

# Neelima Wagley, PhD

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## APPOINTMENTS

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- 2024-present      **Assistant Professor**  
Speech and Hearing Science, College of Health Solutions – Arionna State University
- 2019-2023      **Postdoctoral Research Scholar**  
Psychology and Human Development, Peabody College – Vanderbilt University

## EDUCATION

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- 2019      **Ph.D. Developmental Psychology** – University of Michigan
- 2015      **M.S. Psychology** – University of Michigan
- 2013      **B.S. Psychology** – Michigan State University

## RESEARCH & TRAINING SUPPORT

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- 2023-2028      Co-Investigator, H325D230067 – US Department of Education  
*Advancing Inclusion: Multicultural Multilingual Research for Children with Disabilities (AIMM)*
- 2021-2023      Principal Investigator – National Institutes of Health Loan Repayment Program  
*Neurocognitive Mechanisms of Reading in Bimodal DHH Children*
- 2020-2022      Diversity Scholar, Postdoctoral Research Supplement to R01DC018171 – NIDCD  
*Brain mechanisms underlying skilled reading in DHH children with different communication modes*
- 2017-2018 &  
2013-2014      Predoctoral Trainee, T32HD007109 – NICHD  
*Developmental Psychology Departmental Training Grant at University of Michigan*

## AWARDS & FELLOWSHIPS

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- 2022      Postdoctoral Mentor of the Year Award – Vanderbilt University
- 2018      Society for Neurobiology of Language Conference Travel Award  
Rackham Graduate School One-Term Dissertation Fellowship – University of Michigan  
Rackham Graduate School Summer Research Award – University of Michigan  
Barbara Perry Roberson Summer Research Scholarship – University of Michigan
- 2016      Barbara A. Oleshansky Memorial Fund Award – University of Michigan  
Roger W. Brown Memorial Award – University of Michigan
- 2015      Michael J. Vizas Graduate Practicum Fund Award – University of Michigan

## PEER-REVIEWED PUBLICATIONS

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<sup>†</sup>Registered Report \*Preregistered on OSF: <https://osf.io/6nmhs/>

- 2024      **Wagley, N.**, Hu, X., Bedore, L., Booth, J. R., & Kovelman, I. Neural specificity for semantic and syntactic processing in Spanish-English bilingual children. *Brain and Language*, 250, 105380.  
  
\*Wang, J., **Wagley, N.**, Rice, M., & Booth, J. R. (2024) Semantic and syntactic specialization in 9- to 10-year-old children during auditory sentence processing. *Scientific Reports*, 14(1), 26965.
- 2023      \*Baron, A., **Wagley, N.**, Hu, X., & Kovelman, I. Neural correlates of morphosyntactic processing in Spanish-English bilingual children: An fNIRS study. *Journal of Speech, Language, and Hearing Research*, 66(9).
- 2022      \***Wagley, N.**, & Booth, J. R. Neural pathways of phonological and semantic processing and its relations to children's reading skills. *Frontiers in Neuroscience*, 16.  
  
**Wagley, N.**, Marks, R., Bedore, L., & Kovelman, I. Contributions of bilingual home environment and language proficiency on children's Spanish-English reading outcomes. *Child Development*, 93(4).  
  
Sun, X., Zhang, K., Marks, R., Karas, Z., Eggleston, R., Nickerson, N., Yu, C., **Wagley, N.**, Hu, X., Caruso, V., Chou, T., Satterfield, T., Tardif, T., & Kovelman, I. Morphological and phonological processing in

English monolingual, Chinese-English bilingual, and Spanish-English bilingual children: An fNIRS neuroimaging dataset. *Data in Brief*, 42.

- 2021 \***Wagley, N.** & Booth, J. R., Neuro-cognitive development of semantic and syntactic bootstrapping in 6- to 7.5-year-old children. *NeuroImage*, 241.
- <sup>+</sup>Wang, J., **Wagley, N.**, Rice, M. L., & Booth, J. R. Semantic and syntactic specialization during auditory sentence processing in 7-8-year-old children. *Cortex*, 145.
- 2020 **Wagley, N.**, Kovelman, I., Lajiness-O'Neill, R., Hay, S. F. J., Ugolini, M., Richard, A. E., Bowyer, M. S., & Brennan, J. Predictive processing during a naturalistic statistical learning task in ASD. *eNeuro*, 7(6).
- Hu, X. S., **Wagley, N.**, Rioboo, A. T., DaSilva, A. F., & Kovelman, I. Photogrammetry-based stereoscopic optode registration method for functional near-infrared spectroscopy. *Journal of Biomedical Optics*, 25(9).
- Safyer, P., Volling, B. L., **Wagley, N.**, Hu, X., Swain, J. E., Arredondo, M. M., & Kovelman, I. More than meets the eye: the neural development of emotion face processing during infancy. *Infant Behavior and Development*, 59.
- Cao, W., Wong, H. M., Yang, X., **Wagley, N.**, Wong, J., & Chang, C. The impact of serostatus disclosure on spousal relationships between wives and HIV-positive husbands who have sex with men in China. *Women & Health*, 60(6).
- 2019 **Wagley, N.**, Perrachione, T. K., Ostrovskaya, I., Ghosh, S. S., Saxler, P. K., Lymberis, J., Wexler, K., Gabrieli, J. D. E., & Kovelman, I. Persistent neurobehavioral markers of developmental morphosyntax errors in adults. *Journal of Speech, Language, and Hearing Research*, 62(12).
- Swick, C. E., Lengu, K., Bisconti, S., **Wagley, N.**, Nyman, T., Hu, X., Anderson, T., Flores, A. M., Kovelman, I., & Lajiness-O'Neill, R. Neural correlates of nonverbal social communication in high-risk infants. *Clinical Neuropsychologist*, 33(4), 703-703.
- 2018 Lajiness-O'Neill, R., Brennan, J. R., Moran, J. E., Richard, A. E., Flores, A. M., Swick, C., Goodcase, R., Anderson, T., McFarlane, K., Rusiniak, K., Kovelman, I., **Wagley, N.**, Ugolini, M., Albright, J., & Bowyer, Susan M. Patterns of altered neural synchrony in the default mode network in autism spectrum disorder revealed with magnetoencephalography (MEG): Relationship to clinical symptomatology. *Autism Research*, 11(3), 434-449.
- 2016 Brennan, J. R., **Wagley, N.**, Kovelman, I., Bowyer, S. M., Richard, A. E., & Lajiness-O'Neill, R. Magnetoencephalography shows atypical sensitivity to linguistic sound sequences in autism spectrum disorder. *NeuroReport*, 27(13), 982-986.
- Ugolini, M., **Wagley, N.**, Arredondo, M., Ip, K., Hsu, L. & Kovelman, I. In young readers left hemisphere supports the link between temporal processing and phonological awareness. *Speech, Language, and Hearing*, 19(1), 17-26.
- 2015 Kovelman, I., **Wagley, N.**, Hay, J. S.F., Ugolini, M., Bowyer, M. S., Lajiness-O'Neill, R., & Brennan, J. Multimodal imaging of temporal processing in typical and atypical language development. *ANNALS of the New York Academy of Sciences*, 1337(1).
- under review \***Wagley, N.**, & Booth, J. R. Bi-directional Relations in Semantic and Syntactic Development in 7- to 9-Year-Old Children. *Cortex*. [osf.io/dwqzh](https://osf.io/dwqzh)
- \*Banaszkiewicz, A., **Wagley, N.**, Plutzer, C., Rice, R., & Booth, J. R. (2023, July 11). The role of speech reading in skilled visual word processing in hearing children. [osf.io/zx2y9](https://osf.io/zx2y9)
- Ofori, E., Monaghan, A., Mancini, M., Mehta, S., **Wagley, N.**, & Peterson, D. Basal forebrain microstructural deficits are related to clinical and reactive balance outcome in people with Parkinson's disease. *Brain Imaging and Behavior*.

- in prep. \***Wagley, N.**, Banaszkiewicz, A., Rice, R., Plutzer, C., & Booth, J. R. (2023, July 12). Investigating the role of dIFG and vIFG in top-down and bottom-up influences during phonological and orthographic processing: an effective connectivity study of fMRI in children. [osf.io/eh7t9](https://osf.io/eh7t9)
- \*Caruso, V., **Wagley, N.**, & Kovelman, I. (2022, November 29). Cortical networks for sentence processing in bilingual children: An fNIRS-GIMME study. [osf.io/9y5df](https://osf.io/9y5df)

## ORAL PRESENTATIONS

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- 2024 *An fNIRS study of neural specificity during sentence processing in Spanish-English bilingual children*. Talk presented as part of the 'Bilingual brain and education-related cognitive processes: Examinations across the lifespan' Symposium at the International Mind Brain and Education Society Meeting in Leuven, Belgium
- 2023 *Brain specificity during sentence processing in Spanish-English bilingual children*. Talk presented at the Vanderbilt Postdoctoral Association Annual Symposium, Vanderbilt University  
**[Received top oral presentation award]**  
*Case studies in open science*. Talk presented at the Cognitive Science of Learning and Development Research Forum, Vanderbilt University
- 2022 *Language and the brain*. Talk presented to high school students at the School for Science and Math, Vanderbilt University  
*How does the brain understand what we speak, sign, and read?* Talk presented at the Vanderbilt Postdoctoral Association Speak Easy Event, Vanderbilt University  
*Neurocognitive model of literacy among deaf and hard of hearing adolescents*. Talk presented at the Bridges for the Deaf and Hard of Hearing Technology Expo. Nashville, TN
- 2021 *Brain organization for sentence processing in good and poor bilingual readers*. Talk presented as part of the 'Are Bilinguals Delayed in Both Languages? Current Brain and Behavioral Perspectives' Symposium at the International Association for the Study of Child Language Meeting (virtual)  
*Panelist for discussion on underrepresented populations in research*. Vanderbilt University Undergraduate Summer Research Program (VUSRP)
- 2020 *Bi-directional relations of semantic and syntactic neurocognitive development in children 6- to 7.5-years-old*. Talk presented at the Society for Neurobiology of Language Annual Meeting (virtual)
- 2019 *Uncovering the neural bases of language & reading acquisition using fNIRS*. Talk presented to the Brain Developmental Laboratory group, Vanderbilt University  
*Early bilingual acquisition and emerging literacy skills in the developing brain*. Talk presented at the Patricia Gurin Distinguished Lecture Series Colloquium, University of Michigan  
**[Received \$200 honorarium]**
- 2017 *Workshop: fNIRS Data Analyses Methodologies*  
Center for Human Growth and Development, University of Michigan  
*Understanding first steps in infant language acquisition through the study of neural response to high and low frequency phonotactics*. Center for Human Growth and Development, University of Michigan
- 2018 *Optical imaging with fNIRS: methodologies & applications*. Talk presented at the Michigan Neuroimaging Initiative group meeting, University of Michigan
- 2016 *Brain and behavioral differences in speech segmentation in children with and without ASD*. Talk presented at the Developmental Psychology Area Brown Bag, University of Michigan

## SELECT POSTER PRESENTATIONS

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<sup>^</sup>Denotes a trainee under my mentorship

<sup>^</sup>Moen, T., Bernstein, K., & **Wagley, N.**, (2024, December). Perspectives of school-based SLPs serving emergent bilinguals: challenges, supports, and solutions from focus group interviews. *American Speech Hearing Association*, Seattle, WA.

<sup>^</sup>Plutzer, C., **Wagley, N.**, Banaszekiewicz, A., <sup>^</sup>Rice, R., & Booth, J. R. (2023, November). Investigating the role of dIFG and vIFG during phonological and orthographic processing: an effective connectivity study of fMRI in children). *Vanderbilt Kennedy Center Science Day*, Nashville, TN.

<sup>^</sup>Rice, R., Banaszekiewicz, A., **Wagley, N.**, <sup>^</sup>Plutzer, C., & Booth, J. R. (2023, November). The role of speech reading in skilled visual word processing in hearing children. *Vanderbilt Kennedy Center Science Day*, Nashville, TN.

Compton, A.B., Tate, C.M., Dai, J., **Wagley, N.**, Booth, J.R. (2023, September). Examining the Relation of Depriving and Threatening Childhood Experiences to Mechanisms Underlying Reading Skill and Anxiety Symptoms in Children *Flux Society*, Santa Rosa, CA.

**Wagley, N.**, & Booth, J. R. (2022, October). Neural pathways of phonological and semantic processing and its relations to children's reading skills. *Society for Neurobiology of Language*, Philadelphia, PA.

Baron, A., **Wagley, N.**, & Kovelman, I., (2022, October). Neural correlates of morphosyntactic processing in Spanish-English bilingual children. *Society for Neurobiology of Language*, Philadelphia, PA.

**Wagley, N.**, Hu, X., Tsutsumi-Rioboo, A., Marks, R., Bedore, L. M., & Kovelman, I. (2018, October) Bilingual acquisition and children's neural architecture for word reading. *Society for Functional Near-Infrared Spectroscopy*, Tokyo, Japan.

Hu, X., **Wagley, N.**, DaSilva, A., & Kovelman, I. (2018, October) Group level power analysis using linear mixed- effects model. *Society for Functional Near-Infrared Spectroscopy*, Tokyo, Japan.

**Wagley, N.**, Hu, X., Baron, A., Satterfield, T., Bedore, L. M., & Kovelman, I. (2018, August) Neurodevelopmental impact of early bilingual acquisition on children's syntactic processing. *Society for Neurobiology of Language*, Quebec City, Canada.

**Wagley N.**, Bisconti, S., Lajiness-O'Neill, R., Lengu, K., ... Tessier, A.M., & Kovelman, I. (2017, March) Differences in brain response to high and low frequency language phonotactics in infants and adults. *Society for Reach in Child Development*, Austin, TX.

**Wagley, N.**, Hay, S. F. J., Ugolini, M., Bowyer, M. S., Lajiness-O'Neill, R., Brennan, J., Kovelman, I. (2015, June) Brain and behavioral differences in speech segmentation between typically developing children and children with ASD. *Interdisciplinary Advances in Statistical Learning*, San Sebastian, Spain.

**Wagley, N.**, Ugolini, M., Kovelman, I. (2015, March) A link between young readers' perceptual sensitivity to slow rhythmic modulations, phonological awareness, and brain function. *Society for Research in Child Development*, Philadelphia, PA.

Brennan, J., **Wagley, N.**, Ugolini, M., Richard, A., Kovelman, I., Bowyer, S., & Lajiness-O'Neill, R. (2014, August). Neural coherence during natural story listening as a biomarker for Autism. *Society for Neurobiology of Language*, Amsterdam, The Netherlands.

**Wagley, N.**, Morrill, T., & McAuley, J.D. (2013, August) The effect of language background on the perception of tonal groupings. *Society for Music Perception and Cognition*, Toronto, Canada.

**Wagley, N.**, Mastic, A., Ip, K., Hsu, L., Wang, X., Chen, J., Guan, Z., Mascho, K., Spath, S., Younce, S., Tardif, T., & Kovelman, I. (2012, March) Relationship between rhythm perception and reading and language acquisition in bilingual children. *Cognitive Neuroscience Society*, Chicago, IL.

**Wagley, N., Newman, R., Slevc, R.L.** (2012, July) Should you pack a musician on your next foreign vacation? Investigating how musical training impacts accent adaptation. *University of Maryland Summer Research Initiative Program Symposium.*

**Wagley, N., Mastic, A., Ip, K., Hsu, L., Wang, X., Chen, J., Guan, Z., Mascho, K., Spath, S., Younce, S., Tardif, T., & Kovelman, I.** (2011, July) Importance of rhythm perception in children's language and reading acquisition. *University of Michigan Summer Research Opportunity Program Symposium.*

## TEACHING EXPERIENCE

### Lead Instructor – Arizona State University

Spring 2025	SHS 230C	Peering into the Human Brain – 70 students
Fall 2024	SHS 588A	Bilingual Language Acquisition – 17 students

*Student evaluation overall mean (5 'most positive'; 0 'most negative'): 4.5*

### Graduate Student Instructor – University of Michigan

2 semesters	PSYCH 351	Advanced Research Methods in Developmental Psychology – 20 students
3 semesters	PSYCH 250	Introduction to Developmental Psychology – 75 students

### Course Assistant – University of Michigan

1 semester	PSYCH 250	Introduction to Developmental Psychology – 300 students
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### Guest Lectures

Fall 2024	SHS 542	Applied Research Methods in Auditory and Language Neuroscience	ASU
Spring 2024	SHS 367	Language Science	ASU
Fall 2018	PSYCH 402	Brain and Culture	UMich
	LING 352	Language Development	UMich
Spring 2018	PSYCH 351	Advanced Research Methods in Developmental Psychology	UMich
Fall 2017	PSYCH250	Introduction to Developmental Psychology	UMich

## RESEARCH MENTORSHIP

<b>Thesis Committees</b>	Co-chair, Doctoral Dissertation, Theresa Moen (2024- )	ASU
	Co-chair, Doctoral Dissertation, Sindhu Chennupati (2024- )	ASU
	Co-chair, Master's Thesis, Nataly Beacham (2024- )	ASU
	Member, Doctoral Comprehensive Exams, Lamees Al-Hassan (2024)	ASU
	Member, Doctoral Dissertation, Valeria Ortiz Villalobos (2024- )	UMich
<b>Doctoral Research</b>	Jing Zhang, Ye Eun Choi, (2024- )	ASU
<b>Master's Research</b>	Nishikant Komerishetty Padige (2024- ), Nataly Beacham (2024- )	ASU
	Akemi Rioboo-Tsutsumi (2018-19), Michelle Lee (2016-17)	UMich
<b>Undergraduate Research</b>	2024-25: 1 student      2020-21: 1 student      2016-17: 3 students	
	2023-24: 2 students      2019-20: 1 student      2015-16: 3 students	
	2022-23: 4 students      2018-19: 4 students      2014-15: 2 students	
	2021-22: 5 students      2017-18: 8 students	

## PROFESSIONAL & COMMUNITY SERVICE

2024-present	ASU College of Health Solutions Speech and Hearing Science Faculty Search Committee
	ASU Speech and Hearing Science PhD Admissions and Program Committee
	ASU Speech and Hearing Science Inclusive Excellence (DEI) Committee
2022-2023	Vanderbilt University Diversity Council Representative
	Accelerating Scholars Program Tutor, Metro Nashville Public Schools
2020-2023	Vanderbilt University Postdoctoral Association Symposium Planning Committee
2020-present	Nepalese in Neuroscience International Association, Mentor

2019-present	Review Editor for Frontiers in Psychology and Frontiers in Communication
2016	University of Michigan Psychology Graduate Orientation Support Team
2013-2014	University of Michigan Developmental Area Social Committee

#### **AD HOC REVIEWER**

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Conference Abstracts	International Association for the Study of Child Language (2023)
Manuscripts	Brain & Language; Frontiers; Human Brain Mapping; Society for the Scientific Study of Reading NeuroImage; Journal of Neurolinguistics; International Journal of Bilingual Education and Bilingualism; International Journal of Developmental Neuroscience; Scientific Reports; Journal of Experimental Child Psychology; npj Science of Learning

#### **WORKSHOPS & PROFESSIONAL TRAININGS**

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2024	ASU College of Health Solutions Summer Teaching Academy
2023	Intercultural Competency and Intercultural Development Inventory Assessment
2020	InclusAbility Presents: Deaf Awareness & Culture 101
2019	P.R.I.D.E. (Pursuing Respect, Inclusion, Diversity, and Equity) Training Edge for Scholars Grant Writing Workshop
2018	fNIRS Advanced Data Analysis Training Course, University of Pittsburgh
2015	Teaching Writing in the Disciplines (WRITING 993), University of Michigan
2014	Training Course in fMRI, University of Michigan

Updated 01.15.25