based taxonomy in ADHD*. Paper presented at 23rd Annual meeting of the European Network of Hyperkinetic Disorders (Eunethydis), Prague, Czech Republic, 2013.
- Karalunas, S. L.**, Nigg, J. T., Carpenter, S., Cservenka, A., Alarcon, G., Fair, D., Nagel, B. J. *Widespread white matter abnormalities in ADHD when accounting for motion*. Poster presentation at the International Society for Research in Child and Adolescent Psychopathology (ISRCAP), Leuven, Belgium, 2013.
- Karalunas, S. L.**, Aykes^u, K., Iyer, S., Fair, D.A., Nigg, J. T. *Functional brain connectivity patterns differentiate novel temperament-based subgroups in ADHD*. Poster presentation at Human Brain Mapping (HBM), Seattle, WA, 2013.
- Karalunas, S. L.**, Iyer, S., Musser, E. D., Fair, D. A., & Nigg, J. T. *Heterogeneity in ADHD: Subtyping by temperament using a novel person-centered analysis*. Poster presentation at the Society for Research in Child Development (SRCD), Seattle, WA, 2013.
- Mattei, G. **Karalunas, S. L.**, Tam, H., Huang-Pollock, C. L. *Evaluating Stimulant Medication Effects in ADHD Populations: A Meta-Analysis of CPT Performance*. Poster presentation at the Society for Research in Child Development (SRCD), Seattle, WA, 2013.
- Martel, M. M., **Karalunas S. L.**, Nigg, J. T. *Clinical utility of positive and negative valence and control systems in ADHD*. Presentation at the International Society for Research in Child and Adolescent Psychopathology, Leuven, Belgium, 2013.
- Nigg, J, Musser, E, Fair, D, & **Karalunas S. L.** *ADHD, irritability, and temperament: cross validation of distinct subgroups*. Presentation at the annual meetings of the American Academy of Child and Adolescent Psychiatry, San Francisco, CA, 2012.
- Nigg, J, Aykes, K, **Karalunas, S. L.**, Musser E, Nagel B, & Fair D. *Longitudinal change in ADHD and neural connectivity in childhood*. Presentation at the annual meetings of the American Academy of Child and Adolescent Psychiatry, San Francisco, CA, 2012.
- Nigg, J. T., Musser, E.D., **Karalunas, S. L.**, Fair, D., Nagel, B. *Symptoms of negative emotion in ADHD over time: Biomarkers and cognitive indicators*. Symposium presentation at the American Academy of Child and Adolescent Psychiatry Annual Conference, 2012.

- Karalunas, S. L.** & Huang-Pollock, C. L. *More than the Mean: Mechanisms Underlying Group Differences in Reaction Times in ADHD*. Presentation at the International Neuropsychology Society (INS), Montreal, QC, Canada 2012.
- Galloway-Long^u, H., Fenesy^u, M., Musser, E.D., Nigg, J. T., **Karalunas, S. L.** *Children's Reactions to Interparental Conflict Predict Depressive Symptoms in an ADHD Population*. Poster presentation at the Association for Psychological Science, Chicago, IL, 2012.
- Harmon^u, S., Nigg, J. T., **Karalunas, S. L.** *Children with ADHD and Superior IQ Show Significant Impairment in Response Inhibition*. Poster presentation at the Association for Psychological Science, Chicago, IL, 2012.
- Alarcon^g, G., Musser, E. D., Nigg, J. T., **Karalunas, S. L.** *Relating working memory deficits in childhood attention deficit hyperactivity disorder (ADHD) to autonomic nervous system functioning*. Poster presentation at the Association for Psychological Science, Chicago, IL, 2012.
- Karalunas, S. L.** & Spragge^p, S. *Ecological validity of neuropsychological testing: relationships between language, executive function, and adaptive communication*. Symposium presentation at 12th Annual Research Day, The Children's Hospital of Philadelphia, Philadelphia, PA, 2011.
- Karalunas, S. L.**, Nigg, J. T., & Huang-Pollock, C. L. *Relationships among low-frequency reaction time variability, symptom domains, and functional impairment*. Poster presentation at the biennial meeting of the International Society for Research in Child and Adolescent Psychopathology, Chicago, IL, 2011.
- Huang-Pollock, C., **Karalunas, S. L.**, Moore, A., Tam, H. *Working memory subsystems and their contribution to working memory deficits in children with ADHD*. Poster presentation at the biennial meeting of the International Society for Research in Child and Adolescent Psychopathology, Chicago, IL, 2011.
- Karalunas, S. L.** & Huang-Pollock, C. *Intra-individual variability in ADHD*. Symposium presentation at International Neuropsychology Society, Acapulco, Mexico 2010.
- Karalunas, S. L.** & Huang-Pollock, C. *Consistently inconsistent: effects of reward on patterns of intra-individual variability*. Poster presentation at Eunethydis, Amsterdam, Netherlands 2010.
- Karalunas, S. L.** Gatzke-Kopp, L. & Huang-Pollock, C. *Understanding Intra-Individual Variability in Cardiac and ERP Measures*. Poster presentation at Society for Psychophysiological Research, Berlin, Germany, 2009.
- Karalunas, S. L.**, Scott, J.R., Huang-Pollock, C. L. *A meta-analysis of sustained attention functions in children with ADHD*. Poster presentation at International Society for Research on Child and Adolescent Psychopathology, Seattle, WA, 2009.
- Huang-Pollock, C. L., Maddox, W. T., Scott, J. R., & **Karalunas, S. L.** *Development of Implicit Learning*. Poster presentation at Society for Research in Child Development, Denver, CO, 2009.
- Gatzke-Kopp, L., Ram, N., **Karalunas, S. L.**, Fortunato, C., Jetha, M., & Gates, K. *The relationship of motivation and cognition in reinforcement processing*. Symposium

presentation at the Society for Psychophysiological Research, Germany, 2009.

Karalunas, S. L. & Huang-Pollock, C. *Evidence based diagnosis and treatment of learning disabilities in school-age children*. In-service training presentation at Nittany Valley Charter School, State College, PA, 2008.

Karalunas, S. L. & Huang-Pollock, C. *Relationships between Delay Aversion, Working Memory, & Response Inhibition in ADHD*. Poster presentation at International Society for Research on Child and Adolescent Psychopathology, London, England, 2007.

Huang-Pollock, C., **Karalunas, S. L.**, Radzioch, A. *Working memory moderates skill acquisition in childhood ADHD*. Poster presentation at the biennial meeting of the International Society for Research in Child and Adolescent Psychopathology, London, England, 2007.

Hilliard, M., **Karalunas, S. L.**, LeBuffe, P., & Eichler, W. *Increasing teacher satisfaction in early childhood using strength-based approaches in early childhood*. Presentation at National Association for School Psychologists, Anaheim, CA, March 2006.

Karalunas, S. L. *The impact of poverty status on teacher and parent DECA ratings*. Poster presentation at Devereux Early Childhood Initiative Research Conference, Villanova, PA, 2005.

Hilliard, M., **Karalunas, S. L.**, & LeBuffe, P. *Strength-based approaches to classroom management: Improving job satisfaction in early childhood*. Poster presentation at New York Association for School Psychologists (NYASP), New York, NY, 2005.

Shapiro, V. & **Karalunas, S. L.** *Creating culturally competent clinicians: A data-based training activity*. Poster presentation at Association for School Psychologists of Pennsylvania (ASSP), Harrisburg, March 2005.

3. Invited lectures presented at regional, national, and international society meetings and/or other educational institutions

Karalunas, S.L. *Mechanisms of ADHD risk & resilience from infancy to adolescence*. Invited talk for *Young Investigators Professional Development Series*, University of Rhode Island, 2022.

Karalunas, S. L. *Heterogeneity of executive function revealed by a diffusion model approach across ADHD and ASD*. Invited talk at *World Congress on ADHD*, 2021.

Karalunas, S. L. *Emotion Dysregulation in ADHD: Implications of within- and between-person heterogeneity*. Invited talk for National Institutes of Health Severe Mood Dysregulation Unit., 2021.

Karalunas, S. L. *Totally unique, just like everyone else: Understanding individual differences in ADHD*. Invited talk for University of Canterbury Erskine Fellowship, Christ Church, New Zealand, 2020.

Karalunas, S. L. *Emotional and Cognitive Heterogeneity in ADHD*. Invited talk for Psychology Department, University of North Carolina at Greensboro, 2019.

Karalunas, S. L., Schwartz^u, A., Alperin^g, B., Shirley^u, B. *Characterizing mechanisms of change in ADHD symptoms and impairment*. Invited talk at the Oregon/SW Washington Society for Neuroscience chapter meeting, Portland, OR, 2018.

Karalunas, S. L. *Using developmental heterogeneity to predict clinical outcomes in ADHD.* Invited talk at the NIH RDoC Webinar series, 2017.

Karalunas, S. L. *Totally unique, just like everyone else: Cognitive, emotional, and neurophysiological heterogeneity in ADHD.* Invited Colloquium Talk at Reed College, 2017.

Karalunas, S. L., *Consistently inconsistent: reaction time variability in ADHD.* Invited talk at Pennsylvania State University, State College, PA, 2013.

Huang-Pollock, C., Scott, J., & **Karalunas, S. L.** *HALP! A toolbox for improving hyperactivity, attention, and learning problems.* Invited talk for National Association for the Education of Young Children, State College, PA, 2008.

Karalunas, S. L. *ADHD in Children: Using individual differences to improve diagnosis and treatment.* Invited talk for the National Alliance on Mental Illness, Vancouver, WA, 2014.

Karalunas, S. L. & Huang-Pollock, C. *Evidence based diagnosis and treatment of learning disabilities in school-age children.* In-service training presentation at Nittany Valley Charter School, State College, PA, April 2008.

4. Evidence of involvement in graduate research programs

a. Major professor for student theses

McKenzie Figuracion
Ph.D. student, Purdue University, 2021-present
Sarah Pieper
Ph.D. student, Purdue University, 2022-present

Madelyn (Trost) Heise
Ph.D. student, Purdue University, 2022-present

Brittany Alperin
Ph.D. student, Oregon Health & Science University, 2014-2019
"How the mind wanders in ADHD and why it matters", Ph.D., 2019
Published in Alperin, Christoff, Mills, & **Karalunas** (2021), *Consciousness & Cognition*.

b. Significant consultation with graduate students concerning their research

Table 2 lists graduate student committees on which Dr. Karalunas has served.

Table 1. Student	Year	Institution	Program	Committee Type, Role
Kat Selah	2022	OHSU	Clinical Psychology	Master's Thesis, Committee Member
Tyra Protho	2022	Purdue University	Clinical Psychology	Master's Thesis, Committee member
Caroline Balling	2022	Purdue University	Clinical Psychology	Preliminary Exam, Committee Member
Kat Saleh	2021	OHSU	Clinical Psychology	1 st year project, Committee Member

Roslyn Harold	2021	Purdue University	Clinical Psychology	Preliminary Exam, Committee Member
Lisa Hamrick	2021	Purdue University	Clinical Psychology	Dissertation, Committee Member
Skye Napolitano	2020	Purdue University	Clinical Psychology	Preliminary Exam, Committee Member
Sheliza Ali	2020	University of Victoria	Clinical Psychology	Dissertation, Outside Committee Member
Scott Jones	2019	OHSU	Behavioral Neuroscience	Dissertation, Committee Member
Brittany Alperin	2019	OHSU	Behavioral Neuroscience	Dissertation, Committee Member/Primary Mentor
Dakota Kilamovich	2019	OHSU	Behavioral Neuroscience	Preliminary Exam, Committee Member
Jordon Lueras	2019	OHSU	Behavioral Neuroscience	Preliminary Exam, Committee Member
Elina Thomas	2018	OHSU	Behavioral Neuroscience	2 nd Year Project, Committee Member
Brittany Alperin	2018	OHSU	Behavioral Neuroscience	Preliminary Exam, Committee Member/Primary Mentor
Brittany Alperin	2017	OHSU	Behavioral Neuroscience	2 nd Year Project, Committee Member/Primary Mentor
Bene Ramirez	2016	OHSU	Behavioral Neuroscience	Preliminary Exam, Committee Member

Dr. Karalunas has also had a substantive mentorship or consultation role for the following graduate student grants or awards:

Christina Hlutkowsky, Pennsylvania State University Child Study Center Strumpf Scholar Award (<https://csc.la.psu.edu/education/graduate/strumpf-scholar-award/>), \$10,000 (Primary mentor: Huang-Pollock, role: EEG training and statistics consultant)

Mairead Willis, Purdue University Center for Families' Family Research Grant, *Emotion socialization and ADHD in middle childhood*, \$1000 (Primary mentor: Lane, role: ADHD training consultant)

5. Evidence of involvement with undergraduate research

a. Research mentor for honors student thesis projects

Lillian Millspaugh, BS expected 2024, Purdue University
Honors' Thesis: *Mechanisms contributing to emergence of anxiety in ADHD*

Sarah Ramsey, BS expected 2024, Purdue University
Honors' Thesis: *The relationships between facial processing and social skills in ADHD*

Katelyn Macknyk, BS 2023, Purdue University
Honors' Thesis: *Interactions of polygenic risk and social inequality in risk for psychosis*

McKenzie Figuracion, BS awarded 2020, Portland State University, Psychology
Honors' Thesis: *Sex Differences in Prevalence and Psychophysiological Profiles of ADHD*

Amber Schwartz, BS awarded in 2019, Portland State University, Psychology

b. Engaging undergraduate students in research

Dr. Karalunas has worked with over 80 undergraduate students in her research lab over the past 7 years (~10-15 students per year since 2014). These undergraduates have played a major role in her research and have received in-depth training in psychological and neurophysiological data collection with children and adults. Undergraduates carry out standardized and experimental cognitive tasks with children (many of whom are diagnosed with ADHD or other neurodevelopmental or behavioral disorders) and conduct physiological assessments, including EEG, cardiac physiology, and eye tracking. They participate in standard data entry tasks, but also in processing of physiological data and more complex coding (e.g., of parent expressed emotion during a monologue about their child).

In order to provide the students with an exceptional training experience and to ensure data quality, Dr. Karalunas has developed a rigorous training program that includes didactic and experiential learning, manualized instructions for tasks, and standardized assessments of competency. Training to conduct research is complemented by didactic instruction and discussion during lab meetings on topics related to the research. Her integration of didactic and experiential learning provides an ideal entry into research for undergraduate students. She asks for a 9-month commitment to the lab; however, many students opt to stay for multiple years.

In addition, Dr. Karalunas provides in-depth mentorship to students who wish to develop their own independent research projects. Six of her undergraduate research assistants have co-authored manuscripts with her and 14 have had substantial roles in formal research presentations, including being the primary presenter at national or international conferences (all listed with appropriate subscripsts in the "Conference Presentation" section above). Dr. Karalunas is also committed to enhancing diversity, equity, and inclusion in the field of clinical psychology. This includes seeking out opportunities to engage undergraduates from under-represented groups in her research. She has previously participated in an NIH-funded Research Learning Community through the BUILD EXITO program (OHSU/Portland State University), which provides immersive, mentored research experiences for students from under-represented backgrounds in biomedical research. She has also served as the primary mentor for students in Purdue's BRIDGE program for undergraduates from under-represented backgrounds who are transitioning to graduate school, as well as for undergraduates in Purdue's Summer Research Opportunity Program (SROP) and the Purdue-Louis Stokes Alliance for Minority Participation (LSAMP) Program.

6. Research grants and awards received

1 National Institutes of Health

R01 MH130731 (PI: Lenartowicz)

The neurophysiological basis of interindividual variability (IIV) in ADHD

04/01/2023-03/31/2026

Total Amount of Award: \$525,000

Amount of Subaward: \$88,900

Candidate's Role: Dr. Karalunas is a co-I on this award, which involves secondary analysis of 3 large case-control datasets with cognitive/EEG data included. She is responsible for consulting with the study team about optimal models of reaction time variability and clinical translation of findings, as well as manuscript preparation.

2 National Institutes of Health

R01 MH131685 (MPI: Nigg/Mooney)

Polygenic and environmental contributions to ADHD trajectory and outcome from childhood through adolescence

02/01/2023-11/30/2027

Total Amount of Award: \$2,000,000

Amount of Subaward: \$80,000

Candidate's Role: Dr. Karalunas is co-I on this award, which involves secondary analysis in two large longitudinal cohorts. She is responsible for developing models to test primary hypotheses, consulting with PIs on data interpretation, and manuscript preparation.

3 National Institutes of Health

U01 DA055363

12/24 Health Brain & Child Development (HBCD) National Consortium

09/20/2021-06/30/2026

Total Amount of Award: \$4,500,000

Amount of Subaward: n/a

Candidate's Role: Dr. Karalunas is a consultant on this award. She is responsible for consulting with PIs on all aspects of EEG data collection, including participating in regular national consortium meetings.

4 National Science Foundation

FW-HTF-R: Collaborative Research: 2128970

Worker-AI Teaming to Enable ADHD Workforce Participation in the Construction Industry of the Future

10/01/2021-09/30/2025

Total Amount of Award: \$800,000

Amount of Subaward: n/a

Candidate's Role: co-PI (co-PIs: Hasanzadeh/Karalunas/Duffy)

5 National Institute of Mental Health

R01MH124824 (MPI: Nigg/Sullivan)

Developmental origins and early detection of ADHD and dysregulatory psychopathology

01/01/2021-10/31/2025

Total Amount of Award: \$3,750,000

Amount of Subaward: \$300,000

Candidate's Role: Dr. Karalunas is a co-I on this study. She is responsible for directing Aim 3 of the grant, which involves EEG data collection in children ages 1-month to 5-years-old.

6 National Institute of Mental Health

R01 MH120109

Biobehavioral validation of the ADHD emotion dysregulation phenotype

04/01/2020-03/31/2025

Total Amount of Award: \$3,750,000

Amount of Subaward: n/a

Candidate's Role: PI

7 National Institute of Mental Health

R01 MH123831 (MPI: Tamm/Epstein)

Parsing Neurobiological Bases of Heterogeneity in ADHD

04/01/2020-03/31/2025

Total Amount of Award: \$1,800,000

Amount of Subaward: \$55,000

Candidate's Role: Dr. Karalunas is a co-I on this study, which involves secondary data analysis of the large, NIH-funded Adolescent Brain Development (ABCD) cohort. She is responsible for consulting with the primary investigators on all cognitive modeling analyses, including assessing data quality, selecting analytic models interpreting results, and writing results for publication.

8 National Institute of Mental Health

R37 MH059105 (PI: Nigg)

ADHD heterogeneity, mechanisms, and risk profile

09/12/1999-12/31/2023

Total Amount of Award: \$3,750,000

Amount of Subaward: \$225,000

Candidate's Role: Dr. Karalunas has been a co-investigator on this project for 10 years and helps co-lead the study. She consults with the PI on all aspects of the project, including recruitment/retention, selection of measures, data management, and data interpretation, as well as data analysis and publications.

9 National Institute of Mental Health

R21 MH121073 (PI: Mitchell)

Effort-related decision-making in ADHD

06/15/2019-04/30/2021

Total Amount of Award: \$220,254

Total Amount of Subaward: n/a

Candidate's Role: Dr. Karalunas was a co-I on this award. She was responsible for assisting with recruitment, task design, and data interpretation.

10 National Institute of Mental Health

R34 DA050291 (MPI: Graham/Fair)

1/4 Investigation of opioid exposure and neurodevelopment (iOPEN)

09/30/2019-03/15/2021

Total Amount of Award: \$450,000

Total Amount of Subaward: n/a

Candidate's Role: Dr. Karalunas was a co-I on this award. She was responsible for consulting with PIs about implementing EEG data collection with infants exposed to opioids *in utero*.

11 OHSU Department of Psychiatry

Research Seed Funding

Longitudinal relationships among inflammation, infant neural development, and outcomes

05/01/2018-04/30/2020

Total Amount of Award: \$5,000

Total Amount of Subaward: n/a

Candidate's Role: PI

12 National Center for Advancing Translational Sciences TL1 TR000129

Oregon clinical and translational research institute

09/30/2006-06/30/2016

Total Amount of Award: \$154,957

Total Amount of Subaward: n/a

Candidate's Role: This is a training grant that provides competitive funding to students at the recipient institution. Much like the F31 mechanism, students must propose a research project and a plan for mentored research training to be completed during the period of the award. Dr. Karalunas served as a primary research and training mentor for her PhD student's project: *How the Mind Wanders in ADHD and Why it Matters* (PI: Alperin).

National Institute of Mental Health

13 K23 MH108656-01

Neurophysiological mechanisms of cognitive and emotional control in ADHD

08/01/2016-07/31/2020

Total Amount of Award: \$758,387

Total Amount of Subaward: n/a

Candidate's Role: PI

National Institute of Mental Health

14 R44 MH099709 (PI: Simpson)

Neurophysiological Attention Test (NAT) For Objective Assessment of ADHD

09/01/2017-08/30/2020

Total Amount of Award: \$1,500,000

Amount of Subaward: \$250,000

Candidate's Role: Dr. Karalunas was a co-I and site PI for this multisite study. She led recruitment and data collection at her site. She assisted in data analysis and interpretation.

National Institute of Mental Health

15 F32 MH098632

Improving ADHD cognitive endophenotypes using a diffusion model approach

09/01/2012-08/31/2014

Total Amount of Award: \$101,404

Total Amount of Subaward: n/a

Candidate's Role: PI

National Institute of Mental Health

16 F31 MH086206

Consistently inconsistent: understanding intra-individual variability in ADHD

01/01/2010-06/30/2010

Total Amount of Award: \$17,346

Total Amount of Subaward: n/a

Candidate's Role: PI

1. Other evidence of national or international recognition

a. Leadership at scientific meetings

Invited Symposium Discussant, *Temperament in ADHD*. International Society for Research in Child & Adolescent Psychopathology, June 2023.

Invited Symposium Discussant, *Cognitive development and attention problems in youth: novel*

insights from longitudinal and computational modeling, International Society for Research in Child & Adolescent Psychopathology, (2022 conference canceled due to COVID).

Invited Chair, *Overlap and differences of ADHD and autism– new findings of functional imaging and cognition studies*, World Congress on ADHD, May 2021.

Invited Symposium Discussant, *Addressing controversies and new directions in ADHD treatment: Evidence for temperament-based sub-typing associated with differential treatment response and biological changes following broad-spectrum micronutrient treatment*, International Society for Research in Child & Adolescent Psychopathology, June 2019.

Symposium Organizer, *Novel approaches to characterizing mechanisms of change in developmental psychopathology*, International Society for Research in Child & Adolescent Psychopathology, June 2017.

Symposium Organizer, *Cognitive Response Style in ADHD as a biomarker of physiological and clinical heterogeneity*, International Society for Research in Child & Adolescent Psychopathology, June 2015.

Symposium Organizer, *A developmental perspective on biomarkers in psychopathology from infancy to adolescence*, International Society for Research in Child & Adolescent Psychopathology, June 2015.

b. Ad-hoc grant reviewer

National Institutes of Health, Child Psychopathology and Developmental Disabilities Study Section, February 2021.

c. Editorial Service

2022- Consulting Editor, *Assessment*

2022- Editorial Board, *Research on Child & Adolescent Psychopathology*

Section B: LEARNING

1. Courses taught during the past three years (2018-2021)

a. Lead Instructor

PSY 66800 Cognitive Assessment, Purdue University, F/20, S/22, Instructor

PSY 337 Abnormal Psychology, University of Canterbury, S/20, co-

Instructor PSY 641 Abnormal Psychology, University of Canterbury, S/20, co-

Instructor

UME 772 Cognitive Intersession, Oregon Health & Science University, F/18, Su/19 Undergraduate Medical Education (UME) survey course focused on broad topics related to how impairments in cognitive abilities are assessed, diagnosed, and treated in a medical context. Enrollment varies ~30-80/quarter. Responsible for assessment and grading to ensure mastery of lecture content.

b. Guest Lecturer

(Note: BEHN = Behavioral Neuroscience; CPP = Clinical Psychology)

- BEHN 635 Comparative Cognitive Neuroscience, Oregon Health & Science University, S/18, S/19
Graduate course focused on broad topics in cognitive neuroscience with enrollment of ~4-6 /year. Responsible for assessment and grading to ensure mastery of lecture content. Lecture taught one time per year on “Cognition-Emotion Interactions.” Dr. Karalunas was also responsible for assessment and grading to ensure mastery of lecture content.
- CPP 610 Abnormal Psychology, Oregon Health & Science University, F/19
Graduate course focused on DSM diagnosis with enrollment of ~4/year. Dr. Karalunas lectured one time per year on “ADHD, Autism, and Disruptive Behavior Disorders”
- CPP 614 Cognitive Assessment, Oregon Health & Science University, S/20
Graduate course focused on Cognitive Assessment course with enrollment of ~4/year. Dr. Karalunas lectured one time per year on “Evidence Assessment of ADHD”
- PSY 366 Neuropsychology, Reed College, F/19
Advanced undergraduate course focused on neuropsychological assessment. Enrollment varies ~15/year. Dr. Karalunas lectured one time per year on “Neuropsychological Assessment”
- PSY 399 Honors Neuroscience Seminar, Oregon State University, F/19, F/20
Advanced undergraduate honors’ seminar focused on neuroscience methodology with enrollment of ~10/year. Dr. Karalunas lectured one time per year on “EEG Methods for Applied Research,” including interactive and hands-on demonstrations of equipment and methods.
- NO CRS# Child Psychiatry Residency & Fellowship Program at OHSU Annual Lecturer, 2015-2020. This is a two-year long didactic training series for Psychiatry Residents and Child Psychiatry Fellows that is required per the accrediting body. Dr. Karalunas taught on topics related to her expertise 2-3 times per year. Topics of lectures included: “Neuropsychological Assessment,” “ADHD: Development, Differential Diagnosis, and Treatment,” “Learning Disability: History and Diagnosis,” and “Diagnostic Conceptualization and Approaches”.

2. Courses for which she had administrative or supervisory responsibility during the past three years.

Psychology Director for the OHSU Child & Adolescent Psychiatry ADHD Clinic, 2017-2020

The Child and Adolescent Psychiatry (CAP) ADHD Clinic is a year-round, interdisciplinary training clinic for clinical psychology PhD practicum students, post-doctoral psychology fellows, Psychiatry Residents, and Child Psychiatry Fellows. During Dr. Karalunas’s 3 years leading the clinic, she was responsible for coordinating training opportunities within the clinic. This involved developing didactic and practical learning experiences with faculty across the University;

organizing interdisciplinary case conferences with members of Psychiatry, Pediatrics, Child Development & Rehabilitation, and Behavioral Neuroscience departments; and facilitating cross-department coordination of services. ~10 learners per year (various training stages).

3. Contributions in course and curriculum development

Cognitive Assessment (PSY 66800), 2020-present

Cognitive Assessment is a graduate-level course covering theory, administration, and interpretation of cognitive testing. It is unique in that it combines theoretical training with hands-on experience administering cognitive tests to children and adults from the community. The goal of the course is to provide both the theoretical and applied knowledge necessary for competent clinical practice. Dr. Karalunas was hired, in part, to fill a specific need in the Clinical Area to teach this course. Although the course is not new, the typical in-person assessment practice with community members was not possible due to restrictions of the COVID pandemic. Thus, beginning in the spring of 2020, Dr. Karalunas worked closely with the clinical faculty at Purdue to align the course content and format with rapidly evolving best-practice recommendations for clinical assessment training in the pandemic. This involved monitoring professional listservs for evolving guidance, participating in consultation with training directors from around the country, consulting with practicing psychologists in multiple states, and coordinating with test publishers to obtain permissions for remote access to protected assessment materials. Ultimately, both lecture content and lab format were restructured (including substantially increasing Dr. Karalunas's involvement in labs) to maintain training integrity in-line with evolving telehealth guidelines.

Clinical Practicum Supervisor for OHSU Child & Adolescent Psychiatry Clinic, 2014-2020

This is a year-round, 10 hour/week practicum training placement for advanced clinical psychology doctoral students. It includes didactic teaching, guided readings, and supervision of applied assessment skills. Dr. Karalunas supervised 1-2 doctorate-level psychology students per year.

Clinical Practicum Supervisor for OHSU ADHD Research Program, 2014-2020

This is a year-round, 15 hour/week practicum training placement for advanced clinical psychology doctoral students. Dr. Karalunas provided group supervision for 3-6 students per year who were conducting diagnostic assessments with children, adolescents, and adults. She also served as an on-call supervisor to help students manage crisis situations (e.g., suicidality, mandatory child abuse reporting).

4. Development of innovative educational offerings

Student Research Seminar at the Oregon Center for ADHD Research

Dr. Karalunas developed a year-long seminar for undergraduate and post-baccalaureate students interested in learning to conduct independent research. The course included didactic instruction related to the research process and introductory statistics, facilitated discussion of scientific articles, and hands-on independent research experience. Over the course of the year, students developed their own independent hypothesis, learned basic statistics appropriate to their question of interest, and wrote a brief research report in the form of a conference abstract. Dr. Karalunas taught the seminar herself twice (2014, 2019) with enrollment of 6-8 students each time.

Section C: ENGAGEMENT

1. Major programs with which the candidate is associated

Dr. Karalunas routinely participates in outreach programs designed to bring science education to the lay community. These include:

- 2023 Brain Fair, Lafayette, IN
Dr. Karalunas's lab hosted a Brain Fair at Imagination Station (a non-profit science center). The fair included interactive activities to teach children and families about how the brain works such as a "build your own neuron" activity in which children learned what each part of a neuron does while sculpting their own pipe cleaner neurons.
- 2021 Tippecanoe County Fair, Lafayette, IN
Dr. Karalunas hosted an educational booth at the Tippecanoe County Fair. The booth included interactive activities to teach children and families.
- 2017-2020 YES! (Youth Engaged in Science!) Community Outreach Program, Portland, OR
YES! brings groups of children, adolescents, and young adults who would otherwise be unlikely to be exposed to neuroscience research to a full-day immersive experience. Dr. Karalunas hosted groups of 10-30 individuals several times each year. Dr. Karalunas and her students provided didactic information about how neural communication happens, how it is recorded with EEG, and an opportunity for students to participate in recording EEG of their peers and/or having their own EEG recorded.
- 2016 Oregon Museum of Science & Industry Brain Fair, Portland, OR
This public event is hosted by the local science museum. Dr. Karalunas's students spent several months preparing to explain the lab's research in lay terms and to answer common questions about ADHD and other neurodevelopmental disorders. They ran interactive booths where children and adults could "test" their own cognitive abilities, created a didactic figure explaining EEG signal, and offered a demonstration of EEG recording.

2. Principal conferences

- 2019 Lecturer at Oregon Brain Institute Clinical Neuroscience for Primary Care Providers, Portland, OR.
Provided continuing medical education lecture, entitled *Differentiating Adolescent Brain Development and ADHD* to 50 primary care providers. There was no student or postdoctoral involvement in the preparation or delivery of the lecture.
- 2019 Lecturer at Oregon Health & Science University Pediatric Mental Health Conference, Portland, OR.
Provided continuing medical education lecture entitled, *Evidence-based diagnosis and treatment for ADHD* to over 100 pediatric medical providers. There was no student or postdoctoral involvement in the preparation or delivery of the lecture.
- 2018, 2019 Lecturer for Oregon's state-wide Extension for Community Healthcare Outcomes (ECHO) Program.
Provided an annual lecture entitled, *Rating Scales in Primary Care Assessment* via a web-based platform to ~30 rural healthcare workers as part of their continuing medical education. Facilitated case discussion of hypothetical patient. Facilitated discussion and provided input on specific patients for whom providers had questions. There was no student or postdoctoral involvement in the preparation or delivery of the lecture.

3. Translating research information to enable people to put scientific information into practice

2021 **Families Tackling Tough Times Together.** As a team member of the Families Tackling Tough Times Together program, Dr. Karalunas worked with another faculty member to develop weekly “Wellness Wednesday” materials that translated current findings in psychological science into practical activities for families to build their resilience. These materials were distributed via Facebook and the website to participating families and agencies. The Families Tackling Tough Times Together program received the HHS Faculty Engagement Award for 2021.

a. News coverage

- 2022 *Purdue researcher offers insights into common ADHD myths*
<https://www.purdue.edu/hhs/news/2021/10/purdue-researcher-offers-insights-into-common-adhd-myths/>
- 2018 Research done in the Autism Lab of Dr. Karalunas at OHSU was featured on Spectrum News: <https://spectrumnews.org/news/attention-deficit-disorder-autism-share-cognitive-problems/>
- 2018 Graduate student Brittany Alperin’s research in Dr. Karalunas’s ADHD research lab at OHSU featured on ‘Here We Are’ podcast (<https://www.herewearepodcast.com/episodes, #156 “The Wandering Mind”>)
- 2017 Invited expert for the *Parenting SOS* segment on KGW 11am television news

4. University service

2020 Faculty Representative for the Liaison Committee on Medical Education (LCME) Accreditation Review & Survey Visit, Oregon Health & Science University

5. Departmental service

- 2022-2023 Member, Behavioral Neuroscience Search Committee
- 2021-present Member, Psychological Sciences Advisory Committee, Purdue University
- 2021-2022 Chair, Clinical Psychology Area Search Committee, Purdue University
- 2020-2021 Member, Cognitive Psychology Area Search Committee, Purdue University
- 2020-2021 Member, Clinical Area Diversity, Equity, & Inclusion Committee
- 2020-2021 Member, Clinical Area Assessment Training Committee, Purdue University
- 2019-2020 Member, Psychiatry Research Advisory Committee, OHSU
- 2018 Chair, Psychiatry Research Retreat Planning Committee, OHSU
- 2018-2020 Member, Admissions Committee (Clinical Psychology/Psychiatry), OHSU
- 2018-2020 Member, Promotion & Tenure Committee (Psychiatry), OHSU
- 2016-2018 Member, Clinical Competency Committee (Child Psychiatry), OHSU

6. Offices held in state, national, or international organizations

2019-present Scientific Advisory Board Member, Center for ADHD Research, *Oregon Health & Science University*