# James C. Borders

M.S. CCC-SLP

I'm a speech pathologist and doctoral candidate at Teachers College, Columbia University. My research focuses on the rehabilitation of impairments in airway protection, namely cough (dystussia) and swallowing (dysphagia) dysfunction, to improve health outcomes and quality of life. I have worked clinically in inpatient and outpatient settings, specializing in the assessment and treatment of dysphagia across a variety of patient populations, including neurological, oncological, gastrointestinal, and respiratory disorders.



#### **Education**

Present 2019

PhD Student, Communication Sciences & Disorders Teachers College, Columbia University New York, NY

· Dissertation: Refining Cough Skill Training in Parkinson's Disease and Dysphagia

2016 2014 M.S., Speech-Language Pathology

MGH - Institute of Health Professions Boston, MA

- · Thesis: A developmental examination of feedback processing during declarative learning
- Concentration in Medical Speech Pathology

2014 2010

B.A., Psychology College of the Holy Cross Worcester, MA

- Cum Laude
- · Minor in Deaf Studies



#### Research Positions

Present 2019

**Doctoral Candidate** 

Laboratory for the Study of Upper Airway Dysfunction Teachers College, Columbia University PI: Michelle Troche

2016 2015 Graduate Research Assistant

Department of Brain & Cognitive Sciences Massachusetts Institute of Technology PI: Pawan Sinha

2016 2014 Graduate Research Assistant

Cognitive Neuroscience Group MGH - Institute of Health Professions

PI: Yael Arbel



#### Contact

- jcb2271@tc.columbia.edu
- jamesborders.com
- Google Scholar

### **Research Interests**

- Airway Protection
- **4-▶** Motor Learning
- Meta-Science

Updated 2022-11-25.

2014 Research Assistant
Department of Psychology
College of the Holy Cross
Pls: Mark Hallahan & Richard Schmidt

#### Clinical Positions

2019 Speech Pathologist
Voice and Swallow Clinic
Boston Medical Center
Boston, MA

2017 Speech Pathology Clinical Fellow
Department of Otolaryngology
University of Wisconsin – Madison
Madison, WI

# Grant Support

2015 • Christopher Norman Research Fund
MGH - Institute of Health Professions
Awarded \$200 to support dissertation project
Role: PI

2012 • Andrew W. Mellon Research Fellowship
College of the Holy Cross
Awarded \$5000 to support summer research project
Role: PI

## Publications

2022

Troche, M. S., Curtis, J. A., Sevitz, J. S., Dakin, A. E., Perry, S. E., **Borders, J. C.**, Grande, A. A., Vanegas-Arroyave, N., & Hegland, K. W. (2022). Rehabilitating airway protection in Parkinson's disease: A randomized controlled trial. Movement Disorders. https://doi.org/10.1002/mds.29268

Sevitz, J. S., **Borders, J. C.**, Dakin, A. E., Alcalay, R. N., Kuo, S., & Troche, M. S. (2022). Rehabilitation of airway protection in individuals with movement disorders: A telehealth feasibility study. American Journal of Speech-Language Pathology. https://doi.org/10.1044/2022\_AJSLP 22 00063

El Amin, M., **Borders, J. C.**, Long, H. L., Keller, M. A., & Kearney, E. (2022). Open science practices in communication sciences and disorders: A survey. Journal of Speech, Language, and Hearing Research. https://doi.org/10.1044/2022\_JSLHR 22 00062

Schroeder, S. R., El Amin, M., Gaeta, L., Chow, J.C., & **Borders, J. C.** (In Press). Evaluating research transparency and openness in Communication Sciences and Disorders journals. Journal of Speech, Language, and Hearing Research.

**Borders, J. C.**, Grande, A., & Troche, M. S. (2022). Statistical power and swallowing rehabilitation research: Current landscape and next steps. Dysphagia. https://doi.org/10.1007/s00455 022 10428 2

- Curtis, J. A., Borders, J. C., & Troche, M. S. (2022). Visual analysis of swallowing efficiency and safety (VASES): Determination of criterion and concurrent validity. American Journal of Speech-Language Pathology. https://doi.org /10.1044/2021 AJSLP 21 00116
- 2021 Borders, J. C. & Troche, M. S. (2021). Voluntary cough effectiveness and airway clearance in neurodegenerative disease. Journal of Speech, Language, and Hearing Research. E-Pub Ahead of Print. https://doi.org/10.1044/2021 \_JSLHR 21 00308
  - Borders, J. C., Curtis, J. A., Sevitz, J. S., Vanegas-Arroyave, N., & Troche, M. S. (2021). Sensorimotor cough dysfunction is prevalent and pervasive in progressive supranuclear palsy. Movement Disorders; 36(11), 2624 -2633. https://10.1002/mds.28707
  - Perry, S. E., Borders, J. C., Dakin, A. E., & Troche, M. S. (2021). Characterizing quality of life in caregivers of people with Parkinson's Disease and dysphagia. Dysphagia. E-Pub Ahead of Print. https://10.1007/s00455 021 10299 z
  - Curtis, J. A., Borders, J. C., Perry, S. E., Dakin, A. E., Seikaly, Z., & Troche, M. S. (2021). Visual analysis of swallowing efficiency and safety (VASES): A standardized approach to rating pharyngeal residue, penetration, and aspiration during FEES. Dysphagia. E-Pub Ahead of Print. https://10.1007/s00455 021 10293 5
  - Borders, J. C., Curtis, J. A., Sevitz, J. S., Vanegas-Arroyave, N., & Troche, M. S. (2021). Immediate effects of sensorimotor training in airway protection (smTAP) on cough outcomes in progressive supranuclear palsy: A feasibility study. Dysphagia. E-Pub Ahead of Print. https://10.1007/s00455 021 10251 1
- 2020 Borders, J. C., Sevitz, J. S., Malandraki, J. B., Malandraki, G. A., & Troche, M. S. (2020). Objective and subjective clinical swallowing outcomes via telehealth: Reliability in outpatient clinical practice. American Journal of Speech-Language Pathology. 30(2), 598-608. https://10.1044/2020\_AJSLP 20 00234
  - Borders, J. C., Brandimore, A. E., & Troche, M. S. (2020). Variability of voluntary cough airflow in healthy adults and Parkinson's disease. Dysphagia. 36(4), 700-706. https://10.1007/s00455 020 10190 3
    - Enver, N., Borders, J. C., Curtis, J. A., Sevitz, J. S., Vanegas-Arroyave, N., & Troche, M. S. (2020). The role of vocal fold bowing on cough and swallowing dysfunction in progressive supranuclear palsy. The Laryngoscope. 131(6), 1217-1222. https://10.1002/lary.28885
  - Borders, J. C., Blanke, S., Johnson, S., Gilmore-Bykoyskyi, A., & Rogus-Pulia, N. (2020). Efficacy of mealtime interventions for malnutrition and oral intake in persons with dementia: A systematic review. Alzheimer's Disease & Associated Disorders; 34(4), 366 – 379. https://10.1097/WAD.0000000000000387
  - Borders, J. C., O'Dea, M. B., McNally, E., Norberg, E., Kitila, M., Walsh, M., Lui, R., & Pisegna, J. M. (2020). Inter- and intra-rater reliability of laryngeal sensation testing with the touch method during flexible endoscopic evaluations of swallowing. Annals of Otology, Rhinology & Laryngology; 129(6): 565 – 571. https://10.1177 /0003489419901145
- Borders, J. C. & Brates, D. (2019). Use of the penetration-aspiration scale in dysphagia research: A systematic 2019 review. Dysphagia; 35(4): 583 – 597. https://10.1007/s00455 019 10064 3
  - Borders, J. C., Fink, D., Levitt, J. E., McKeehan, J., McNally, E., Rubio, A., ... Krisciunas, G. P. (2019). Relationship between laryngeal sensation, length of intubation, and aspiration in patients with acute respiratory failure. Dysphagia; 34(4): 521 – 528. https://10.1007/s00455 019 09980 1

- Stipancic, K. L., **Borders, J. C.**, Brates, D., & Thibeault, S. L. (2019). Prospective investigation of incidence and co-occurrence of dysphagia, dysarthria, and aphasia following ischemic stroke. American Journal of Speech-Language Pathology; 28(1): 188 194. https://10.1044/2018 AJSLP 18 0136
- Pisegna, J. M., **Borders, J. C.**, Kaneoka, A., Coster, W. J., Leonard, R., & Langmore, S. E. (2018). Reliability of untrained and experienced raters on FEES: Rating overall residue is a simple task. Dysphagia; 33(5): 645 654. https://10.1007/s00455 018 9883 x
  - Borders, J. C., Gibson, A. L., Grayev, A., & Thibeault, S. L. (2018). Predictors of dysphagia in critically injured patients with neck trauma. Journal of Critical Care; 44: 312 317. https://10.1016/j.jcrc.2017.12.004

### Publications Under Review & Revision

Under Review

- Curtis, J. A., **Borders, J. C.**, Dakin, A. E., & Troche, M. S. The role of aspiration amount on airway protective responses in people with neurogenic dysphagia.
- Sevitz, J.S., Perry, S.E., **Borders, J.C.**, Dakin, A.E., Curtis, J. A., & Troche, M.S. The relationship between lingual strength and functional swallowing outcomes in Parkinson's disease.
- **Borders, J.C.**, Sevitz, J.S., Curtis, J.A., Vanegas, N.V., & Troche, M. S. Quantifying impairments in swallowing safety and efficiency in progressive supranuclear palsy and Parkinson's disease.
- Krasko, M.N., Dakin, A.E., **Borders, J.C.**, Perry, S.E., & Troche, M.S. Characterizing oral phase impairments in Parkinson's disease with the Test of Masticating and Swallowing Solids (TOMASS).
- Jijakli, A., Pisegna, J.M., **Borders, J.C.**, Ramirez, E., Gottlieb, A., Leonard, R., Murrary, J., & Langmore, S.E., Absent epiglottic inversion as seen on flexible endoscopic evaluations of swallowing (FEES) is associated with a gestalt reduction in swallowing mechanics.

## Refereed Presentations

2022

- **Borders, J. C.**, Kuo, S. H., & Troche, M. S., Effects of Cough Skill Training in Spinocerebellar Ataxia. Poster presentation at Dysphagia Research Society. March 2023. San Francisco, California.
- **Borders, J. C.**, Lowell, E. R., Huber, J. E., & Troche, M. S., Visual Biofeedback Does Not Enhance Cough Upregulation in Parkinson's Disease. Poster presentation at Dysphagia Research Society. March 2023. San Francisco, California.
- **Borders, J. C.**, Grande, A. A., Barbon, C. E., Hutcheson, K. A., & Troche, M. S., Effects of Aggregating and Categorizing the Penetration-Aspiration Scale on Statistical Power and Effect Size Estimation: A Monte Carlo Simulation Study. Poster presentation at Dysphagia Research Society. March 2023. San Francisco, California.
- Borders, J. C., Huber, J. E., & Troche, M. S., Assessing the Accuracy of Respiratory Calibration Methods to Estimate Lung Volume During Cough. Poster presentation at Dysphagia Research Society. March 2023. San Francisco, California.
- Troche, M.S., **Borders, J.C.**, Curtis, J.A., Dakin, A.E., Sevitz, J.S., Perry, S.E., Vanegas-Arroyave, N., & Helgand, K.W. Rehabilitating Swallowing Safety and Cough Effectiveness in Parkinson's Disease: A Randomized Clinical Trial Comparing EMST and smTAP. Dysphagia Research Society. March, 2023. San Francisco, CA.

- Curtis, J. A., Tabor-Gray, L., Arresse, L., **Borders, J. C.**, & Starmer, H. Concurrent and Criterion Validity of Using VASES to Derive DIGEST Grades when Rating Flexible Endoscopic Evaluations of Swallowing (FEES). Oral presentation at Dysphagia Research Society. March, 2023. San Francisco, CA.
- Curtis, J. A., **Borders, J. C.**, Dakin, A. E., Troche, M. S. Visual Analysis of Swallowing Efficiency and Safety (VASES): Preliminary Norms from a Standardized FEES Protocol in Healthy Adults. Poster presentation at Dysphagia Research Society. March, 2023. San Francisco, CA.
- Lowell, E. R., **Borders, J. C.**, Kuo, S. H., Perry, S.E., Dakin, A.E., Sevitz, J.S., & Troche, M. S., Disease Severity and Sensorimotor Cough Outcomes in Spinocerebellar Ataxia: A Cross-Sectional Study. Poster presentation at Dysphagia Research Society. March, 2023. San Francisco, CA.
- Perry, S. E., **Borders, J. C.**, Kuo, S. H., Amlang, C., & Troche, M. S. The effect of dual tasking on cough sensorimotor outcomes in people with spinocerebellar ataxia. Dysphagia Research Society. March, 2023. San Francisco, CA.
- Sevitz, J.S., Borders. J.C., Dakin, A.E., Troche, M.S. Functional swallowing impairments do not predict swallowing-related quality of life in people with Parkinson's disease. Oral presentation at Dysphagia Research Society. March, 2023. San Francisco, CA.
- Schroeder, S., Gaeta, L., El Amin, M., Chow, J., & Borders, J. C. Do Journals in Speech-Language Pathology and Audiology Promote Transparent and Open Research? Oral presentation at the American Speech Language Hearing Association Annual Convention. November 2022. New Orleans, Louisiana.
- Borders, J.C. & Troche, M.S. Effects of Expiratory Muscle Strength Training on Cough Peak Flow: A Meta-Analysis. Poster presentation at Dysphagia Research Society, March 2022, Online.
- Sevitz, J.S., Perry, S.E., Borders, J.C., Dakin, A.E., & Troche, M.S. The relationship between lingual strength and functional swallowing outcomes in Parkinson's disease. Oral Presentation at Dysphagia Research Society Annual Meeting. March 2022, Online.
- Curtis, J.A., **Borders, J.C.**, Kiefer, B., Huber, J., & Troche, M.S. (2022). Influence of Swallowing Condition on Respiratory-Swallow Coordination in Parkinson's Disease: A Prospective Cohort Study. Oral presentation at the Dysphagia Research Society, March 2022, Online.
  - Curtis, J. A., **Borders, J.C.**, Dakin, A. E., & Troche, M. S. Exploring Relationships Between Auditory-Perceptual, Acoustic, and Endoscopic Measures of Cough in Healthy and Dysphagic Adults Poster presentation at the Dysphagia Research Society, March 2022, Online.
  - Curtis, J. A., **Borders, J.C.**, Dakin, A. E., & Troche, M. S. Relationship Between Person-Specific Factors and Respiratory-Swallow Coordination in Parkinson's Disease: A Cross-Sectional Analysis. Poster presentation at the Dysphagia Research Society, March 2022, Online.
- **Borders, J. C.**, Hegland, K. W., & Troche, M. S. Motor performance during cough rehabilitation in Parkinson's disease. Oral presentation at the European Society for Swallowing Disorders Conference, November 2021. Online.

2021

**Borders, J. C.**, Grande, A. A., & Troche, M. S. Betrayed by aggregation: Maximum penetration-aspiration scale scores reduce statistical power and bias effect size estimates. Oral presentation at the European Society for Swallowing Disorders Conference, November 2021. Online.

- Troche, M. S., Curtis, J. A., Dakin, A. E., Sevitz, J. S., **Borders, J. C.**, Perry, S. E., Vanegas-Arroyave, N., & Hegland, K. W. Sensorimotor training for airway protection (smTAP) versus expiratory muscle strength training (EMST) to rehabilitate cough and swallowing in Parkinson's disease: A clinical trial. Oral presentation at the European Society for Swallowing Disorders Conference, November 2021. Online.
- Dakin, A. E., **Borders, J. C.**, Curtis, J. A., Hegland, K. W., & Troche, M. S. Does change in maximal expiratory pressure predict change in cough effectiveness after training? A secondary analysis of a randomized controlled trial. Oral presentation at the European Society for Swallowing Disorders Conference, November 2021. Online.
- Curtis, J. A., **Borders, J. C.**, & Troche, M. S. Visual analysis of swallowing efficiency and safety (VASES): Establishing criterion-referenced validity and concurrent validity. Oral presentation at the European Society for Swallowing Disorders Conference, November 2021. Online.
- Curtis, J. A., **Borders, J. C.**, Dakin, A. E., & Troche, M. S. Reliability of auditory-perceptual sssessment of cough amongst novice clinicians. Poster presentation at the European Society for Swallowing Disorders Conference, November 2021. Online.
- Amin, M., Long, H., **Borders, J. C.**, Keller, M., & Kearney, E. Open science practices in communication sciences and disorders. Oral presentation at the American Speech Language Hearing Association Annual Convention. November 2021. Washington, D.C.
- **Borders, J. C.** & Troche, M. S. Statistical power and swallowing rehabilitation research: Current landscape and next steps. Poster presented at the Dysphagia Research Society's Annual Meeting, March 2021. Online.
- **Borders, J. C.**, Curtis, J. A., & Troche, M. S. Is there a recency effect during visuoperceptual FEES analysis? Poster presented at the Dysphagia Research Society's Annual Meeting, March 2021. Online.
- Curtis, J. A., Borders, J. C., Dakin, A. E., & Troche, M. S. The role of aspiration amount on airway protective response in people with neurogenic dysphagia. Oral presentation at the Dysphagia Research Society's Annual Meeting, March 2021. Online.
  - Sevitz, J. S., Dakin, A. E., **Borders, J. C.**, & Troche, M. S. Feasibility of device-driven treatment approaches for airway protective deficits via telehealth. Oral presentation at the Dysphagia Research Society's Annual Meeting, March 2021. Online.
  - **Borders, J. C.**, Curtis, J. A., Sevitz, J. S., Seikaly, Z., & Troche, M. S. Immediate effects of sensorimotor training in airway protection (smTAP) on cough outcomes in progressive supranuclear palsy. Oral presentation at the Dysphagia Research Society's Annual Meeting, May 2020. Online.
  - **Borders, J. C.** & Troche, M. S. Voluntary cough variability and airway invasion in Parkinson's Disease. Poster of merit at the Annual European Society for Swallowing Disorders Conference, October 2020. Online.
- Curtis, J. A., **Borders, J. C.**, Perry, S. E., Dakin, A. E., Zeikaly, Z. N., & Troche, M. S. Visual analysis of swallowing efficiency and safety (VASES): A standardized rating methodology for measuring pharyngeal residue, penetration, and aspiration on FEES. Poster presented at the European Society for Swallowing Disorders Conference, October 2020. Online.
- Enver, N., **Borders, J. C.**, Curtis, J. A., Sevitz, J. S., Vanegas-Arroyave, N., & Troche, M. S. The role of vocal fold bowing on cough and swallowing dysfunction in progressive supranuclear palsy. Oral presentation at the American Broncho-Esophagological Association's Annual Meeting, May 2020. Online.

- Bolowsky, V., Hong, L., **Borders, J. C.**, Vallila-Rohter, S., & Arbel, Y. Strategy implementation and feedback processing in healthy young adults. Poster presented at the Annual Cognitive Neuroscience Society Conference, May 2020. Online.
- Kitila, M., **Borders, J. C.**, & Pisegna, J. M. Reliability and confidence of penetration-aspiration scale ratings during flexible endoscopic evaluations of swallowing (FEES). Poster presented at the Dysphagia Research Society's Annual Meeting, May 2020. Online.
- Buckley, D., Tracy, L. F., **Borders, J. C.**, Norberg, E., & Pisegna, J. M. Muscle tension dysphagia: An expanded clinical picture. Oral presentation at the Fall Voice Conference. October 2019. Dallas, Texas.
  - O'Dea, M. B., **Borders, J. C.**, McNally, E., Norberg, E., Kitila, M., Walsh, M., Lui, R., & Pisegna, J. M. Inter- and intra-rater reliability of the laryngeal adductor reflex with the touch method during flexible endoscopic evaluation of swallowing. Poster presented at the European Society for Swallowing Disorders Annual Conference, September 2019. Vienna, Italy.
  - **Borders, J. C.** & Brates, D. Use of the penetration-aspiration scale in dysphagia research: A historical review. Oral presentation at the Dysphagia Research Society's Annual Meeting. March 2019. San Diego, California.
  - Ramirez, E., **Borders, J. C.**, Jijakli, A., & Pisegna, J. M. DHI responses not associated with PAS scores from MBS. Poster presented at the Dysphagia Research Society's Annual Meeting, March 2019. San Diego, California.
- Borders, J. C., Fink, D., Levitt, J. E., McKeehan, J., McNally, E., Rubio, A., ... Krisciunas, G. P. (2018). Relationship between laryngeal sensation, length of intubation, and aspiration in acute respiratory failure survivors. Oral presentation at the American Speech Language Hearing Association Annual Convention. November 2018. Boston, Massachusetts.
  - Rogus-Pulia, N., Knigge, M., Young, B., **Borders, J. C.**, Thibeault, S. L., & Sattin, J. Effects of device-facilitated lingual strengthening therapy on swallowing related outcomes post-stroke: a pilot study. Poster presented at the Dysphagia Research Society's Annual Meeting, March 2018, Baltimore, Maryland.
- Pisegna, J. M., Kaneoka, A., **Borders, J. C.**, & Langmore, S. E. Clinician ratings of residue on FEES: Years of experience does not affect ratings. Poster presented at the European Society of Swallowing Disorders Annual Conference, October 2016, Milan, Italy.
  - **Borders, J. C.**, Arbel, Y., Zipse, L., & Vallila-Rohter, S. Feedback processing in paired associate declarative learning of linguistic and nonlinguistic paradigms. Poster presented at the Annual Cognitive Neuroscience Society Conference, April 2016, New York, New York.
- Jamal, W., Jin, D., Cardinaux, A., Tsourides, K., Jabeck, M. C., **Borders, J. C.**, Nejati, H., Gandhi, T. K., Kjelgaard, M., & Sinha, P. Reduced anticipatory responses during dynamic object interactions in autism. Poster presented at the International Meeting for Autism Research, May 2015, Salt Lake City, Utah.
- Schmidt, R. C., **Borders, J. C.**, & Hallahan, M. Does motor synchrony really create interpersonal cooperation? Poster presented at the Fifth Joint Action Meeting, July 2013 Berlin, Germany.
  - Hallahan, M., Borders, J. C., & Schmidt, R. C. Does motor synchrony really create interpersonal cooperation? Poster presented at the International Conference on Perception and Action, July 2013, Estoril, Portugal.

# Teaching Experience

2020 | Present BBSQ 5940: Evaluation of Research in Speech-Language Pathology Teachers College, Columbia University

### A Honors and Awards

2022

Carol Neilson Wilder Scholar, Teachers College

2022

Council of Academic Programs in Communication Sciences and Disorders (CAPCSD) Doctoral Scholarship

2022

1st Place Scientific Abstract Poster Presentation, Dysphagia Research Society

2021

ASHFoundation New Century Scholars Doctoral Scholarship

2020

1st Place Scientific Abstract Oral Presentation, Dysphagia Research Society

2020

Springer Publishing Junior Investigator Travel Grant, Dysphagia Research Society

2016

Kenneth N. Stevens Student Research Award, MGH - Institute of Health Professions

2014

George J. Allen Psychology Award, College of the Holy Cross

2014

Laurent Clerc Deaf Studies Award, College of the Holy Cross

# Service الأجراد

#### Ad-hoc Reviewer

- Dysphagia
- · Archives of Physical Medicine and Rehabilitation
- · Journal of Parkinson's Disease
- Journal of Telemedicine and Telecare
- · Annals of Otology, Rhinology & Laryngology
- · Annals of the American Thoracic Society
- Laryngoscope
- International Journal of Speech-Language Pathology
- Head & Neck
- · Journal of Speech, Language, and Hearing Research
- American Journal of Speech-Language Pathology

2022 | Present Trainee Advisory Council Member, Dysphagia Research Society

# 2020 C

CSDisseminate Collaborator

· Volunteer with a grassroots initiative to promote open science in the field of communication sciences and disorders

2019, 2022

Present

#### ASHA Topic Committee Reviewer

Swallowing Disorders in Adults

