Madison Barker

Department of Psychology

University of California, Davis

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Education

† *Indicates expected*

2019–2024 †   Ph.D., Psychology, University of California, Davis

Advisor: Dr. Fernanda Ferreira

2019–2021   M.A., Psychology, University of California, Davis

2015–2018   B.A., Journalism & Psychology, University of Wisconsin-Madison

Advisor: Dr. Mark Seidenberg

Thesis Title: Investigating Sublexical Semantics in Written Chinese

Experience

2019–Present   **Graduate Student Researcher**

Ferreira Lab at University of California, Davis

Advisor: Dr. Fernanda Ferreira

2019– Present   **Graduate Teaching Assistant**

See Teaching Experience

2018 - 2019   **Post-Baccalaureate Researcher**

Language & Cognitive Neuroscience Lab, University of Wisconsin-Madison

Advisor: Dr. Mark Seidenberg

2016 - 2018   **Undergraduate Research Assistant**

Language & Cognitive Neuroscience Lab, University of Wisconsin-Madison

Advisor: Dr. Mark Seidenberg

Publications

[1] Ferreira, F., & **Barker, M.** (under review). Perceptual clauses as units of production in visual descriptions. *Topics in Cognitive Science*.

[2] **Barker, M.**, Rehrig, G., & Ferreira, F. (2023). Speakers prioritise affordance-based object semantics in scene descriptions. *Language, Cognition and Neuroscience*, 1-23.

[3] Rehrig, G., **Barker, M.**, Peacock, C., Hayes, T. R., Henderson, J. M., & Ferreira, F. (2022). Look at what I can do: Object affordances guide visual attention while speakers describe potential actions. *Attention, Perception, & Psychophysics*.

[4] Wang, T., Borkenhagen, M. C., **Barker, M.**, & Seidenberg, M. S. (2022). Meanings within meanings: Skilled readers activate irrelevant meanings of radicals in Chinese. *Reading and Writing*, 1-19.

Presentations

Conference Presentations

[1] **Barker, M.**, Cotter, B., Tachihara, K., Zhou, A., & Ferreira, F. (2023). Multi-utterance event descriptions. Presentation on November 18th, 2023 at the 64th Annual Psychonomics Society Annual Meeting.

[2] Tachihara, K., **Barker, M.**, Cotter, B., Hayes, T., Henderson J., Zhou, A., & Ferreira, F. (2023) Come Together in Time, Space, and Meaning: Linearization in Scene Description. Presentation on November 18th, 2023 at the 64th Annual Psychonomic Society Annual Meeting.

[3] **Barker, M.**, Huang, Y., & Ferreira, F. (2022). Linearization strategies: Revisiting the network description task. Presentation on November 17th, 2022 at the 63nd Annual Psychonomic Society Annual Meeting. Hosted by Boston University.

[4] Rehrig, G., **Barker, M.**, Cotter, B., Liu, Z., Qiu, H., & Ferreira, F. (2022) Trade-offs between memory retrieval and planning in language production. Virtual presentation on March 25th, 2022 at the 35rd Annual CUNY Human Sentence Processing Conference. Hosted virtually by the University of California, Santa Cruz.

[5] **Barker, M.**, Rehrig, G., & Ferreira, F. (2021). But what can I do with it?: Speakers name interactable objects earlier in scene descriptions. Virtual presentation on November 6th, 2021 at the 62nd Annual Psychonomic Society Annual Meeting. Hosted virtually by Tulane University.

[6] **Barker, M.**, Rehrig, G., & Ferreira, F. (2021). But what can I do with it?: Speakers name interactable objects earlier in scene descriptions. Virtual presentation on March 5th, 2021 at the 34rd Annual CUNY Human Sentence Processing Conference. Hosted virtually by the University of Pennsylvania.

[7] Ferreira, F., Rehrig, G., **Barker, M.**, Beier, E., Chantavarin, S., Cotter, B., Qiu, Z., Lowder, M., & Karimi, H. (2021). Back to the Future: Do Influential Results from 1980s Psycholinguistics Replicate? Virtual presentation on March 5th, 2021 at the 34rd Annual CUNY Human Sentence Processing Conference. Hosted virtually by the University of Pennsylvania.

[8] **Barker, M.**, Rehrig, G., & Ferreira, F. (2021). But what can I do with it?: Speakers name interactable objects earlier in scene descriptions. Virtual presentation on November 4th, 2021 at the 62nd Psychonomic Society Meeting. Hosted virtually by Tulane University.

[9] Borkenhagen, M. C., Wang, T., **Barker, M.**, & Seidenberg, M. (2018). Meanings within meanings: Skilled readers activate irrelevant meanings of radicals and phonetics in Chinese. 26th Meeting of the Society for the Scientific Study of Reading. Brighton, England. July, 2018.

[10] **Barker, M.**, Wang, T., Borkenhagen, M. C., & Seidenberg, M. (2018). Is dislike female in written Chinese? Computing sublexical semantics in Mandarin character reading. 2018 Undergraduate Research Symposium at the University of Wisconsin-Madison. Madison, WI. May, 2018

Invited Presentations

[1] **Barker, M.**, Tachihara, K., Zhou, A., & Ferreira, F. (2021). Linearization in scene descriptions. Presentation on May 1, 2023 at Visual Cognition Group at the Center for Mind and Brain at UC Davis. Davis, CA.

[2] **Barker, M.**, Rehrig, G., & Ferreira, F. (2021). The object, the whole object, and nothing but the object: Speakers prioritize whole-object semantics in scene descriptions. Presentation on November 16, 2021, Cluster on Language Research at UC Davis. Davis, CA.

[3] **Barker, M.**, Rehrig, G., & Ferreira, F. (2021). But what can I do with it? Speakers name interactable objects earlier in scene descriptions. Presentation on April 9, 2021, Language Group at UC Davis. Davis, CA.

[4] **Barker, M.**, Wang, T., Borkenhagen, M. C., & Seidenberg, M. (2018). Is dislike female in written Chinese? Computing sublexical semantics in Mandarin character reading. Presentation on October 25, 2019 Language Group at UC Davis. Davis, CA.

Invited Lectures

[1] Decision Making. Presentation on October 20th, 2022. Cognitive Psychology with Dr. Fernanda Ferreira at UC Davis.

[2] Language Structure and Processing. Presentation on November 11th, 2019. Cognitive Psychology with Dr. Fernanda Ferreira at UC Davis.

Teaching Experience

2023 Fall	Cognitive Psychology	Dr. Fernanda Ferreira
2023 Spring	Language and Cognition	Dr. Tamara Swaab
2022 Fall	Cognitive Psychology	Dr. Fernanda Ferreira
2022 Spring	Cognitive Development	Dr. Priscilla San Souci
2021 Fall	Cognitive Development	Dr. Priscilla San Souci
2021 Spring	Language and Cognition	Dr. Matthew Traxler
2020 Winter	Language and Cognition	Dr. Tamara Swaab
2019 Fall	Cognitive Psychology	Dr. Fernanda Ferreira

Other Experience

2020 - 2023	Vice President, Psychology Graduate Student Association	UC Davis
2021 - 2022	Diverse Mentoring Initative Mentor (*3x*)	UC Davis
2019 - 2020	Event Coordinator & Graduate Student Representative, Psychology Graduate Student Association	UC Davis
2018 - 2019	Open access study guide for Seidenberg (2017)	UW Madison

Honors

2022	Summer Research Fellowship Award ($8,560)
2022	Graduate Student Association Travel Award ($250)
2022	Duke's Travel Award ($500)
2018	Psychology Undergraduate Research Scholar Award ($1,000)
2016 - Present	Psi Chi Psychology Honor Society

Mentorship Roles

2023 - Present	Kiran Bajwa, Undergraduate Research Assistant	UC Davis
2022 - Present	Ani Murugesan, Undergraduate Research Assistant	UC Davis
2021 - 2022	Elaina Jahanfard, Graduate Peer Mentor Program	UC Davis
2020 - 2023	Isaias Ceballos III, Undergraduate Research Assistant	UC Davis
	Graduate Student, University of Michigan, Ann Arbor	

Programming/Technical Experience

Programming.

- **R** *data.table, dplyr, ggplot2, lme4, MASS, tidyr, performance*
- **Python** *cv2, Matplotlib, NLTK, numpy, OpenCV, Pandas, PIL, PsychoPy, PyVis, shapely*
- **MATLAB**

Audio & Visual.

- **Audio:** *Adobe Audition; Audacity; Praat.*
- **Visual:** *Adobe Animate, Illustrator, InDesign, Photoshop; AnyLabeling; Computer Vision Annotation Tool (CVAT); LabelMe*

Laboratory.

- *E-Prime*; *EyeLink 1000+ eyetracker, EyeLink Toolbox, Experiment Builder, DataViewer*

Writing.

- *Microsoft Excel, Powerpoint, Word*; *Overleaf (LaTeX)*