Stephen C. Van Hedger

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**EDUCATION & PROFESSIONAL EXPERIENCE**

**Postdoctoral Fellow, University of Western Ontario** 2018 - present

Brain and Mind Institute

Department of Psychology  
 Advisors: Ingrid Johnsrude, Laura Batterink

**Postdoctoral Scholar, University of Chicago** 2015 - 2018

Chicago Center for Practical Wisdom  
Department of Psychology

Advisors: Howard Nusbaum, Marc Berman

**Ph.D., Psychology, University of Chicago** 2015

Advisor: Howard Nusbaum

**A.M., Psychology, University of Chicago** 2012

Advisor: Howard Nusbaum

**A.B., Music, University of Chicago** 2009

General and Departmental Honors  
Phi Beta Kappa Honor Society

**FELLOWSHIPS, GRANTS, AND AWARDS**

**BrainsCAN Tier I Postdoctoral Fellowship Award** 2018 - 2021

University of Western Ontario

**Western Cognitive Neuroscience Postdoctoral Fund**  2018 - 2020  
University of Western Ontario Brain and Mind Institute

**John Dewey Prize Lectureship**  2015

University of Chicago Department of Psychology

**Division of Social Sciences Research Grant** 2014 - 2015University of Chicago

**Starkey Duncan Award for Excellence in Undergraduate Teaching** 2014

University of Chicago Department of Psychology

**Norman H. Anderson Research Fellow**  2011 - 2015  
University of Chicago Department of Psychology

**Arts-Science Graduate Collaboration Grant**  2010 - 2011  
University of Chicago

**Fulbright Program Finalist** 2009 - 2010

United States Department of State

**PUBLICATIONS**

**Peer-Reviewed Articles**

1. Uddin, S., Reis, K., **Van Hedger, S.C.**, Heald, S.L.M., & Nusbaum, H.C. (In Press). Cortical mechanisms of talker normalization in fluent sentences. *Brain & Language*
2. **Van Hedger, S.C.**, Heald, S.L.M., & Nusbaum, H.C. (2019). Absolute pitch can be learned by some adults. *PLOS One*, 10.1371/journal.pone.0223047
3. Zhen, A., **Van Hedger, S.C.**, Heald, S.L.M., Goldin-Meadow, S., & Tian, X. (2019). Manual directional gestures facilitate cross-modal perceptual learning. *Cognition, 187,* 178-187.
4. **Van Hedger, S.C.**, Nusbaum, H.C., Clohisy, L., Jaeggi, S.M., Buschkuehl, M., & Berman, M.G. (2019). Of cricket chirps and car horns: The effect of nature sounds on cognitive performance. *Psychonomic Bulletin & Review, 26,* 522-530.
5. **Van Hedger, S.C.**, Nusbaum, H.C., Heald, S.L.M., Huang, A., Kotabe, H., & Berman, M.G. (2019). The aesthetic preference for nature sounds depends on sound object recognition. *Cognitive Science, 43,* e12734.
6. Stenfors, C., **Van Hedger, S.C.** … Berman, M.G. (2019). Positive effects of nature on cognitive performance across multiple experiments: Test order but not affect modulates the cognitive effects. *Frontiers in Psychology, 10:1413.*
7. **Van Hedger, S.C.**, & Nusbaum, H.C. (2018). Individual differences in absolute pitch performance: Contributions of working memory, musical expertise, and tonal language background. *Acta Psychologica, 191,* 251-260.
8. **Van Hedger, S.C.**, Heald, S.L.M., Uddin, S., & Nusbaum, H.C. (2018). A note by any other name: Intonation context rapidly influences absolute note judgments. *Journal of Experimental Psychology: Human Perception & Performance, 44,* 1268-1282.
9. Uddin, S., Heald, S.L.M., **Van Hedger, S.C.**, & Nusbaum, H.C. (2018). Hearing sounds as words: Neural responses to environmental sounds in the context of fluent speech. *Brain & Language, 179,* 51-61.
10. Nusbaum, H.C., Uddin, S., **Van Hedger, S.C.**, & Heald, S.L.M. (2018). Consolidating skill learning through sleep. *Current Opinion in Behavioral Sciences, 20,* 174-182.
11. Uddin, S., Heald, S.L.M., **Van Hedger, S.C.**, Klos, S., & Nusbaum, H.C. (2018). Understanding environmental sounds in sentence context. *Cognition, 172,* 134-143.
12. **Van Hedger, S.C.**, Heald, S.L.M., & Nusbaum, H.C. (2018). Long-term pitch memory for music recordings is related to auditory working memory precision. *The Quarterly Journal of Experimental Psychology*, *71,* 879-891.
13. **Van Hedger, S.C.**, Heald, S.L.M., Huang, A., Rutstein, B., & Nusbaum, H.C. (2017). Telling in-tune from out-of-tune: Widespread evidence for implicit absolute intonation. *Psychonomic Bulletin & Review, 24,* 481-488.
14. Heald, S.L.M.,\* **Van Hedger, S.C.**\*, & Nusbaum, H.C. (2017). Perceptual plasticity for auditory object recognition. *Frontiers in Psychology,* 10.3389/fpsyg.2017.00781
15. **Van Hedger, S.C.**, Heald, S.L.M., & Nusbaum, H.C. (2016). What the [bleep]? Enhanced absolute pitch memory for a 1000 Hz sine tone. *Cognition*, *154,* 139-150.
16. **Van Hedger, S.C.,** Heald, S.L.M., & Nusbaum, H.C. (2015). The effects of acoustic variability on absolute pitch categorization: Evidence of contextual tuning. *Journal of the Acoustical Society of America*, *138,* 436-446.
17. **Van Hedger, S.C.,** Heald, S.L.M., Koch, R., & Nusbaum, H.C. (2015). Auditory working memory predicts individual differences in absolute pitch learning. *Cognition*, *140,* 95-110.
18. **Van Hedger, S.C.,** Palmer, C., Hogstrom, A., & Nusbaum, H.C. (2015). Sleep consolidation of musical competence. *Music Perception: An Interdisciplinary Journal*, *33*, 163-178.
19. Heald, S.L.M., **Van Hedger, S.C.**, & Nusbaum, H.C. (2014). Auditory category knowledge in experts and novices. *Frontiers in Neuroscience,* 8*:*260. 10.3389/fnins.2014.00260
20. **Hedger, S.C**., Nusbaum, H.C., Lescop, O., Wallisch, P., & Hoeckner, B. (2013). Music can elicit a visual motion aftereffect. *Attention, Perception, & Psychophysics, 75,* 1039-1047.
21. **Hedger, S.C**., Heald, S.L.M., & Nusbaum, H.C. (2013). Absolute pitch may not be so absolute. *Psychological Science, 24,* 1496-1502.
22. **Hedger, S. C**., Nusbaum, H.C., & Hoeckner, B. (2013). Conveying movement in music and prosody. *PLOS One*, 10.1371/journal.pone.0076744

\* Co-First Author

**Book Chapters and Encyclopedia Entries**

1. **Van Hedger, S.C.**, & Johnsrude, I.S. (in press). Speech perception under adverse listening conditions. In A. Popper, A. Coffin (Eds.), *Springer Handbook of Auditory Research*. Springer, Cham.
2. **Van Hedger, S.C.**, & Nusbaum, H.C. (2018). Absolute pitch. In: J. Vonk, T. K. Shackelford (Eds.), *Encyclopedia of Animal Cognition and Behavior*. Springer, Cham.
3. Heald, S.L.M., **Van Hedger, S.C.**, & Nusbaum, H.C. (2017). Understanding sound: Auditory skill acquisition. *Psychology of Learning and Motivation, 67,* 53-93.

**CLASSROOM TEACHING EXPERIENCE**

**Instructor of Record**

**PSYC 24860 – The Musical Mind** (*University of Chicago*)

*Instructor*

Self-designed course (scope, aims, reading list, lectures, and assignments)

Prepared and gave nine lectures on a variety of topics (e.g., absolute pitch, musical syntax)

Led weekly discussion of recent and classic empirical papers in music cognition

**SOSC 14100 – Mind I** (*University of Chicago*)

Led a weekly discussion section of 19 students

Delivered a lecture (Title: The Musical Mind) to ~100 students

Responsible for all grading and assignment of final course grades for discussion section

**SOSC 14200 – Mind II** (*University of Chicago*)

Led a weekly discussion section of 19 students

Delivered a lecture (Title: Mechanisms of Musical Understanding) to ~100 students

Responsible for all grading and assignment of final course grades for discussion section

**Teaching Assistant**

**SOSC 14100, 14200, 14300 – Mind I, II, III** (*University of Chicago*)

Evaluated weekly response papers

Arranged individual meeting with students to discuss ideas from the course

**PSYC 20700 – Sensation and Perception** (*University of Chicago*)

Led weekly discussion sections of approximately 20 students

Delivered a lecture on Music Perception to approximately 60 undergraduates

**PSYC 20200 – Psychological Research Methods** (*University of Chicago*)

Led a weekly discussion section of 20 students

Delivered a lecture on Experimental Designs to approximately 75 undergraduates

Helped students design and conduct two out-of-class research projects

**Guest Lecturer**

**PSYCHOL 2115A – Introduction to Sensation & Perception** (*University of Western Ontario*)

Lecture Title:“How does sleep influence perceptual processes?”

**COMMSCI 4417A – Introduction to Hearing Science** (*University of Western Ontario*)

Lecture Title:“Perceptual Organization of Music”

**PSY 210 – Introduction to Psychological Science** (*Elmhurst College*)

Lecture Title:“Does this Taylor Swift sound sharp? Exploring pitch memory in the general population”

**MENTORSHIP EXPERIENCE**

**Research Mentor** 2010 - present*University of Chicago, University of Western Ontario*

Guided 20+ undergraduate students through conducting psychological research

Co-authored papers with 7 undergraduate students

**Psychology Honors Thesis Advising** 2013 - present

1. Mykayla Winspear (2019-2020)

*University of Western Ontario*

Title: The Influence of Talker Variability on Statistical Learning

1. Mackenzie Bacon (2018-2019)   
   *University of Western Ontario*Title: Memory for Words and Sentences: The Effect of Acoustical Degradation
2. Luke Clohisy (2017-2018)   
   *University of Chicago*   
   Title: Memory for popular music: Evidence for widespread tempo abilities and implicit pitch categories
3. Max Bluestone (2015- 2016)   
   *University of Chicago*   
   Title: The effects of semantic and temporal congruency on memory for audiovisual clips
4. Anders Hogstrom (2012-2013)   
   *University of Chicago*   
   Title: The sound of silence: Attention entrainment to isochronous and syncopated beats

**Practicum Advisor, Master’s Program in Computer Science (MPCS)** 2015 - 2016

*University of Chicago*

Advised two masters students in the design and execution of psychophysical projects

Evaluated students’ progress several times throughout the span of the projects

**PRISM Graduate Student Preceptor** 2012 - 2014

*Department of Psychology, University of Chicago*

Organized biannual “lab night” to help students find research opportunities on campus

Planned approximately 6 additional events each year to help students explore employment options

Held office hours for students to discuss how to become more involved in the Psychology major

**Research Consultant, Advanced Graduate Course** 2009 - 2010

*University of Chicago*

Served as primary research consultant for an advanced graduate course in multimedia perception

Assisted graduate students in the design, execution, and data analysis of independent research

**PEER-REVIEW ACTIVITIES**

**Ad-Hoc reviewer for:**

PNAS| Cognitive Science | eLife | Psychonomic Bulletin and Review | Brain and Language | Social Cognitive and Affective Neuroscience | Journal of Neurolinguistics | PLOS One | Scientific Reports | Frontiers in Neuroscience | Acta Psychologica | Journal of Experimental Psychology: Learning, Memory, and Cognition | The Journal of the Acoustical Society of America | Current Psychology | Brain Sciences | Biological Rhythm Research | STEM Fellowship Journal | International Conference on Music Perception and Cognition

**PROFESSIONAL ORGANIZATIONS**

The Society for Music Perception and Cognition | The Psychonomic Society | Society for the Neurobiology of Language | Association for Research in Otolaryngology | The Association for Psychological Science | The Acoustical Society of America | The American Psychological Association

**ACADEMIC SERVICE**

**Fulbright Scholarship Interviewer** 2012 – 2018

*The College, University of Chicago*

Annually review between 4-7 applications for Fulbright Scholarships

Interview applicants and submit recommendations to the university

**Workshop Coordinator (Topic: Perception and Understanding of Music)** 2011 - 2012  
*Council on Advanced Studies, University of Chicago*

Organized biweekly presentations of research given by graduate students and faculty

Managed a budget of $1500 for organizing outside speaker visits

**Travel and Research Committee Member** 2010 - 2014  
*Psychology Graduate Student Organization, University of Chicago*

Reviewed applications for travel and research related expenses among graduate students

Allocated funds based on merit and availability

**SELECTED CONFERENCE TALKS**

1. **Van Hedger, S.C.**, Heald, S.L.M., & Nusbaum, H.C. (2019). Robust absolute pitch memory in the general population: Evidence from popular melodies. *Society for Music Perception and Cognition Conference*. New York University, New York, NY
2. **Van Hedger, S.C.,** Heald, S.L., Koch, R., Nusbaum, H.C. (2015). Auditory working memory predicts individual differences in absolute pitch learning: Evidence from short- and long-term training. *Society for Music Perception and Cognition Conference*. Vanderbilt University, Nashville, TN
3. **Van Hedger, S.C.**, Heald, S.L., Nusbaum, H.C. (2015). Incidental absolute pitch learning in an interactive multi-modal environment. *Acoustical Society of America 170th Meeting.* Jacksonville, FL
4. **Van Hedger, S.C.**, Heald, S.L., Koch, R., Nusbaum, H.C. (2014). Absolute memory for popular songs is predicted by auditory working memory ability. *Acoustical Society of America 168th Meeting*. Indianapolis, IN
5. **Hedger, S.C.**, Heald, S.L., Nusbaum, H.C. (2013). Absolute pitch may not be so absolute. *Society for Music Perception and Cognition Conference*. Ryerson University, Toronto, ON
6. **Hedger, S.C.,** Klos, S., Nusbaum, H.C. (2013). Individual differences in the short- and long-term training of musical pitch. *Midwest Music Cognition Symposium*. The Ohio State University, Columbus, OH
7. **Hedger, S.C**., Hoeckner, B., Nusbaum, H.C. (2011). Music Can Convey Movement like Prosody in Speech. *Society for Music Perception and Cognition Conference*. Eastman School of Music, Rochester, NY
8. **Hedger, S.C.,** Heald, S.L., DeSouza, J., Hoeckner, B., Nusbaum, H.C. (2011). The Role of Vibrotactile Input in Musical Performance. *Franke Institute for the Humanities*. The University of Chicago, Chicago, IL
9. **Hedger, S.C**., Hoeckner, B., Nusbaum, H.C. (2011). The Sound of Motion in Music. *Midwest Cognitive Science Meeting*. Michigan State University, East Lansing, MI

**SELECTED POSTER PRESENTATIONS**

1. **Van Hedger, S.C.,** Heald, S.L.M., Nusbaum, H.C., Batterink, L.J., Davis, M.H., & Johnsrude, I.S. (2019). Learning different forms of degraded speech as a cognitive skill. *Annual Meeting of the Psychonomic Society,* Montreal, QC
2. **Van Hedger, S.C.,** Heald, S.L.M., & Nusbaum, H.C. (2019). Neural bases of note normalization in absolute pitch. *13th Annual Canadian Neuroscience Meeting,* Toronto, ON
3. **Van Hedger, S.C.**, & Nusbaum, H.C. (2019). Individual differences in absolute pitch performance: Contributions of working memory, musical expertise, and tonal language background. *42nd Annual Midwinter Meeting of the Association for Research in Otolaryngology*, Baltimore, MD
4. **Van Hedger, S.C.**, & Nusbaum, H.C. (2018). Individual differences in absolute pitch performance: Contributions of working memory, musical expertise, and tonal language background. *Annual Meeting of the Psychonomic Society*, New Orleans, LA
5. **Van Hedger, S.C.**, Heald, S.L.M., Huang, A., Rutstein, B., & Nusbaum, H.C. (2016). Telling in-tune from out-of-tune: Widespread evidence for implicit absolute intonation. *Annual Meeting of the Psychonomic Society*, Boston, MA
6. **Van Hedger, S.C.**, Heald, S.L., Wu, S., & Nusbaum, H.C. (2015). Judging the absolute pitch of novel recordings of familiar songs. *Annual Meeting of the Psychonomic Society*, Chicago, IL
7. **Van Hedger, S.C.**, Heald, S.L., Nusbaum, H.C. (2015). The effects of acoustic variability on absolute pitch categorization: Evidence for contextual tuning. *Acoustical Society of America 170th Meeting.* Jacksonville, FL
8. **Hedger, S.C.,** Nusbaum, H.C., Lescop, O., Wallisch, P., Hoeckner, B. (2013). Music can elicit a visual motion aftereffect: Evidence from behavior and fMRI. *Auditory Cognitive Neuroscience Society Meeting*, Tucson, AZ
9. **Hedger, S.C.,** Heald, S.L., Nusbaum, H.C. (2012). Absolute pitch may not be so absolute. *Annual Meeting of the Psychonomic Society*, Minneapolis, MN
10. **Hedger, S.C.,** Nusbaum, H.C., Lescop, O., Wallisch, P., Hoeckner, B. (2012). Music can elicit a visual motion aftereffect. *Association for Psychological Science Convention*, Chicago, IL
11. **Hedger, S.C.,** Palmer, C., Hogstrom, A., Nusbaum, H.C. (2012). The effects of sleep-dependent consolidation on motoric and abstract learning in music. *Midwest Cognitive Science Meeting.* Indiana University, Bloomington, IN

**WORKSHOPS**

1. **BrainsCAN Computational Core Methods Lunch** (*University of Western Ontario*)

Title: “An introduction to running web-based experiments using PsychoPy, jsPsych, and Pavlovia”

Co-Presenter: J. Paul Minda

**INVITED TALKS**

1. **Van Hedger, S.C.** (2019, April). Absolute pitch can be trained in some high-auditory working memory adults. *The 5th Learning and Plasticity (LaP) Meeting*. Äkäslompolo, Finland
2. **Van Hedger, S.C.** (2016, June). Pitch memory in adulthood: Individual differences, generalizations, and abstractions. *Musical Learning across the Lifespan Workshop*. University of Western Ontario. London, ON
3. **Van Hedger, S.C.** (2015, December). Telling sharp from flat: Pitch memory in the general population. DePauw University. Greencastle, IN
4. **Van Hedger, S.C.** (2015, July). Developing a framework for musical understanding. The University of Chicago. Chicago, IL

**REFERENCES**

1. **Howard Nusbaum, PhD**  
   Stella M. Rowley Professor of Psychology

Director, Chicago Center for Practical Wisdom

Center for Cognitive and Social Neuroscience

University of Chicago   
[h-nusbaum@uchicago.edu](mailto:h-nusbaum@uchicago.edu)

1. **Ingrid Johnsrude, PhD**

Western Research Chair

Director, The Brain and Mind Institute

Department of Psychology

University of Western Ontario

[ijohnsru@uwo.ca](mailto:ijohnsru@uwo.ca)

1. **Berthold Hoeckner, PhD**

Professor of Music and the Humanities in the College

University of Chicago

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