

# Abhilasha A. Kumar, Ph.D.

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[website](#)



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## Academic Appointments

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<b>Assistant Professor</b> , Psychology Bowdoin College, ME	2022 - present
<b>Postdoctoral Research Associate</b> Indiana University, Bloomington, IN	2021 - 2022

## Education

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<b>Ph.D.</b> in Psychological & Brain Sciences Washington University in St. Louis, MO	2021
<b>M.A.</b> in Psychological & Brain Sciences Washington University in St. Louis, MO	2018
<b>M.A.</b> in Liberal Arts (Computer Science and Psychology) Ashoka University, India	2016
<b>Integrated M. Tech</b> in Mathematics & Computing IIT Delhi, India	2014

## External Funding

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“Collaborative Research: CompCog: Modeling Search within the Mental Lexicon” National Science Foundation (BCS-PAC), Award No. 2235362, \$448,828 Lead PI; Collaborative Grant w/ Michael Jones, Indiana University	2023-26
Gorilla and Prolific Multiplayer Research Grant, \$2000	2024

## Internal Funding

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<b>Faculty Research Award</b> Bowdoin College, \$3,635	2023
<b>Course Enrichment Award</b> Bowdoin College, \$1600	2022, 2023

## Manuscripts in Preparation

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undergraduate author,





conference paper,



shared authorship,



theoretical review

Hambric, C. E.,  Chun, S.,  Sides, J., Holmes, K, **Kumar, A.A.** (in prep.). Boundary conditions in mental representations of object-state changes: A non-replication and extension.

**Kumar, A.A.**, Steyvers, M. (in prep.). Pragmatic inference in helpful scenarios.

**Kumar, A.A.** (in prep.). Novel word learning from co-occurrence.

## Manuscripts Under Review









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**Kumar, A.A.**, Hawkins, R.D. (*under 2<sup>nd</sup> review*). Lexical search and social reasoning jointly explain communication in associative reference games. *Journal of Experimental Psychology: General*. Preprint DOI: <https://doi.org/10.31234/osf.io/3a9kq>.

**Kumar, A.A.**, Lundin, N.B., Jones, M.N. (*under 2<sup>nd</sup> review*). What's in my cluster? Evaluating automated clustering methods to understand idiosyncratic search behavior in verbal fluency. *Journal of Memory and Language*. Preprint DOI: <https://doi.org/10.31234/osf.io/9anmr>.

## Peer-Reviewed Publications

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18.  **Kumar, A.A.**,  Kang, M., Kronenberger, W.G., Jones, M.N., Pisoni, D. (2024). Structure and process-level lexical interactions in memory search: A case study of individuals with cochlear implants and normal hearing. In *Proceedings of the 46th Annual Meeting of the Cognitive Science Society (Vol. 46)*. DOI: <https://escholarship.org/uc/item/7vn9q9hh>.
17. **Kumar, A. A.**, Apsel, M., Zhang, L.,  Xing, N., & Jones, M. N. (2024). *forager*: A Python package and web interface for modeling mental search. *Behavior Research Methods*, 56(6), 6332-6348. DOI: <https://link.springer.com/article/10.3758/s13428-023-02296-x>.
16.  **Kumar, A.A.**, Steyvers, M. (2023). Help me help you: A computational model for goal inference and action planning. In *Proceedings of the 45<sup>th</sup> Annual Meeting of the Cognitive Science Society (Vol. 45)*. DOI: <https://escholarship.org/uc/item/2rk2b4sm>.
15. Coretta, S., Casillas, J. V., Roessig, S., Franke, M., Ahn, B., Al-Hoorie, A. H., ... **Kumar, A.A.**,... & Roettger, T.B. (2023). Multidimensional signals and analytic flexibility: Estimating degrees of freedom in human speech analyses. *Advances in Methods and Practices in Psychological Sciences*. 6(3), 25152459231162570. DOI: <https://doi.org/10.1177/25152459231162567>.
14.  **Kumar, A.A.**, Lundin, N. B., Jones, M.N. (2022). Mouse-mole-vole: The inconspicuous benefits of phonology during retrieval from semantic memory. In *Proceedings of the 44<sup>th</sup> Annual Meeting of the Cognitive Science Society (Vol. 44)*. DOI: <https://escholarship.org/uc/item/4164178j>.
13.  Apsel, M., **Kumar, A.A.**, Jones, M.N. (2022). Finding the right words: A computational model of cued lexical retrieval. In *Proceedings of the 44<sup>th</sup> Annual Meeting of the Cognitive Science Society (Vol. 44)*. DOI: <https://escholarship.org/uc/item/4kt1362j>.
12.  Kovacs, C.J.,  Wilson, J., **Kumar, A.A.** (2022). Fast and frugal memory search for communication. In *Proceedings of the 44<sup>th</sup> Annual Meeting of the Cognitive Science Society (Vol. 44)*. DOI: <https://escholarship.org/uc/item/3301p4cj>.
11. Rosen, A. C., Lavacot, J. A., Porter, I. M., Chao, S. Z., Bikson, M., Kumar, A. A., & Cardenas, V. A. (2022). TDCS in a patient with dreadlocks: Improvements in COVID-19 related verbal fluency dysfunction. *Brain Stimulation: Basic, Translational, and Clinical Research in Neuromodulation*, 15(1), 254-256. DOI: [https://www.brainstimjrnl.com/article/S1935-861X\(22\)00005-5/](https://www.brainstimjrnl.com/article/S1935-861X(22)00005-5/).

10. **Kumar, A.A.**, Steyvers, M., Balota, D.A. (2021). Semantic memory search and retrieval in a novel cooperative word game: A comparison of associative and distributional semantic models. *Cognitive Science*, 45(10), e13053. DOI: <https://doi.org/10.1111/cogs.13053>.
9.  **Kumar, A.A.**, Garg, K., Hawkins, R.D. (2021). Contextual flexibility guides efficient communication in a cooperative word game. In *Proceedings of the 43<sup>rd</sup> Annual Meeting of the Cognitive Science Society (Vol. 43)*. DOI: <https://escholarship.org/uc/item/92m138t3>.
8.  **Kumar, A. A.**, Steyvers, M., & Balota, D. A. (2022). A critical review of network-based and distributional approaches to semantic memory structure and processes. *Topics in Cognitive Science*, 14(1), 54-77. DOI: <https://doi.org/10.1111/tops.12548>.
7.  **Kumar, A. A.** (2021). Semantic memory: A review of methods, models, and current challenges. *Psychonomic Bulletin & Review*, 28(1), 40-80. DOI: <https://doi.org/10.3758/s13423-020-01792-x>.
6. **Kumar, A.A.**, Balota, D.A., Steyvers, M. (2020). Distant connectivity and multiple-step priming in large-scale semantic networks. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 46 (12), pp. 2261-2276. DOI: <https://psycnet.apa.org/2019-72838-001>.
5. **Kumar, A.A.**, Balota, D.A. (2020). Attempted prime retrieval is a double-edged sword: facilitation and disruption in repeated lexical retrieval. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 46(8), 1505–1532. DOI: <https://psycnet.apa.org/2020-15198-001>.
4.  **Kumar, A.A.**, Balota, D.A., Steyvers, M. (2019). Distant concept connectivity in network-based and spatial word representations. In *Proceedings of the 41<sup>st</sup> Annual Meeting of the Cognitive Science Society*, 1348-1354. DOI: <https://escholarship.org/uc/item/4tn149vv>.
3.  **Kumar, A.A.**,  Balota, D.A., Habbert, J., Scaltritti, M., Maddox, G.B. (2019). Converging semantic and phonological information in lexical retrieval and selection in young and older adults. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 45(12), 2267–2289. DOI: <https://psycnet.apa.org/2019-14554-001>.
2. **Kumar, A.A.**, Hangal, S., Rosen, A.C. (2019). Autobiographical recall of personally familiar names and temporal information in e-mails: an automatic analytic approach using e-mail communications. *Behavior Research Methods*, 51(4), 1510-1530. DOI: <https://doi.org/10.3758/s13428-018-1182-9>.
1. Maddox, G.B., Balota, D.A., **Kumar, A.A.**, Millar, P.,  Churchill, L. (2019). The immediate benefits and long-term costs of briefly presented primes on episodic recollection. *Journal of Memory and Language*. 106, 77-94. DOI: <https://doi.org/10.1016/j.jml.2019.02.003>.

## Presentations

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### Invited research talks

**Kumar, A.A.** (Spring 2025, upcoming). Unifying search and collaboration using gamified methods. *Dartmouth College, NH*.

**Kumar, A.A.** (February 2024, virtual). Search at multiple scales: Insights from individuals, dyads, and groups. *National University of Singapore, Singapore*.

- Kumar, A.A.** (October 2023, virtual). What is in a cluster? *Cognitive and Comparative Psychology Group, Brooklyn College & CUNY, NY.*
- Kumar, A.A.** (June 2023, virtual). Search and inference in cooperative contexts. *Computational Cognitive Science Lab, Princeton University, NJ.*
- Kumar, A.A.** (April 2023, virtual). Modeling search, communication, and cooperation. *Department of Psychology, Claremont McKenna College, CA.*
- Kumar, A.A.** (November 2022). Search and communication within the mental lexicon. *Colby College.*
- Kumar, A.A.** (June 2022, virtual). Careers in cognitive science. *Ashoka University, India.*
- Kumar, A.A.** (April 2021, virtual). Computational models of semantic memory representation, search, and retrieval.” *Indiana University, IN.*
- Kumar, A.A.** (November 2020, virtual). Semantic memory: Representation, search, and retrieval. *Bowdoin College, ME.*
- Kumar, A.A.** (September 2020, Virtual). Computational models of semantic memory. The Stanford Language and Cognition Lab, *Stanford University, CA.*
- Kumar, A.A.** (October 2020, virtual). Combining structure and process models of semantic memory. Computational Behavioral Science Lab. *University of Pennsylvania, PA.*

### **Conference talks (lead speaker)**

- Kumar, A.A.** (July 2024). Memory search at multiple scales: Insights from individuals, dyads, and groups, *Dynamics of Memory Search Symposium, 46<sup>th</sup> Annual Meeting of the Cognitive Science Society*, Rotterdam, Netherlands.
- Kumar, A.A., Steyvers, M.** (July 2023, Virtual). Help me help you: A computational model for goal inference and action planning. *45<sup>th</sup> Annual Meeting of the Cognitive Science Society*, Sydney, Australia.
- Kumar, A.A., Lundin, N.B., Jones, M.N.** (July 2023, Virtual). Mouse-mole-vole: The inconspicuous benefits of phonology during retrieval from semantic memory, *44<sup>th</sup> Annual Meeting of the Cognitive Science Society*, Toronto, Canada.
- Kumar, A.A.** (July 2021). Language Games: A Window into Complex Cognition. *Games for Intelligence Workshop, 43<sup>rd</sup> Annual Meeting of the Cognitive Science Society (Virtual Conference).*
- Kumar, A.A.** (July 2021). Fostering international student participation in cognitive science, *International Cognitive Science Affinity Group, 43<sup>rd</sup> Annual Meeting of the Cognitive Science Society (Virtual Conference).*
- Kumar, A.A., Balota, D.A.** (October 2019). Priming for Distant Concepts: Insights from Semantic Networks, Behavior, Brain, and Cognition Brownbag, *Washington University in St. Louis*, St. Louis, MO.

- Kumar, A.A.** (June 2019). What’s in an Abstract? Institute for Public Health Summer Research

Program, *Washington University in St. Louis*, St. Louis, MO.

**Kumar, A.A.** (April 2019). Distant Connectivity in three 5000-word Semantic Networks in English". *Midwestern Psychological Association*, Chicago, IL.

**Kumar, A.A.**, Balota, D.A. (December 2018). Lexical Retrieval Inhibition from Semantically Related Retrieval Primes, Aging and Development Brownbag, *Washington University in St. Louis*, St. Louis, MO.

**Kumar, A.A.** (October 2018). That Word at the Tip of Your Tongue. Public Health and Aging Session, *McDonnell Academy 7<sup>th</sup> International Symposium*, Beijing, China.

**Kumar, A.A.**, Balota, D.A. (May 2018). Network Path Length as a Measure of Semantic Distance in a 5000-word English Lexicon, Data Blitz, *Show Me State Conference on Cognition*, St. Louis, MO.

**Kumar, A.A.**, Rosen, A. C., Hangal, S. (March 2017). Remembering Names from Emails: Cognitive Experiments with Life-Logs (CELL): A Novel Approach to Study Name Retrieval, *Personal Digital Archiving Conference*, Stanford University, Palo Alto, CA

**Kumar, A.A.**, Rosen, A. C., Hangal, S. (July 2016). Cognitive Experiments on Life-Logs (CELL): A New Approach to Study Recall of Personally Familiar Proper-Names using Emails, *International Conference on Memory*, Budapest, Hungary.

## Posters

**Kumar, A.A.**, Hambric, C. (upcoming, November 2024). Task and resource constraints modulate memory search: Evidence from gamified experiments with individuals, groups, and dyads. *Psychonomic Society 65th Annual Meeting*, *Psychonomic Society*, New York, NY.



Lim, R., Cooney, A., Hambric, C., **Kumar, A.A.** (upcoming, November 2024). Group differences in lexical source use and clustering during memory search. *Psychonomic Society 65th Annual Meeting*, *Psychonomic Society*, New York, NY.



Lim, R., **Kumar, A.A.** (October 2024). CompCog: Modeling search within the mental lexicon. *President's Research Symposium*, *Bowdoin College*, Maine.



Cooney, A., **Kumar, A.A.** (October 2024). Structure-level lexical interactions in memory search across multiple domains: A case study of normal hearing individuals and those with cochlear implants. *President's Research Symposium*, *Bowdoin College*, Maine.

**Kumar, A.A.**, Kang, M., Kronenberger, W.G., Jones, M.N., Pisoni, D. (2024). Structure and process-level lexical interactions in memory search: A case study of individuals with cochlear implants and normal hearing. *46th Annual Meeting of the Cognitive Science Society*, Rotterdam.



Sides, J., **Kumar, A.A.** (November 2023). Revisiting the Mental Representation of Object Properties and State Change in Situation Models. *Psychonomic Society 64th Annual Meeting*, *Psychonomic Society*, San Francisco, CA.

Apfel, M., **Kumar, A.A.**, Jones, M.N. (July 2022). Finding the right words: A computational

model of cued lexical retrieval. *44<sup>th</sup> Annual Meeting of the Cognitive Science Society*, July 2022, Toronto.

**Kumar, A.A.** (November 2021). Probing Memory Representations through an Interactive Language Game, *Trends in Psychology Summit 2021*, Virtual.

**Kumar, A.A.**, Balota, D.A., (November 2021). Modeling Distributional Structure and Spreading Activation in Retrieval Tasks, *Psychonomic Society 62nd Annual Meeting, Psychonomic Society*, Virtual.

**Kumar, A.A.**, Balota, D.A., (November 2020). Searching Semantic Memory for Conceptual Associates, *Psychonomic Society 61st Annual Meeting, Psychonomic Society*, Virtual.

**Kumar, A.A.**, Balota, D.A., Steyvers, M. (November 2019). Evaluating Association Networks and Distributional Semantic Models in a Cooperative Word Game, *Psychonomic Society 60th Annual Meeting, Psychonomic Society*, Montreal, Canada.



Albertina, E., **Kumar, A.A.**, Balota, D.A. (April 2019). Comparing Semantic Models using a Cooperative Word Game. *Undergraduate Research Symposium, Washington University in St. Louis*, MO.



Mutchler, Z., **Kumar, A.A.**, Balota, D.A. (April 2019). The Benefits and Costs of Repeated Retrieval from Semantic Memory. *Undergraduate Research Symposium, Washington University in St. Louis*, MO.

**Kumar, A.A.**, Balota, D.A., Steyvers, M. (November 2018). Distant Semantic Network Connectivity and Semantic Priming: Evidence from a 5000-word Semantic Network, *Psychonomic Society 59th Annual Meeting, Psychonomic Society*, New Orleans, LA.



Albertina, E., **Kumar, A.A.**, Balota, D.A. (October 2018). Investigating Network Connectivity for Distant Concepts using a 5000-word Semantic Network in English. *Undergraduate Research Symposium, Washington University in St. Louis*, MO.



Steiner, R., **Kumar, A.A.**, Balota, D.A. (May 2018). Effects of Priming on Immediate and Delayed Episodic Memory Retrieval. *Mind, Brain, and Behavior Symposium, Washington University in St. Louis*, MO.

**Kumar, A.A.**, Balota, D.A. (May 2018). Prime Retrieval Failure Disrupts Lexical Retrieval to Definitions in Younger and Older Adults, *2018 Cognitive Aging Conference*, Atlanta, GA.

**Kumar, A.A.**, Balota, D.A., Habbert, J., Scaltritti, M., Maddox, G.B. (November 2017). Priming Lexical Retrieval to Definitions in Younger and Older Adults, *Psychonomic Society 58th Annual Meeting, Psychonomic Society*, Vancouver, British Columbia, Canada.

**Kumar, A.A.**, Hangal, S., Piratla, V., Rosen, A.C. (July 2017). Whom Did I Send This Message To: An Automatic Analytic Approach to 59000 Email Communications, *2017 Leading Edge Workshop: Beyond the Lab: Using Big Data to Discover Principles of Cognition, Psychonomic Society*, Madison, WI.

## Teaching Experience

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### Instructor, Bowdoin College

Data Analysis (PSYC 2520)	Spring 2024
Cognition: Methods and Models (PSYC 2040)	Spring 2023, Spring 2024
Laboratory in Cognitive Science (PSYC 2740)	Fall 2022, Fall 2023, Fall 2024
Intelligent Minds and Machine (PSYC 3043)	Fall 2022, Fall 2023, Fall 2024

### Research mentoring and supervision, Bowdoin College

#### Summer 2024

Amanda Cooney – '26 Psychology major and Computer Science minor  
 Richard Lim – '26 Prospective Computer Science and Mathematics major

#### Spring 2024

William Warlick – '24 Computer Science and Philosophy major (NSF Research Fellow)  
 Mingi Kang – '26 Computer Science and Mathematics major (NSF Research Fellow)

#### Fall 2023

Stephanie Chun – '24 Neuroscience major, Asian Studies minor (Independent Study)  
 Ulemj Munkhtur – '26 Computer Science and Economics major (Independent Study)  
 Carrie Zou – '24 Psychology and Economics major (Independent Study)  
 Simon Thomas – '25 Physics and Hispanic Studies major (Research Assistant)  
 Mingi Kang – '26 Computer Science and Mathematics major (Research Assistant)

#### Spring 2023

Thomas Mazzuchi – '23 Psychology and Mathematics major (Honors)  
 Reed Warburton – '23 Psychology and Biology major (Independent Study)  
 Kavya Doraswamy – '24 Psychology and Computer Science major (Independent Study)  
 Jon Sides – '24 Psychology and Mathematics major (Independent Study)  
 Mingi Kang – '26 Computer Science and Mathematics major (Independent Study)  
 Nancy Xing – '24 Computer Science major, Psychology minor (Research Assistant)

#### Fall 2022

Thomas Mazzuchi '23 Psychology and Mathematics major (Honors)  
 Reed Warburton '23 Psychology and Biology major (Independent Study)

### Pedagogical Development Workshops

Faculty Fellows Program, Bowdoin College	2024-2025
Course Redesign Institute, Bowdoin College	August 2024
Colby, Bates, and Bowdoin Pedagogy Matters Conference: The Cognitive Challenges of Effective Teaching	August 2024
Inclusivity and Social Annotation: Fostering	April 2023



Diverse Learning Environments, Hypothes.is

Colby, Bates, and Bowdoin Pedagogy Matters  
Conference: The Call Is Coming from Inside  
the House: How Grades Undermine Learning  
and Jeopardize Student Wellbeing

August 2023

Ideas for Effective Groupwork with Whitney  
Hogan and Katie Byrnes

December 2022

Colby, Bates, and Bowdoin Pedagogy Matters  
Conference: Each Day is a New Labor: What  
Can Black Campus Life Teach Us About  
Pedagogy?

August 2022

Mentoring Undergraduate Students,  
National Research Mentoring Network

July 2022

**Guest Lecturer**, Washington University in St. Louis

Hierarchical Linear Models [graduate class]  
Methods in Linguistics Research  
Introduction to Computational Linguistics  
Introduction to Psychological Statistics  
Introduction to Psychology

Spring 2019  
Fall 2018  
Spring 2018  
Spring 2018  
Fall 2017

**Assistant to the Instructor**, Washington University in St. Louis

Psychology of Language  
Hierarchical Linear Models [graduate class]  
Methods in Linguistics Research  
Introduction to Psychological Statistics  
Introduction to Psychology

Spring 2020  
Spring 2019  
Fall 2018  
Spring 2018  
Fall 2017

**Research Mentoring**, Washington University in St. Louis

Students and Teachers as Research Scientists  
[STARS program, high-school students]  
Cognitive Psychology Lab

Summer 2017  
  
2016 – 2021

**Teaching Assistant**, Ashoka University, India

Probability, Statistics & Data Science  
Human-Computer Interaction  
Mathematical Thinking

Spring 2016  
Fall 2015  
Spring 2014

**Professional Development in Teaching Program**, Washington University in St. Louis

Completed a formalized training program in pedagogy involving 3 mentored experiences  
Attended advanced workshops on effective evidence-based teaching practices:

Philosophy and Implementation of Collaborative Learning  
Applying Cognitive Science to Improve Teaching  
Providing Verbal Feedback to Students

January 2020  
April 2019  
February 2019



## Professional Service

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Committee on Teaching and Classroom Practice (CoTCP) <i>Bowdoin College</i>	2024 –
International Committee <i>Cognitive Science Society</i>	2022 –
Mentoring Committee <i>Cognitive Science Society</i>	2024 –
Organizing team <i>Advancing Cognitive Research with Undergraduates (ACRU)</i>	2024 –

## Editorial Board Service

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Editorial Fellow <i>Journal of Experimental Psychology: Learning, Memory, and Cognition</i>	2023 – 2024
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## Ad Hoc Reviewer

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Acta Psychologica  
 Behavior Research Methods  
 Canadian Journal of Experimental Psychology  
 Cognitive Processing  
 Cognitive Science  
 Cognitive Science Society Annual Conference Proceedings  
 Consciousness  
 Communications Psychology  
 Frontiers in Artificial Intelligence  
 Journal of Experimental Psychology: General  
 Journal of Experimental Psychology: Human Perception and Performance  
 Journal of Experimental Psychology: Learning, Memory, and Cognition  
 Journal of Memory and Language  
 Memory and Cognition  
 Nature Reviews Psychology  
 National Science Foundation  
 Neuropsychologia  
 Psychological Research  
 Psychological Science  
 Psychological Review  
 Psychonomic Bulletin and Review  
 Topics in Cognitive Science

## Memberships in Professional Organizations

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Cognitive Science Society (CSS)  
 Psychonomic Society  
 SPARK Society

Women in Cognitive Science (WiCS)  
Women in Network Science (WiNS)  
Graduate Women in Science