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Google Scholar Profile: <https://scholar.google.co.uk/citations?user=8fHqBoYAAAAJ>

Education

Ph.D., Psychology, *Cornell University*, Ithaca, 2016

M.A., Psychology, *Cornell University*, Ithaca, 2013

M.A., Linguistics and Cognitive Science, *University of Delaware*, Newark, 2009

B.A., Archaeological Studies, *University of Texas*, Austin, 2007

B.A., English, *University of Texas*, Austin, 2007

Positions

2019-Present: Assistant Professor - Department of Communication Sciences and Disorders, *University of Iowa*, Iowa City, US

2016-2019: Post-doctoral Research Associate - Department of Psychological Sciences, *University of Liverpool*, Liverpool, UK

Research Interests

Learning and Memory; Complex Skill Development; Language Learning; Language Processing; Computational Models of Language; Cognitive Neuroscience of Language

Publications (Peer-reviewed)

McCauley, S.M. & Christiansen, M.H. (2019). Modeling children's early linguistic productivity through the automatic discovery and use of lexically-based frames. In A. Goel, C. Seifert, & C. Freksa (Eds.) *Proceedings of the 41st Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.

McCauley, S.M., Bannard, C., Theakston, A., Davis, M., Cameron-Faulkner, T., & Ambridge, B. (2019). Multiword units predict non-inversion errors in children's wh-questions: "What corpus data can tell us?" In A. Goel, C. Seifert, & C. Freksa (Eds.) *Proceedings of the 41st Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.

McCauley, S.M. & Christiansen, M.H. (2019). Language learning as language use: A cross-linguistic model of child language development. *Psychological Review*, *126*, 1-51.

Trecca, F., **McCauley, S.M.**, Andersen, S.R., Bleses, D., Basbøll, H., Højen, A., Madsen, T., Ribu, I.S.B., & Christiansen, M.H. (2019). Segmentation of highly vocalic speech

via statistical learning: Initial results from Danish, Norwegian, and English. *Language Learning*, 69, 143-176.

- McCauley, S.M.** & Christiansen, M.H. (2017). Computational investigations of multiword chunks in language learning. *Topics in Cognitive Science*, 9, 637-652.
- McCauley, S.M.**, Isbilen, E.S., & Christiansen, M.H. (2017). Chunking ability shapes sentence processing at multiple levels of abstraction. In G. Gunzelmann, A. Howes, T. Tenbrink, & E.J. Davelaar (Eds.), *Proceedings of the 39th Annual Conference of the Cognitive Science Society* (pp. 2681-2686). Austin, TX: Cognitive Science Society.
- Isbilen, E.S., **McCauley, S.M.**, Kidd, E., & Christiansen, M.H. (2017). Testing statistical learning implicitly: A novel chunk-based measure of statistical learning. In G. Gunzelmann, A. Howes, T. Tenbrink, & E.J. Davelaar (Eds.), *Proceedings of the 39th Annual Conference of the Cognitive Science Society* (pp. 564-569). Austin, TX: Cognitive Science Society.
- Arnon, I., **McCauley, S.M.**, & Christiansen, M.H. (2017). Digging up the building blocks of language: Age-of-acquisition effects for multiword phrases. *Journal of Memory and Language*, 92, 265-280.
- Chater, N., **McCauley, S.M.**, & Christiansen, M.H. (2016). Language as skill: Intertwining comprehension and production. *Journal of Memory and Language*, 89, 244-254.
- McCauley, S.M.** & Christiansen, M.H. (2015). Chunking ability predicts on-line sentence processing. In D.C. Noelle & R. Dale (Eds.), *Proceedings of the 37th Annual Conference of the Cognitive Science Society* (pp. 1553-1558). Austin, TX: Cognitive Science Society.
- McCauley, S.M.** & Christiansen, M.H. (2014). Acquiring formulaic language: A computational model. *The Mental Lexicon*, 9, 419-436.
- McCauley, S.M.** & Christiansen, M.H. (2014). Prospects for usage-based computational models of grammatical development: Argument structure and semantic roles. *Wiley Interdisciplinary Reviews: Cognitive Science*, 5, 489-499.
- McCauley, S.M.** & Christiansen, M.H. (2014). Reappraising lexical specificity in children's early syntactic combinations. In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society* (pp. 1000-1005). Austin, TX: Cognitive Science Society.
- Ramscar, M., Dye, M., & **McCauley, S.M.** (2013). Expectation and error distribution in learning: The curious absence of "mouses" in adult speech. *Language*, 89, 760-793.
- Jolsvai, H., **McCauley, S.M.**, & Christiansen, M.H. (2013). Meaning overrides frequency in idiomatic and compositional multiword chunks. In M. Knauff, M. Pauen, N. Sebanz, & I. Wachsmuth (Eds.), *Proceedings of the 35th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
- McCauley, S.M.** & Christiansen, M.H. (2013). Towards a unified account of

comprehension and production in language development. *Behavioral and Brain Sciences*, 36, 366-367.

McCauley, S.M., Hestvik, A., & Vogel, I. (2013). Perception and bias in the processing of compound versus phrasal stress: Evidence from event-related brain potentials. *Language and Speech*, 56, 23-44.

McCauley, S.M. & Christiansen, M. H. (2011). Learning simple statistics for language comprehension and production: The CAPPUCCINO model. In L. Carlson, C. Hölscher, & T. Shipley (Eds.), *Proceedings of the 33rd Annual Conference of the Cognitive Science Society* (pp. 1619-1624). Austin, TX: Cognitive Science Society.

Manuscripts under Review/Revision

Jolsvai, H., **McCauley, S.M.**, & Christiansen, M.H. (under revision). *Meaningfulness beats frequency in multiword chunk processing*.

Isbilen, E.I., **McCauley, S.M.**, Kidd, E., & Christiansen, M.H. (submitted). *Statistically-induced chunking recall: A memory-based approach to statistical learning*.

Book Chapters

McCauley, S.M., Monaghan, P., & Christiansen, M.H. (2015). Language emergence in development: A computational perspective. In B. MacWhinney & W. O'Grady (Eds.), *Handbook of Language Emergence*. Hoboken, NJ: Wiley-Blackwell.

Conference Presentations

McCauley, S.M., Bannard, C., Theakston, A., Davis, M., Cameron-Faulkner, T., & Ambridge, B. (2019, November). *Multiword Units Predict Children's Non-inversion Errors in Wh- Question Formation*. Talk to be presented at the 44th Annual Boston University Conference on Language Development (BUCLD), Boston, MA.

Ambridge, B., Doherty, L., Maitreyee, R., Bannard, C., **McCauley, S.M.**, Kawakami, A., Samanta, S., Arnon, I., Berman, R., Zicherman, S., Bekman, D., Efrati, A., Narasimhan, B., Nair, R.N., Sharma, D.M., Fukumura, K., Tatsumi, T., Campbell, S., Saito, M., Pye, C., Pedro, P.M., Pixabaj, S.F.C., Peliz, M.M. & Mendoza, M.J. (2019, November). *Disappearing Causative Overgeneralization Errors Across Five Languages: The Roles of Verb Semantics and Statistical Preemption*. Poster to be presented at the 44th Annual Boston University Conference on Language Development (BUCLD), Boston, MA.

McCauley, S.M., Bannard, C., Theakston, A., Davis, M., Cameron-Faulkner, T., & Ambridge, B. (2019, July). *Multiword Units Predict Non-inversion Errors in Children's Wh- Questions: "What Corpus Data Can Tell Us?"* Talk presented at the 41st Annual Conference of the Cognitive Science Society, Montreal, Canada.

McCauley, S.M. & Christiansen, M.H. (2019, July). *Modeling Children's Early Linguistic Productivity Through the Automatic Discovery and Use of Lexically-based*

Frames. Talk presented at the 41st Annual Conference of the Cognitive Science Society, Montreal, Canada.

McCauley, S.M., Bannard, C., Theakston, A., Davis, M., Cameron-Faulkner, T., & Ambridge, B. (2019, July). *Multiword Units Predict Non-inversion Errors in Children's Wh-questions: "What Corpus Data Can Tell Us?"* Talk presented at the Child Language Symposium, Sheffield, United Kingdom.

Isbilen, E.S., **McCauley, S.M.**, Kidd, E., & Christiansen, M.H. (2017, November). *Statistically-Induced Chunking: A Novel Memory-Based Measure of Statistical Learning*. Invited talk at the McDonnell Foundation Workshop on The Future of Statistical Learning, the Haskins Labs, New Haven, CT.

McCauley, S.M., & Christiansen, M.H. (2017, September). *Modeling the Role of Predictive vs. Recognition-based Processing in Acquisition*. Talk presented at the 23rd Architectures and Mechanisms of Language Processing (AMLaP) Conference, Lancaster, United Kingdom.

McCauley, S.M., Isbilen, E.S., & Christiansen, M.H. (2017, September). *Individual Differences in Chunking Ability Predict Sentence Processing at Multiple Levels of Abstraction*. Poster presented at the 23rd Architectures and Mechanisms of Language Processing (AMLaP) Conference, Lancaster, United Kingdom.

Isbilen, E.S., **McCauley, S.M.**, Kidd, E., & Christiansen, M.H. (2017, September). *Statistical Learning as Chunking: A Novel Memory-Based Measure of Statistical Learning*. Poster presented at the 23rd Architectures and Mechanisms of Language Processing (AMLaP) Conference, Lancaster, United Kingdom.

McCauley, S.M., Isbilen, E.S., & Christiansen, M.H. (2017, July). *Chunking Ability Shapes Sentence Processing at Multiple Levels of Abstraction*. Poster presented at the 39th Annual Conference of the Cognitive Science Society, London, United Kingdom.

Isbilen, E.S., **McCauley, S.M.**, Kidd, E., & Christiansen, M.H. (2017, July). *Testing Statistical Learning Implicitly: A Novel Chunk-Based Measure of Statistical Learning*. Talk presented at the 39th Annual Conference of the Cognitive Science Society, London, United Kingdom.

Arnon, I., **McCauley, S.M.** & Christiansen, M.H. (2017, July). *Age-of-acquisition Effects for Multiword Phrases*. Poster presented at the 14th International Congress for the Study of Child Language (IASCL), Lyon, France.

Arnon, I., **McCauley, S.M.** & Christiansen, M.H. (2017, March). *Digging Up the Building Blocks of Language: Age-of-acquisition Effects for Multiword Phrases*. Poster presented at the 30th Annual CUNY Conference on Human Sentence Processing, MIT, Cambridge, MA.

Isbilen, E.S., **McCauley, S.M.**, Kidd, E., & Christiansen, M.H. (2016, June). *Testing Implicit Statistical Learning Implicitly*. Poster presented at the Fifth Implicit Learning Seminar, Lancaster University, U.K.

- McCauley, S.M.** & Christiansen, M.H. (2015, November). *Individual Differences in Experience-based Chunking Predict Online Language Processing*. Talk delivered at the 56th Annual Meeting of the Psychonomic Society, Chicago, IL.
- Arnon, I., **McCauley, S.M.** & Christiansen, M.H. (2015, November). *Digging Up the Building Blocks of Language: Age-of-acquisition Effects for Multiword Phrases*. Poster presented at the 40th Boston University Conference on Language Development, Boston, MA.
- McCauley, S.M.** & Christiansen, M.H. (2015, July). *Chunking Ability Predicts On-line Sentence Processing*. Talk delivered at the 37th Annual Conference of the Cognitive Science Society, Pasadena, CA.
- Trecca, F., Callaway, F., **McCauley, S.M.**, & Christiansen, M.H. (2015, June). *Phonology Affects Statistical Learning in Artificial Speech Segmentation: Insights From Behavioral Experiments and Computational Modeling*. Poster presented at the International Conference on Interdisciplinary Advances in Statistical Learning, San Sebastian, Spain.
- I. Arnon, **S.M. McCauley**, & M.H. Christiansen (2015, March). *Digging Up the Building Blocks of Language: Age-of-acquisition Effects for Multiword Phrases*. Poster presented at 28th Annual CUNY Conference on Human Sentence Processing, University of Southern California, Los Angeles, CA.
- Jolsvai, H., **McCauley, S.M.**, & Christiansen, M.H. (2014, November). *Evidence Against Separate Processing of Idiomatic and Compositional Phrases*. Talk delivered at the 55th Annual Meeting of the Psychonomic Society, Long Beach, CA.
- McCauley, S.M.**, & Christiansen, M.H. (2014, September). *On-line Distributional Learning in Language Development*. Talk presented at the workshop “Modeling the Mechanisms: Challenges and Aims for Usage-based Computational Models of Grammatical Development” at the 8th International Conference on Construction Grammar (ICCG8), University of Osnabrück, Germany.
- McCauley, S.M.**, & Christiansen, M.H. (2014, July). *Reappraising Lexical Specificity in Children's Early Syntactic Combinations*. Talk delivered at the 36th Annual Conference of the Cognitive Science Society, Quebec City, Canada.
- Jolsvai, H., **McCauley, S.M.**, & Christiansen, M.H. (2013, August). *Meaning Overrides Frequency in Idiomatic and Compositional Multiword Chunks*. Talk delivered at the 35th Annual Conference of the Cognitive Science Society, Berlin, Germany.
- McCauley, S.M.** & Christiansen, M.H. (2013, June). *Acquiring Formulaic Language: A Cross-linguistic Model of Children's Comprehension and Production*. Talk presented in the Bridging the Methodological Divide: Cognitive Linguistic and Psycholinguistic Approaches to Formulaic Language theme session at the 12th International Cognitive Linguistics Conference, Edmonton, Canada.
- Jolsvai, H., **McCauley, S.M.**, & Christiansen, M.H. (2013, June). *The Relative Importance of Meaning and Frequency in the Processing of Formulaic Expressions*.

Talk presented in the Bridging the Methodological Divide: Cognitive Linguistic and Psycholinguistic Approaches to Formulaic Language theme session at the 12th International Cognitive Linguistics Conference, Edmonton, Canada.

McCauley, S.M. & Christiansen, M.H. (2012, November). *Language Learning as Language Use: A Computational Model of Children's Comprehension and Production of Language*. Talk delivered at the 53rd Annual Meeting of the Psychonomic Society, Minneapolis, MN.

McCauley, S.M. & Christiansen, M.H. (2011, July). *Learning Simple Statistics for Language Comprehension and Production: The CAPPUCCINO Model*. Talk delivered at the 33rd Annual Conference of the Cognitive Science Society, Boston, MA.

McCauley, S.M. & Hestvik, A. (2010, April). *When Prosody Cues Syntactic Structure, Only to be Ignored: An ERP Study of the Compound/Phrasal Stress Distinction in English*. Poster presented at the 23rd Annual CUNY Conference on Human Sentence Processing, New York, NY.

McCauley, S.M., Hestvik, A., & Vogel, I. (2010, April). *When Prosodic Perception is Overridden: An ERP Study of the Compound/Phrasal Stress Distinction in English*. Poster presented at the 17th Annual Meeting of the Cognitive Neuroscience Society, Montreal, Canada.

Blesch, R., Bush, L., Martin, L., **McCauley, S.**, Sison, N., Smith, D., Smith, H., & Whelan, C. (2005). *Flotation Results from the TAS 2005 Field School, Lamar County, Texas*. Poster presented at the 76th Annual Meeting of the Texas Archeological Society.

Invited Presentations

M.H. Christiansen & **S.M. McCauley** (2013, April). *Language Acquisition is Learning to Process: Theoretical Considerations and Computational Modeling*. Invited talk at the workshop: What can we do with 500-billion words? Indiana University, Bloomington, IN.

Teaching Experience

Instructor at University of Iowa:

Basic Neuroscience for Speech and Hearing, Fall 2019

Developmental Language Disorders, Fall 2019

Instructor at Cornell University:

Introduction to Cognitive Science, Summer 2016

Great Debates in the History of Psychology, Fall 2015, Spring 2016

Brains, Genes, and Robots: The Psychology of Language, Fall 2013

Invited Guest Lectures:

"Modeling Language Acquisition," Psychology of Language, Cornell University, Spring,

2015

“*Artificial Neural Networks*,” Psychology of Language, Cornell University, Spring, 2015

“*Language Acquisition*,” Cognitive Psychology, Cornell University, Spring, 2012

“*Computational Models of Language Acquisition*,” Psychology of Language, Cornell University, Spring, 2011

Teaching Assistant at Cornell University:

Introduction to Psychology, Summer 2015

Introduction to Biological Psychology (with Timothy DeVogd), Fall 2014

Introduction to Biological Psychology (with David Smith), Fall 2012

The Individual in the Social World (with Tom Gilovich), Summer 2012

Cognitive Psychology (with Shimon Edelman), Spring 2012

Statistics and Research Design (with Thomas Cleland), Fall 2011

Psychology of Language (with Morten H. Christiansen), Spring 2011

Perception (with James E. Cutting), Fall 2010

Paid Consultancy

Haskins Laboratories (2013-2014)

Service

Workshops and Symposia:

2014: Co-organizer of a workshop, *Modeling the Mechanisms: Challenges and Aims for Usage-based Computational Models of Grammatical Development*, held at the 8th International Conference on Construction Grammar (ICCG8), University of Osnabrück, Germany

Reviewing:

Ad hoc reviewer, *Cognition, Cognitive Science, Complexity, Topics in Cognitive Science (TopICS), Corpora, Language Learning, Frontiers in Psychology, Developmental Science*

Conference reviewing:

Ad hoc reviewer, *Annual Conference of the Cognitive Science Society*: 2015, 2016, 2017

Committee member, *Conference on Computational Natural Language Learning (CoNLL)*, 2015

Department of Communication Sciences and Disorders, University of Iowa:

2019-2020: Undergraduate Studies Committee; Admissions Committee

Department of Psychology, Cornell University:

2013: System administrator for SUSAN experiment recruitment system, Department of Psychology, Cornell University.

2012: Founding member of the Cornell Language Sciences Research Group (cross-departmental reading group), Cornell University.

2012: Student Representative: Graduate Admissions Committee, Department of Psychology, Cornell University.

2012: Student Representative: Cognitive Science Faculty Search Committee, Department of Psychology, Cornell University.

Research and Academic Field Experience

Graduate Student, 2010-2016: Cognitive Neuroscience Laboratory, *Cornell University*

Projects: Computational modeling studies on language acquisition, processing, and evolution; behavioral experiments on language learning and processing.

Principal Investigator: Dr. Morten H. Christiansen

Graduate Researcher, 2008-2009: Experimental Psycholinguistics Laboratory, *University of Delaware*

Projects: Coordination of event-related potential (ERP) experiments on sentence processing, including experimental design and data analysis. Designed, ran, and published an original study.

Principal Investigator: Dr. Arild Hestvik

Research Assistantship, Spring 2007: Markman Similarity and Cognition Laboratory, *University of Texas*

Project: Collection and codification of data for a study on idea generation and creativity.

Principal Investigator: Dr. Arthur B. Markman, editor of *Cognitive Science*, journal of the Cognitive Science Society

Archaeological Excavation, 2007 Field Season: Old Town Ruin (LA1113), Luna County, New Mexico

Project: Geophysical survey and excavation of a Mimbres Black Mountain Phase component, including pueblo structures and burials.

Principal Investigator: Dr. Darrell G. Creel, director of the Texas Archaeological Research Laboratory

Research Assistantship, Spring 2007: Texas Archaeological Research Laboratory, *University of Texas*

Project: Creation of a GIS database from data collected during Harvard's 1920s excavation of the Swartz Ruin, a Mimbres site in Grant County, New Mexico. Project also included detailed statistical analysis of data relating to the site's 1,000+ burials.

Principal Investigator: Dr. Darrell G. Creel

Internship, Fall 2005: Texas Archaeological Research Laboratory, *University of Texas*

Project: Reprocessing and macrobotanical analysis of plant remains from the 2005 Texas Archaeological Society field school at the Gene and Ruth Ann Stallings site (41LR297). Findings were presented at the Texas Archaeological Society 76th Annual Meeting (October 28 – 30, 2005).

Principal Investigator: Dr. Leslie Bush

Technical Expertise:

Programming Languages:

Python: 9 years of academic experience

R: 8 years of academic experience

C/C++ : 3 years of academic experience

MATLAB/Octave : 3 years of academic experience

Experimental Design / Event-related potential (ERP) software:

OpenSesame: 2 years of academic experience

E-Prime: 7 years of academic experience

EGI NetStation: 2 years of academic experience

EEGLAB (MATLAB toolbox): 2 years of academic experience

Selected Fellowships and Awards:

Summer, 2015 – **Robert J. Glushko Travel Award** – *Cognitive Science Society*

Summer, 2014 – **Cognitive Studies Summer Research Fellowship** – *Cornell University*

Summer, 2011 – **Cognitive Studies Summer Research Fellowship** – *Cornell University*

Fall, 2009 – **Tuition Scholar Award** – *University of Delaware*

Fall, 2003 & Spring, 2004 – **Freshman Academic Scholarship** – *University of Texas*

Memberships:

Cognitive Neuroscience Society (former)

Cognitive Science Society (current)

Professional Archaeological Field Experience

Archaeological Excavation / Data Recovery, Feb.-Jul. 2008: Testing and excavation of

Chaco sites in northwest New Mexico

Employer: Southwest Archaeological Consultants

Archaeological Excavation / Data Recovery, Aug.-Dec. 2007: Excavation of various

Archaic-period components of sites in southwest Texas, including hearths, middens,
and occupational surfaces

Employer: PBS&J, Cultural Resources Division