



Katherine Travis

Assistant Professor (Research) of Pediatrics (Developmental-Behavioral Pediatrics)

 Curriculum Vitae available Online

Bio

BIO

Dr. Katherine Travis is an Assistant Professor in the Division of Developmental-Behavioral Pediatrics at Stanford University. Dr. Travis obtained her Ph.D. in Neuroscience from the University of California San Diego. Dr. Travis came to Stanford as a postdoctoral fellow to obtain training in clinical neuroscience and translational approaches to intervention. As part of her training, she was awarded a K99/R00 Pathway to Independence grant from the National Institutes of Health.

Her research uses human neuroimaging and behavioral measures to examine the neural bases of early language learning in infants and young children. The goal of her research is to develop therapies and interventions to help promote language learning outcomes in children at-risk for learning disabilities. Currently, she directs an NIH-funded clinical trial that will use diffusion MRI to assess whether there are changes in brain structure following a language intervention in the Neonatal Intensive Care Unit for preterm infants.

ACADEMIC APPOINTMENTS

- Assistant Professor (Research), Pediatrics
- Member, Maternal & Child Health Research Institute (MCHRI)

HONORS AND AWARDS

- Young Investigator Award, Society for Developmental and Behavioral Pediatrics (2014-2015)
- Fine Science Tools Abstract Award, University of California, San Diego (2010)
- Honorable Mention Graduate Research Fellowship Program, National Science Foundation (2007)
- Post-baccalaureate Internship Training Award, National Institutes of Health (2004-2005)
- Arnold B Scheibel Neuroscience Award, Colorado College (2003)
- Distinction in Neuroscience, Colorado College (2003)
- First Place Research Presentation, Colorado-Wyoming Academy of Sciences (2003)
- Phi Beta Kappa, Colorado College (2003)
- Society for Neuroscience Travel Award, Faculty for Undergraduate Neuroscience (2003)

Research & Scholarship

CLINICAL TRIALS

- Listening to Mom 2: Neural, Clinical and Language Outcomes, Recruiting
- Listening to Mom in the NICU: Neural, Clinical and Language Outcomes, Not Recruiting

Publications

PUBLICATIONS

- **More than myelin: Probing white matter differences in prematurity with quantitative T1 and diffusion MRI.** *NeuroImage. Clinical*
Travis, K. E., Castro, M. R., Berman, S., Dodson, C. K., Mezer, A. A., Ben-Shachar, M., Feldman, H. M.
2019; 22: 101756
- **White matter microstructure and cognitive outcomes in relation to neonatal inflammation in 6-year-old children born preterm.** *NeuroImage. Clinical*
Dubner, S. E., Dodson, C. K., Marchman, V. A., Ben-Shachar, M., Feldman, H. M., Travis, K. E.
2019; 23: 101832
- **White matter microstructure and cognitive outcomes in relation to neonatal inflammation in 6-year-old children born preterm** *NEUROIMAGE-CLINICAL*
Dubner, S. E., Dodson, C. K., Marchman, V. A., Ben-Shachar, M., Feldman, H. M., Travis, K. E.
2019; 23
- **More than myelin: Probing white matter differences in prematurity with quantitative T1 and diffusion MRI** *NEUROIMAGE-CLINICAL*
Travis, K. E., Castro, M. H., Berman, S., Dodson, C. K., Mezer, A. A., Ben-Shachar, M., Feldman, H. M.
2019; 22
- **Microstructural properties of white matter pathways in relation to subsequent reading abilities in children: a longitudinal analysis.** *Brain structure & function*
Borchers, L. R., Bruckert, L., Dodson, C. K., Travis, K. E., Marchman, V. A., Ben-Shachar, M., Feldman, H. M.
2018
- **White matter properties associated with pre-reading skills in 6-year-old children born preterm and at term.** *Developmental medicine and child neurology*
Dodson, C. K., Travis, K. E., Borchers, L. R., Marchman, V. A., Ben-Shachar, M., Feldman, H. M.
2018
- **White matter properties differ in 6-year old Readers and Pre-readers** *BRAIN STRUCTURE & FUNCTION*
Travis, K. E., Adams, J. N., Kovachy, V. N., Ben-Shachar, M., Feldman, H. M.
2017; 222 (4): 1685-1703
- **White matter properties differ in 6-year old Readers and Pre-readers.** *Brain structure & function*
Travis, K. E., Adams, J. N., Kovachy, V. N., Ben-Shachar, M., Feldman, H. M.
2016: -?
- **Case Series: Fractional Anisotropy Profiles of the Cerebellar Peduncles in Adolescents Born Preterm With Ventricular Dilation** *JOURNAL OF CHILD NEUROLOGY*
Travis, K. E., Leitner, Y., Ben-Shachar, M., Yeom, K. W., Feldman, H. M.
2016; 31 (3): 321-327
- **Variations in the neurobiology of reading in children and adolescents born full term and preterm** *NEUROIMAGE-CLINICAL*
Travis, K. E., Ben-Shachar, M., Myall, N. J., Feldman, H. M.
2016; 11: 555-565
- **Tract Profiles of the Cerebellar White Matter Pathways in Children and Adolescents** *CEREBELLUM*
Leitner, Y., Travis, K. E., Ben-Shachar, M., Yeom, K. W., Feldman, H. M.
2015; 14 (6): 613-623
- **Cerebellar White Matter Pathways are Associated With Reading Skills in Children and Adolescents** *HUMAN BRAIN MAPPING*
Travis, K. E., Leitner, Y., Feldman, H. M., Ben-Shachar, M.
2015; 36 (4): 1536-1553
- **Decreased and Increased Anisotropy along Major Cerebral White Matter Tracts in Preterm Children and Adolescents** *PLoS One*
Travis, K. E., Adams, J. N., Ben-Shachar, M., Feldman, H. M.
2015
- **Decreased and Increased Anisotropy along Major Cerebral White Matter Tracts in Preterm Children and Adolescents.** *PLoS one*
Travis, K. E., Adams, J. N., Ben-Shachar, M., Feldman, H. M.

2015; 10 (11): e0142860

- **Abnormal white matter properties in adolescent girls with anorexia nervosa.** *NeuroImage. Clinical*
Travis, K. E., Golden, N. H., Feldman, H. M., Solomon, M., Nguyen, J., Mezer, A., Yeatman, J. D., Dougherty, R. F.
2015; 9: 648-659
- **Spatiotemporal Neural Dynamics of Word Understanding in 12- to 18-Month-Old-Infants** *CEREBRAL CORTEX*
Travis, K. E., Leonard, M. K., Brown, T. T., Hagler, D. J., Curran, M., Dale, A. M., Elman, J. L., Halgren, E.
2011; 21 (8): 1832-1839
- **Associations of Reading Efficiency with White Matter Properties of the Cerebellar Peduncles in Children.** *Cerebellum (London, England)*
Bruckert, L., Travis, K. E., Mezer, A. A., Ben-Shachar, M., Feldman, H. M.
2020
- **Assessing speech exposure in the NICU: Implications for speech enrichment for preterm infants.** *Journal of perinatology : official journal of the California Perinatal Association*
Scala, M. L., Marchman, V. A., Godenzi, C., Gao, C., Travis, K. E.
2020
- **Age-Dependent White Matter Characteristics of the Cerebellar Peduncles from Infancy Through Adolescence** *CEREBELLUM*
Bruckert, L., Shpanskaya, K., McKenna, E. S., Borchers, L. R., Yablonski, M., Blecher, T., Ben-Shachar, M., Travis, K. E., Feldman, H. M., Yeom, K. W.
2019; 18 (3): 372-87
- **White Matter Plasticity in Reading-Related Pathways Differs in Children Born Preterm and at Term: A Longitudinal Analysis** *FRONTIERS IN HUMAN NEUROSCIENCE*
Bruckert, L., Borchers, L. R., Dodson, C. K., Marchman, V. A., Travis, K. E., Ben-Shachar, M., Feldman, H. M.
2019; 13
- **Predicting text reading skills at age 8 years in children born preterm and at term** *EARLY HUMAN DEVELOPMENT*
Borchers, L. R., Bruckert, L., Travis, K. E., Dodson, C. K., Loe, I. M., Marchman, V. A., Feldman, H. M.
2019; 130: 80-86
- **Predicting text reading skills at age 8#years in children born preterm and at term.***Early human development*
Borchers, L. R., Bruckert, L., Travis, K. E., Dodson, C. K., Loe, I. M., Marchman, V. A., Feldman, H. M.
2019; 130: 80-86
- **Age-Dependent White Matter Characteristics of the Cerebellar Peduncles from Infancy Through Adolescence.** *Cerebellum (London, England)*
Bruckert, L., Shpanskaya, K., McKenna, E. S., Borchers, L. R., Yablonski, M., Blecher, T., Ben-Shachar, M., Travis, K. E., Feldman, H. M., Yeom, K. W.
2019
- **White Matter Plasticity in Reading-Related Pathways Differs in Children Born Preterm and at Term: A Longitudinal Analysis.** *Frontiers in human neuroscience*
Bruckert, L., Borchers, L. R., Dodson, C. K., Marchman, V. A., Travis, K. E., Ben-Shachar, M., Feldman, H. M.
2019; 13: 139
- **White matter microstructure of 6-year old children born preterm and full term** *NEUROIMAGE-CLINICAL*
Dodson, C. K., Travis, K. E., Ben-Shachar, M., Feldman, H. M.
2017; 16: 268-75
- **Abnormal white matter properties in adolescent girls with anorexia nervosa** *Neuroimage: Clinical*
Travis, K. E., Golden, N. H., Feldman, H. M., Solomon, M., Nguyen, J., Mezer, A., Yeatman, J. D., Dougherty, R. F.
2015
- **Abnormal white matter properties in adolescent girls with anorexia nervosa** *NEUROIMAGE-CLINICAL*
Travis, K. E., Golden, N. H., Feldman, H. M., Solomon, M., Jenny Nguyen, J., Mezer, A., Yeatman, J. D., Dougherty, R. F.
2015; 9: 648-659
- **Speech-Specific Tuning of Neurons in Human Superior Temporal Gyrus** *CEREBRAL CORTEX*
Chan, A. M., Dykstra, A. R., Jayaram, V., Leonard, M. K., Travis, K. E., Gygi, B., Baker, J. M., Eskandar, E., Hochberg, L. R., Halgren, E., Cash, S. S.
2014; 24 (10): 2679-2693

- **Age-related Changes in Tissue Signal Properties Within Cortical Areas Important for Word Understanding in 12-to 19-Month-Old Infants** *CEREBRAL CORTEX*
Travis, K. E., Curran, M. M., Torres, C., Leonard, M. K., Brown, T. T., Dale, A. M., Elman, J. L., Halgren, E.
2014; 24 (7): 1948-1955
- **Independence of Early Speech Processing from Word Meaning** *CEREBRAL CORTEX*
Travis, K. E., Leonard, M. K., Chan, A. M., Torres, C., Sizemore, M. L., Qu, Z., Eskandar, E., Dale, A. M., Elman, J. L., Cash, S. S., Halgren, E.
2013; 23 (10): 2370-2379
- **Signed Words in the Congenitally Deaf Evoke Typical Late Lexicosemantic Responses with No Early Visual Responses in Left Superior Temporal Cortex** *JOURNAL OF NEUROSCIENCE*
Leonard, M. K., Ramirez, N. F., Torres, C., Travis, K. E., Hatrak, M., Mayberry, R. I., Halgren, E.
2012; 32 (28): 9700-9705
- **Spatial Organization of Neurons in the Frontal Pole Sets Humans Apart from Great Apes** *CEREBRAL CORTEX*
Semendeferi, K., Teffer, K., Buxhoeveden, D. P., Park, M. S., Bludau, S., Amunts, K., Travis, K., Buckwalter, J.
2011; 21 (7): 1485-1497
- **Language Proficiency Modulates the Recruitment of Non-Classical Language Areas in Bilinguals** *PLOS ONE*
Leonard, M. K., Torres, C., Travis, K. E., Brown, T. T., Hagler, D. J., Dale, A. M., Elman, J. L., Halgren, E.
2011; 6 (3)
- **Spatiotemporal dynamics of bilingual word processing** *NEUROIMAGE*
Leonard, M. K., Brown, T. T., Travis, K. E., Gharapetian, L., Hagler, D. J., Dale, A. M., Elman, J. L., Halgren, E.
2010; 49 (4): 3286-3294
- **Somatodendritic Kv7/KCNQ/M channels control interspike interval in hippocampal interneurons** *JOURNAL OF NEUROSCIENCE*
Lawrence, J. J., Saraga, F., Churchill, J. F., Statland, J. M., Travis, K. E., Skinner, F. K., McBain, C. J.
2006; 26 (47): 12325-12338
- **Regional dendritic variation in neonatal human cortex: A quantitative Golgi study** *DEVELOPMENTAL NEUROSCIENCE*
Travis, K., Ford, K., Jacobs, B.
2005; 27 (5): 277-287