

Kacie Dunham

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EDUCATION

2018-Present Vanderbilt University

PhD - Neuroscience

2014-2018 Vanderbilt University

B.A. - Neuroscience with a minor in music

RESEARCH INTERESTS

My research interests involve differences in cognitive processes related to developmental disorders, particularly focusing on language and communication. Specific interests include autism, speech processing, multisensory integration, music cognition, and neuroimaging techniques.

RESEARCH TRAINING

2019 – Present: Research Assistant, Laboratory of Affective Sensory Research (LASR; PI: Carissa Cascio, PhD)

2017 – Present: Research Assistant, Biobehavioral Approaches in Neurodevelopmental Disorders (BAND) Laboratory (PI: Tiffany Woynaroski, PhD)

2017 – 2020: Research Assistant, Vanderbilt Multisensory Research Laboratory (PI: Mark Wallace, PhD)

2016 – 2017: Research Assistant, Vanderbilt Music Cognition Lab (PI: Reyna Gordon, PhD)

TEACHING

2021 Teaching Assistant, *Research Design and Statistical Analysis: Part 1*, HRSP 8371, Department of Hearing and Speech Sciences, Vanderbilt University School of Medicine (Instructors: Woynaroski and Feldman)

2021 Teaching Assistant, *Research Design and Statistical Analysis: Part 2*, HRSP 8372, Department of Hearing and Speech Sciences, Vanderbilt University School of Medicine (Instructor: Woynaroski)

2020 Teaching Assistant, *Research Design and Statistical Analysis: Part 1*, HRSP 8371, Department of Hearing and Speech Sciences, Vanderbilt University School of Medicine (Instructor: Woynaroski)

PUBLICATIONS

Feldman, J.I., Thompson, E., Davis, H., Keceli-Kaysili, B., Dunham, K., Woynaroski, T.G., Tharpe, A.M., Picou, E. (in press). Remote Microphone Systems Can Improve Listening-in-Noise Accuracy and Listening Effort for Youth with Autism. Accepted at *Ear and Hearing*.

Zoltowski, A., Lyu, I., Failla, M., Mash, L.E., Dunham, K., Feldman, J.I., Woynaroski, T.G., Wallace, M.T., Barquero, L.A., Nguyen, T.Q., Cutting, L.E., Kang, H., Landman, B.A., &

Cascio, C.J. (2021). Cortical morphology in autism: Findings from a cortical shape-adaptive approach to gyrification indexing. *Cerebral Cortex*.

Feldman, J.I., Raj, S., Bowman, S.M., Santapuram, P., Golden, A.J., Daly, C., Daly, C., Dunham, K., Suzman, E., Augustine, A.E., Garla, V., Muhumuza, A., Cascio, C., Williams, K.L., Kirby, A., & Woynaroski, T.G. (2021). Sensory responsiveness is linked with communication in infants at high and low risk for autism spectrum disorder. *Journal of Speech, Language, and Hearing Research*.

Crank, J., Sandbank, M., Dunham, K., Crowley, S., Bottema-Beutel, K., Feldman, J.I., & Woynaroski, T.G. (2021). Understanding the Effects of Naturalistic Developmental Behavioral Interventions: A Project AIM Meta-analysis. *Autism Research*

Dunham K., Zoltowski, A., Feldman, J.I., Davis, S., Rogers, B., Failla, Michelle D., Wallace, M.T., Cascio, C.J., Woynaroski, T.G. (under review). Neural Correlates of Audiovisual Speech Processing in Youth with and without Autism. Submitted to *Multisensory Research*.

Dunham K., Feldman, J.I., Liu, Y., Cassidy, M., Conrad, J.G., Santapuram, P., Suzman, E., Tu, A., Butera, I., Simon, D.M., Broderick, N., Wallace, M.T., Lewkowicz, D., Woynaroski, T.G. (2020). Stability of Variables Derived From Measures of Multisensory Function in Children with Autism Spectrum Disorder. *American Journal on Intellectual and Developmental Disability*.

Feldman, J.I., Dunham, K., Conrad, J.G., Simon, D.M, Cassidy, M., Liu, Y., Tu, A., Broderick, N., Wallace, M.T., Woynaroski, T.G. (2020). Plasticity of Temporal Binding in Children with Autism Spectrum Disorder: A Single Case Experimental Design Perceptual Training Study. *Research in Autism Spectrum Disorders*.

Sandbank, M., Bottema-Beutel, K., Crowley, S., Cassidy, M., Dunham, K., Feldman, J.I., Crank, J., Albarran, S.A., Raj, S., Mahbub, P., Woynaroski, T.G. (2020). Project AIM: Autism Intervention Meta-Analysis for Studies of Young Children. *Psychological Bulletin*, 146(1), 1-29.

Feldman, J.I., Dunham, K., Cassidy, M., Wallace, M.T., Liu, Y., Woynaroski, T.G. (2018). Audiovisual Multisensory Integration in Individuals with Autism Spectrum Disorder: A Systematic Review and Meta-Analysis. *Neuroscience and Biobehavioral Reviews*, 95, 220-234. doi:10.1016/j.neubiorev.2018.09.020

PRESENTATIONS

Dunham, K., Keceli-Kaysili, B., Golden, A.J., Santapuram, P., Markfeld, J., Feldman, J.I., and Woynaroski, T. (2021). *Neural responses to audiovisual speech in infants at increased likelihood for autism and links with language: An ERP pilot study* [Poster submitted for presentation]. Society for Neuroscience Annual Meeting, Virtual.

Dunham, K., Keceli-Kaysili, B., Golden, A.J., Santapuram, P., Feldman, J.I., and Woynaroski, T. (2020). *Neural responses to audiovisual speech in infants at-risk for autism spectrum disorder: An ERP pilot study* [Poster submitted for presentation]. International Society for Autism Research, Seattle, WA (Conference canceled).

Daly, C., Feldman, J. I., Santapuram, P., Bowman, S. M., Dunham, K., DiCarlo, G. E., Suzman, E., Keceli-Kaysili, B., & Woynaroski, T. G. (2020). *The stability and validity of automated indices of vocal development in infants at high- and low-risk for ASD* [Poster submitted for presentation]. Gatlinburg Conference on Research and Theory in Intellectual Disabilities, San Diego, CA, United States, April, 2020 (Conference canceled).

Feldman, J.I., Dunham, K., Edmunds, S.R., Simon, D.M., Tu, A., Kuang, W., Conrad, J.G., Santapuram, P., Cassidy, M., Liu, Y., Wallace, M.T., & Woynaroski, T., (2020) *Audiovisual speech processing and language are linked in children with autism spectrum disorder* [Poster submitted for presentation]. Gatlinburg Conference on Research and Theory in Intellectual Disabilities, San Diego, CA, United States, April, 2020 (Conference canceled).

Suzman, E., Feldman, J. I., Damiano-Goodwin, C. R., Keceli-Kaysili, B., Bowman, S. M., Daly, C., Dunham, K., Garla, V., Muhumuza, A., Raj, S., Williams, Z. J., Williams, K. L., Ibañez, L. V., Kirby, A. V., Stone, W. L., Cascio, C. J. & Woynaroski, T. G. (2020). *Early differences in sensory responsiveness predict poor play skills in infants at high- and low-risk for autism* [Poster submitted for presentation]. Gatlinburg Conference on Research and Theory in Intellectual Disabilities, San Diego, CA, United States, April, 2020 (Conference canceled).

Raj, S., Feldman, J. I., Augustine, A. E., Bowman, S. M., Daly, C., Dunham, K., Garla, V., Golden, A. J., Muhumuza, A., Santapuram, P., Suzman, E., Crowley, S., Kim, S. Y., Bottema-Beutel, K., Keceli-Kaysili, B., & Woynaroski, T. G. (2020). *Parent-child engagement predicts later social symptomatology in infants at high risk for autism spectrum disorder* [Poster submitted for presentation]. Gatlinburg Conference on Research and Theory in Intellectual Disabilities, San Diego, CA, United States, April, 2020 (Conference canceled).

Williams, Z. J., Feldman, J. I., Dunham, K., Suzman, E., Liu, Y., Davis, S. L., Mash, L. E., Heflin, B. H., Schauder, K. B., Foss-Feig, J. H., Cascio, C. J., & Woynaroski, T. G. (2020). *The measurement and clinical correlates of decreased sound tolerance (hyperacusis) in autism spectrum disorder* [Poster submitted for presentation]. Gatlinburg Conference on Research and Theory in Intellectual Disabilities, San Diego, CA, United States, April, 2020 (Conference Canceled).

Feldman, J. I., Keceli-Kaysili, B., Cassidy, M., Liu, Y., Dunham, K., Bowman, S. M., Golden, A. J., Santapuram, P., Raj, S., Daly, C., Suzman, E., Broderick, N., Kirby, A., Cascio, C. J., Wallace, M. T., & Woynaroski, T. G. (2019, November). *Sensory processing in infants and children with ASD & its relation to language* [Conference presentation]. American Speech-Language-Hearing Association Annual Convention, Orlando, FL, United States.

Dunham, K., Feldman, J.I., Cassidy, M., Liu, Y., Suzman, E., Mahbub, P., Conrad, J.G., Tu, A., Santapuram, P., Simon, D.M., Broderick, N., Wallace, M.T., Woynaroski, T. (2019, September). *Stability of Variables of Audiovisual Integration in Children with Autism Spectrum Disorder* [Poster presentation]. Annual Vanderbilt Kennedy Center Science Day, Nashville, TN, United States.

Daly, C., Feldman, J. I., Keceli-Kaysili, B., Bowman, S. M., Santapuram, P., Dunham, K., Golden, A. J., & Woynaroski, T. G. (2019, September). *Automated vocalizations of infants at high- and low- risk for ASD: A proposed stability and validity study* [Poster presentation]. Vanderbilt Kennedy Center Science Day, Nashville, TN, United States.

Broderick, N., Cascio, C. J., Feldman, J. I., Raj, S., Augustine, A. E., Bowman, S. M., Daly, C., Dunham, K., Golden, A. J., Santapuram, P., Suzman, E., Kirby, A., Keceli-Kaysili, B. & Woynaroski, T. G. (2019, May). *Preliminary results of the Sensory Project in Infant Siblings: Early sensory responsiveness is linked with communication development in infants at risk for autism* [Poster presentation]. International Society for Autism Research, Montreal, QC, Canada.

Dunham, K., Feldman, J.I., Cassidy, M., Liu, Y., Suzman, E., Mahbub, P., Conrad, J.G., Tu, A., Santapuram, P., Simon, D.M., Broderick, N., Wallace, M.T., Woynaroski, T. (2019, April). *Stability of Metrics of Audiovisual Integration in Children with Autism Spectrum Disorder* [Poster presentation]. Gatlinburg Conference on Research and Theory in Intellectual and Developmental Disabilities, San Antonio, TX, United States

Woynaroski, T.G., Cascio, C.J., Feldman, J.I., Raj, S., Augustine, A.E., Bowman, S.M., Daly, C., Dunham, K., Santapuram, P. (2019, April). *Preliminary Results of the Sensory Project in Infant Siblings: Early Sensory Responsiveness is Linked with Communication Development in Infants at Risk for Autism* [Poster presentation]. Gatlinburg Conference on Research and Theory in Intellectual and Developmental Disabilities, San Antonio, TX, United States.

Feldman, J.I., Cassidy, M., Conrad, J.G., Dunham, K., Kuang, W., Liu, Y., Simon, D.M., Tu, A., Broderick, N., Wallace, M.T., Woynaroski, T.G. (2019, April). *Audiovisual Multisensory Integration in Children with Autism Spectrum Disorder: Associations with Broader Symptomatology* [Poster presentation]. Gatlinburg Conference on Research and Theory in Intellectual and Developmental Disabilities, San Antonio, TX, United States.

Raj, S.V., Feldman, J.I., Augustine, A.E., Bowman, S.M., Daly, C., Dunham, K., Golden, A.J., Santapuram, P., Suzman, E., Crowley, S., Kim, S.Y., Bottema-Beutel, K., Broderick, N., Kirby, A., Keceli-Kaysili, B., Cascio, C.J., Woynaroski, T.G. (2019, April). *Parent-Child Engagement and Sensory Responsiveness in Infants at High Risk for Autism Spectrum Disorder*. Gatlinburg Conference on Research and Theory in Intellectual and Developmental Disabilities, San Antonio, TX, United States.

Santapuram, P., Feldman, J.I., Dunham, K., Suzman, E., Augustine, A.E., Bowman, S.M., Keceli-Kaysili, B., Golden, A.J., Broderick, N., Cascio, C.J., Wallace, M.T., Lewkowicz, D., Woynaroski, T.G. (2019, April). *Links between Looking and Vocal Development in Infants at High and Low Risk for Autism Spectrum Disorder*. Gatlinburg Conference on Research and Theory in Intellectual and Developmental Disabilities, San Antonio, TX, United States.

Dunham, K., Feldman, J.I., Conrad, J.G., Simon, D.M., Tu, A., Broderick, N., Wallace, M.T., Woynaroski, T. (2018, June). *Perceptual Training in Children with Autism Spectrum Disorder: A Single-Case Treatment Study*. International Multisensory Research Forum Annual Meeting, Toronto, ON, Canada.

Feldman, J.I., Dunham, K., Cassidy, M., Samuel, A.G., Liu, Y., Woynaroski, T.G. (2018, June). *Group Differences in Audiovisual Multisensory Integration in Individuals With and Without Autism Spectrum Disorder: A Systematic Review and Meta-Analysis*. International Multisensory Research Forum Annual Meeting, Toronto, ON, Canada.

Dunham, K., Feldman, J.I., Santapuram, P., Bowman, S., Keceli-Kaysili, B., Woynaroski, T. (2018, January). *Infant Eye Gaze Analysis and Predicting Language and Sensory Development*. Annual Vanderbilt Kennedy Center Science Day, Nashville, TN, United States.

Golden, A.J., Feldman, J.I., Bowman, S.M., Santapuram, P., Dunham, K., Augustine, A.E., Suzman, E., Broderick, N., Keceli-Kaysili, B., Woynaroski, T. (2018, January). *Targeted Early Intervention on Sensory Function in High Risk Infants: A Proposed Study Utilizing Single Case Research Design*. Annual Vanderbilt Kennedy Center Science Day, Nashville, TN, United States

Myers, B., Dunham, K., Korsnack, K. (2017, June). *Neural Encoding of Speech in Children with Specific Language Impairment*. Neurosciences and Music VI: Music, Sound, and Health, Boston, MA, United States

Beck, S., Rieser, J., & Dunham, K. (2016, September) *Music making and prosocial behavior in preschoolers*. Music, Mind, and Society Annual Symposium and the Annual Vanderbilt Kennedy Center Science Day, Nashville, TN, United States.

SERVICE AND LEADERSHIP

November 2020 – January 2021: Neuroscience Graduate Program Admissions Committee

- Reviewed applications and conducted interviews for prospective Neuroscience Graduate Program students
- Met with the Admissions Committee to select interview candidates and acceptances

October 2020 – Present: Vanderbilt Brain Institute Neuroscience Student Organization

- President 2021: President for the 2021-2022 Academic Year. Responsibilities include serving as a student ambassador for the Neuroscience Graduate Program for admissions and broader biomedical sciences events and serving as a liaison between the Neuroscience Student Organization and faculty leadership.
- Outreach Committee 2020: coordinated and participated in community outreach events to promote neuroscience education in the community. Events include the donation of helmets and educational bookmarks to a Ride for Reading Event and Brain Blast, a day of neuroscience programs for children in the community.

March 2019 – May 2021: Nashville Graduate Women in Science

- Vice president of the inaugural Nashville chapter
- Assist the president with the development of the initial chapter
- Assist with running meetings and developing program and outreach events

August 2018 – Present: Nashville Symphony Chorus

- Soprano in the audition only community chorus that performs major works with the Nashville Symphony
- Attend rehearsals, performances, and community outreach events

November 2014 – April 2017: Vanderbilt Alternative Spring Break

- Education Co-Chair 2017: trained all site leaders, led meetings, and oversaw organization operations

- Site Leader - 2016: planned weeklong service trip to Tahlequah, Oklahoma, performed managerial tasks, led meetings, and ensured the safety and enjoyment of ten student participants
- Service trips include volunteering at a nursing home for veterans, with a concentrated Alzheimer's Unit, serving Cherokee Elders, and working at two art studios catered to artists with disabilities

PROFESSIONAL ORGANIZATIONS

Graduate Women in Science
 International Society for Autism Research
 Society for Neuroscience

AWARDS AND HONORS

2021 Ruth L. Kirschstein National Research Service Award (NRSA; NIH F31 DC020129-01A1)
 2021 Vanderbilt Graduate School Family S Scholarship Endowed Student Award
 2020-2021 Neurodiversity Inspired Science and Engineering (NISE) Trainee
 2018-2020 Fundamentals in Neuroscience Training Grant (NIH T32 MH064913)
 2018-present Vanderbilt Graduate School Hamilton Scholar
 2018 Vanderbilt Kennedy Center Student Travel Award
 2015; 2017-2018 Vanderbilt Dean's List
 2014-2016 SEC Academic Honor Roll
 2014 National Merit Scholar

REFERENCES

Tiffany Woynaroski, Ph.D.
 Assistant Professor of Hearing and Speech Sciences
 7110 MRBIII
 (615) 936-0285
 tiffany.g.woynaroski@vumc.org

Carissa Cascio, Ph.D.
 Associate Professor of Psychiatry and Behavioral Sciences
 Village at Vanderbilt
 (615) 936-0151
 carissa.cascio@vumc.org