Maya Taliaferro

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Education

2023 - Present	**Ph.D. Psychology** New York University - New York, New York Advisor: Dr. Esti Blanco-Elorrieta
2017-2021	**B.A. Neuroscience** *GPA*: 3.75 *Latin Honors:* Magna Cum Laude Hamilton College – Clinton, New York
2021	**Semester Abroad** Doshisha University – Kyoto, Japan

Research Interests

Multilingualism, Communication, Language Processing & Acquisition, Behavioral & Neural Correlates

Fellowships & Grants

2025 - 2028 **National Defense Science and Engineering Graduate Fellowship** ($144,500)
2023 - 2028 **NYU GSAS Dean's Doctoral Fellowship** ($50,000)
2017 - 2021 **Ellis Foundation Scholarship** ($4000)

Awards & Honors

2025 **NYU Dean's Conference Award** Period 3 ($500)
2025 **Travel Award** Cognitive Science Society ($1000)
2024 **Travel Award** Society for Neurobiology of Language ($550)
2022 **MIT School of Science Quality of Life Grant** ($3000)
2021 **Dr. Phillip I. Bowman Scholarship Prize (**$3000**)**
2021 **Sigma Xi** International Scientific Research Honor Society
2021 **Phi Sigma Iota** International Foreign Language Honor Society
2020 **Benjamin A. Gilman International Scholarship** ($5000)
2019 **Psi Chi** National Honors Society in Psychology

Journal Publications

Malik-Moraleda, S., **Taliaferro, M.,** Shannon, S., Jhinkan, N., Swords, S., Frommer, P., Peterson, D., Okrand, M., Sims, J., Cardwell, R., Freeman, C., Fedorenko, E. (2025). Constructed languages are processed by the same brain mechanisms as natural languages. *Proceedings of the National Academy of Sciences.*

Malik-Moraleda, S., Jouravlev, O., **Taliaferro**, **M.,** Mineroff, Z., Cucu, T., Mahowald, K., Blank, I., Fedorenko, E. (2024). Functional characterization of the language network of polyglots and hyperpolyglots with precision fMRI. *Cerebral Cortex*

Qian, P., Bridgers, S., **Taliaferro, M**., Parece, K., Ullman, T. (2024). Ambivalence by design: A computational account of loopholes. *Cognition*

Tuckute, G., Sathe, A., Srikant, S., **Taliaferro, M.,** Wang, M., Schrimpf, M., Kay, K., Fedorenko, E. (2023) Driving and suppressing the human language network using large language models. *Nature Human Behavior*

Kauf, C., Hee So, K., Lee, E., Jhingan, N., She, J., **Taliaferro, M.**, Gibson, E., Fedorenko, E. (*under review*). Linguistic inputs must be syntactically parsable to fully engage the language network. *bioRxiv.*

Bridgers, S., **Taliaferro**, **M.,** Parece, K., Ullman, T., Schulz, L. (*under review*). Loopholes: A window into value alignment and communication of meaning *Psyarxiv.*

Peer-Reviewed Proceedings Publications

Taliaferro, M.*, Imel, N.*, Zaslavsky, ., & Blanco-Elorrieta, E. **(**2025). Bilinguals exhibit semantic convergence while maintaining near-optimal efficiency. *Proceedings of the Annual Meeting of the Cognitive Science Society* (Vol. 47).

Singh, A.*, **Taliaferro, M.***, Lindsay, G., & Blanco-Elorrieta, E. **(**2025). Blending Boundaries: A Computational Approach to How Bilinguals Reconcile Cross-Linguistic Categorization. *Proceedings of the Annual Meeting of the Cognitive Science Society* (Vol. 47).

Bejjanki, V*., Gaillard, E., **Taliaferro, M.,** & Taylor, J.* (2025). Influence of Task Complexity on Visuomotor Adaptation. *Proceedings of the Annual Meeting of the Cognitive Science Society* (Vol. 47).

Taliaferro, M., & Schulz, L. (2024). Brown bear, brown bear, what do you see? Speakers use more redundant color adjectives when speaking to children than adults. *Proceedings of Annual Meeting of the Cognitive Science Society* (Vol. 46).

Presentations

Singh, A.*, **Taliaferro, M.***, Lindsay, G., & Blanco-Elorrieta, E. **(**2025). Blending Boundaries: A Computational Approach to How Bilinguals Reconcile Cross-Linguistic Categorization. Slides Presentation. *Cognitive Science Society Conference 2025,* San Francisco, USA.

Taliaferro, M.*, Imel, N.*, Zaslavsky, ., & Blanco-Elorrieta, E. **(**2025). Bilinguals exhibit semantic convergence while maintaining near-optimal efficiency. Poster Presentation. *Cognitive Science Society Conference 2025,* San Francisco, USA.

Taliaferro, M., & Blanco-Elorrieta, E. (2024). "Evidence for Language-Shaped Conceptual Representations: Bilinguals Converge on Representations Interposed Between Monolinguals." Poster Presentation. *Society for Neurobiology of Language 2024,* Brisbane, Australia.

Taliaferro, M., & Schulz, L. (2024). "Brown bear, brown bear, what do you see? Speakers use more redundant color adjectives when speaking to children than adults." Slides Presentation. *Cognitive Science Society Conference 2024,* Rotterdam, Netherlands.

Malik-Moraleda, S., **Taliaferro, M.,** Shannon, S., Jhinkan, N., Swords, S., Frommer, P., Peterson, D., Okrand, M., Sims, J., Cardwell, R., Freeman, C., Fedorenko, E. (2023). Slides Presentation. "Constructed languages are processed by the same brain mechanisms as natural languages" *MIT Research Scholars Showcase,* Cambridge, MA

Research Experience

2021-2023 **Language Labs at MIT** – Cambridge, Massachusetts
Primary Investigators: Dr. Evelina Fedorenko and Dr. Edward Gibson (MIT)

- Work closely on the preparation, data collection and analysis of 5 separate projects studying the neural correlates of different language tasks
  - *Pragmatic reasoning fMRI project*
  - *Polyglot language network fMRI project*
  - *Constructed languages processing fMRI project*
  - *Passage modality processing fMRI project*
  - *Bilingual/Polyglot meta-analysis project*
- Develop stimuli and program experimental tasks in MATLAB
- Collect and analyze fMRI data
- Visualize data in R & Python
- Write and maintain lab guide on MATLAB Psychtoolbox
- Present preliminary findings in lab meetings

2021-2023 **Early Childhood Cognition Lab** – Cambridge, Massachusetts
Primary Investigator: Dr. Laura Schulz (MIT)

- Work closely on the preparation, data collection and analysis of 2 separate projects studying communicative efficiency
  - *Loophole evaluation & prediction project*
  - *Child-directed color overspecification project*
- Develop stimuli and program experimental tasks in JavaScript (jsPsych)/Qualtrics
- Analyze and visualize data in R
- Present preliminary findings in lab meetings

2020 **Honors Thesis** "The Interaction of Explicit and Implicit Processes in Motor Learning: Influence of Task Complexity" *Advisor: Dr. Vikranth Bejjanki*

- Conducted study intended to expand upon previous literature suggesting that explicit learning is a fundamental part of motor learning
- Trained and supervised 1 peer researcher in task and data collection methods
- Programmed novel center-out reaching task in MATLAB PsychToolbox
- Tested 35 students on reaching task paradigm
- Analyzed and visualized data using MATLAB
- Wrote 50 page thesis manuscript on results and implications

2020 **Laboratory of Molecular and Cellular Biology** – Kyoto, Japan
Primary Investigator: Dr. Nobuko Hosokawa (Kyoto University)

- Analyzed data examining endoplasmic reticulum-associated degradation in cells
- Ran immunohistology staining
- Created confocal microscope image 'movies' for manuscript review

2018-2020 **Cognitive Neuroscience of Attention & Perception Lab** – Clinton, NY

Primary Investigator: Dr. Alexandra List (Hamilton College)

- Conducted experiment studying intra-day fluctuations in volitional and automatic cognitive systems of both attention and learning
- Created questionnaire for 50 students on Qualtrics
- Edited task program in MATLAB in order to recruit and test participants
- Analyzed preliminary data in SPSS
- Trained 3 peer researchers in task and data collection methods

Teaching Experience

2023 **Instructor (“*Curve fitting in Python”)***
MIT Quantitative Methods Workshop – Cambridge, MA

2018-2021 **Research Tutor**
Hamilton College Library and IT Services – Clinton, NY

2021 **Japanese Tutor**
Hamilton College Language Center – Clinton, NY

2021 **Japanese Grader *(JAPN 101 & 200)***
Hamilton College Asian Studies Department – Clinton, NY

2020 **Cognitive Science Teaching Assistant *(PSYCH 202)***
Hamilton College Psychology Department – Clinton, NY

Service & outreach

2022 **MIT Summer Research Program Mentor** Cambridge, MA
Mentored 2 undergraduate students in research conducted over the summer at MIT

2017-2021 **Hamilton Autism Advocates for NeuroDiversity – *Vice President*** Clinton, NY
Coordinated directly with Kelbermann Center to plan and initiate fun activities for children with autism spectrum disorder to encourage social skill development and promote awareness for ASD in local community

2019-2021 **Ellis Scholar Student Mentor**
Aid underrepresented students in the transition from high school to college

2018-2020 **Hamilton Association for Volunteering, Outreach, and Charity** Clinton, NY
Recruited volunteers and organized trips to senior living facility 4 times a semester

Computer Skills

Proficient in MATLAB (PsychToolbox), R, Python, JavaScript (jsPsych), Microsoft (Excel, Word, PowerPoint), Qualtrics
Working knowledge in Blender, Adobe AfterEffects, Adobe Photoshop, Adobe Illustrator

Languages

English: Native Language
Japanese: Intermediate Listener, Intermediate Speaker, Intermediate Reading and Writing