

Abhilasha A. Kumar, Ph.D.

a.kumar@bowdoin.edu



[website](#)



[scholar](#)



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[github](#)

Academic Appointments

| | |
|---|----------------|
| Assistant Professor , Psychology Bowdoin College, ME | 2022 - present |
| Postdoctoral Research Associate Indiana University, Bloomington, IN | 2021 - 2022 |

Education

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|---|------|
| Ph.D. in Psychological & Brain Sciences Washington University in St. Louis, MO | 2021 |
| M.A. in Psychological & Brain Sciences Washington University in St. Louis, MO | 2018 |
| M.A. in Liberal Arts (Computer Science and Psychology) Ashoka University, India | 2016 |
| Integrated M. Tech 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, \$559,676 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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|---|------------|
| Faculty Research Award Bowdoin College, \$3,635 | 2023 |
| Course Enrichment Award Bowdoin College, \$1600 | 2022, 2023 |

Manuscripts in Preparation



mentored student/postdoc,



conference paper,



shared authorship,



theoretical review



Hambric, C. E.,



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.

Peer-Reviewed Publications

20. **Kumar, A.A.**, Hawkins, R.D. (*in press*). 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>.
19. **Kumar, A.A.**, Lundin, N.B., Jones, M.N. (*in press*). 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>
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 45th 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 44th 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 44th 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 44th 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.brainstimjrn.com/article/S1935-861X\(22\)00005-5/](https://www.brainstimjrn.com/article/S1935-861X(22)00005-5/).

10.  **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>.
9.  **Kumar, A.A.**, Garg, K., Hawkins, R.D. (2021). Contextual flexibility guides efficient communication in a cooperative word game. In *Proceedings of the 43rd 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. (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>.
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 41st 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

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, 46th 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. *45th 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, *44th 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, 43rd 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, 43rd 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 7th 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. (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.

Apsel, M., **Kumar, A.A.**, Jones, M.N. (July 2022). Finding the right words: A computational model of cued lexical retrieval. *44th 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

Instructor, Bowdoin College

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| 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

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|---|-------------|
| 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

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

Cognitive Science Society (CSS)
 Psychonomic Society
 SPARK Society

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