

# Brennan R Payne, PhD

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## Professional Appointments

*University of Utah*

<i>Associate Professor.</i> Cognition and Neural Science. Psychology Department	2023 - Present
<i>Adjunct Associate Professor.</i> Communication Sciences and Disorders Department	2023 - Present
<i>Adjunct Assistant Professor.</i> Communication Sciences and Disorders Department	2020 - 2023
<i>Assistant Professor.</i> Cognition and Neural Science. Psychology Department	2017 - 2023
<i>Training Faculty.</i> Interdepartmental Program in Neuroscience	2017 - Present
<i>Faculty Affiliate.</i> Center on Aging	2017 - Present

## Education and Training

<i>Postdoctoral Research Associate</i> The Cognition and Brain Lab, Psychology Department and The Beckman Institute University of Illinois	2014 - 2017
<i>PhD &amp; MS</i> Cognitive Science of Learning, Department of Educational Psychology University of Illinois	2009-2014
<i>BA</i> Psychology and Cognitive Science State University of New York at Oswego	2005-2009

## Awards and Fellowships

1. *Superior Researcher Award.* (2023). College of Social and Behavioral Sciences. University of Utah.
2. *NIDCD Early Career Research Award.* (2021). National Institutes of Health, National Institute on Deafness and Other Communication Disorders Early Career Research Award R21.
3. *NIH LRP Award* (2018). National Institutes of Health Loan Repayment Program for Clinical Research. NIH L30AG051229. “Neurocognitive Aging and Individual Differences in Language Comprehension and Memory” (Renewal).
4. *APS Rising Star Award* (2017). Association for Psychological Science
5. *APA Early Career Award* (2017). Society for Experimental Psychology and Cognitive Science (Division 3 of The American Psychological Association)
6. *Vice President’s Clinical and Translational Research Scholar* (2017). University of Utah School of Medicine
7. *Fellow of the Psychonomic Society* (2017)
8. *The Thomas and Margaret Huang Fellow of Research in Human Computer Intelligent Interaction* (2015), Huang Fund, Beckman Institute, University of Illinois. Inaugural Award

9. *NIH LRP Award* (2015). National Institutes of Health Loan Repayment Program for Clinical Research. NIH L30AG051229. “Neurocognitive Aging and Individual Differences in Language Comprehension and Memory”.
10. *Beckman Institute Graduate Research Fellowship* (2013). Human Perception and Performance & Cognitive Neuroscience. University of Illinois
11. *The Paul D. Doolen Fellow of Research in the Study of Aging* (2013). University of Illinois
12. *National Institutes of Health Training Fellowship* (2012). “Language Processing: A Training Program” T32-HD055272. Specialization in the Cognitive Neuroscience of Language
13. *The William Chandler Bagley Doctoral Scholarship* (2012). University of Illinois
14. *The Ray Simpson Memorial Award* (2012).
15. *Raymond W. Kulhavy Scholarship for Research in the Cognitive Science of Learning* (2012). University of Illinois

## Research Support

### *Active Support*

1. NSF2341665/2341666. Payne & Schotter (PIs). 05/01/2024-05/01/2027. National Science Foundation / Division of Behavioral and Cognitive Sciences. “Collaborative Research: Linking saccadic behavior to cognitive-linguistic processing in goal-directed reading via coupled analysis of eye movements and EEG”. Role: Principal Investigator. Total budget: \$1,068,775 (includes 2 NSF REU supplements).
2. R21DC019437-02. Payne (PI). 09/06/2023 - 11/31/2025. National Institutes of Health / National Institute on Deafness and Other Communication Disorders. Research Supplement to Promote Diversity in Health-Related Research. Project title: “Evaluating aperiodic neural activity as a marker of listening effort in speech perception” Role: Principal Investigator. \$69,947
3. NSF2218384. Payne (Co-PI). 01/01/2023 - 12/31/2024. National Science Foundation / Division of Behavioral and Cognitive Sciences. “Causes and consequences of early quitting in visual search: Investigating the role of distractors.” Role: Co-Principal Investigator. (PI: Moher). \$223,136
4. R21DC019437. Payne (PI). 12/01/2021 - 11/31/2025. National Institutes of Health / National Institute on Deafness and Other Communication Disorders. “Understanding the effects of listening effort on sentence processing and memory in sensorineural hearing loss: Evidence from simultaneous electrophysiology and pupillometry.” Role: Principal Investigator. \$457,500.

### *Student Mentorship Funding*

1. National Science Foundation Graduate Research Fellowship: Sarah Woods (2024)
2. NIDCD Diversity Scholar: Sarah Woods (2023)
3. National Science Foundation Graduate Research Fellowship: Allyson Copeland (2021)
4. National Science Foundation Graduate Research Fellowship: Sara LoTemplio (2019)

### Completed (since 2017)

1. Leading Edge Workshop Grant. Payne (Co-PI). 11/04/21-01/15/23. Psychonomic Society. “Neural underpinnings of attention in the real world: Co-registration of eye movements and EEG.” Role: Co-Principal Investigator. \$50,000.
2. NSF2032183. Payne (Co-PI). 08/10/20-01/15/23. National Science Foundation / Division of Behavioral and Cognitive Sciences. “Neural underpinnings of attention in the real world: Co-registration of eye movements and EEG”. Role: Co-Principal Investigator. \$25,000.
3. Pilot Award. Payne (PI). 07/01/20-06/29/22. Utah Center on Aging. “Effects of listening effort in age-related sensorineural hearing loss.” \$20,000.
4. Research Award. Payne (PI). 12/01/2018 - 12/01/2020. “Neural Activity and Emotion Processing.” Google, LLC. Role: Principal Investigator. \$208,895. (Extramural).
5. Research Seed Grant. Payne (PI). 07/01/2018-06/01/2020. “A Causal Test of Neural Predictive Coding in Language Comprehension: Insights from Simultaneous Electrophysiology and Navigated Transcranial Magnetic Stimulation”. VPR Research Foundation/University of Utah. \$20,000. (Intramural).
6. Research Instrumentation Award. Euler (PI). 04/13/2018-05/01/2019. A High-Density EEG Facility for Interdisciplinary Research.” VPR Research Foundation/ University of Utah. Role: Co-Investigator \$102,720. (Intramural).
7. Research and Development Grant. Payne (PI). 12/31/2017-12/31/2019. “The Effects of Text Captioning on the Neurocognitive Workload of Speech Understanding”. CaptionCall, LLC. \$166,961. (Extramural).

### Publications

Total N: 66

Citations: 3047, h-index: 30, i10-index: 51 [Google Scholar](#)

Reprints available: <http://lama-lab.com>

\*Student or trainee author

### Publications

1. Silcox, J.W.\* & **Payne, B.R.** (2024). Did you say brain or brave? Event-related potentials reveal the central role of phonological prediction in false hearing. *OSF Pre-print*. <https://doi.org/10.31219/osf.io/6qxdh>
2. Copeland, A.\* & **Payne, B.R.** (2024). Co-registered eye-movements and brain potentials reveal multiple effects of context across the visual field in natural reading. *Authorea Pre-print*. <https://doi.org/10.22541/au.173081243.34433851/v1>
3. Woods, S.J.\*, Silcox, J.W.\*, & **Payne, B.R.** (2024). Evaluating aperiodic and periodic neural activity as markers of listening effort in speech perception. *Auditory Perception and Cognition*, 7, 203-218.
4. Silcox, J.W.\*, Bennet, K.\*, Copeland, A.\*, Ferguson, S.H., & **Payne, B.R.** (2024). The costs (and benefits?) of effortful listening for older adults: Insights from simultaneous electrophysiology, pupillometry, and memory. *Journal of Cognitive Neuroscience*, 36, 997-1020. [https://doi.org/10.1162/jocn\\_a\\_02161](https://doi.org/10.1162/jocn_a_02161)

5. Lai, M.\*, **Payne, B.R.** & Federmeier, K.D. (2024). Graded and ungraded expectations: Examining prediction dynamics during active comprehension. *Psychophysiology*, e14424. <https://doi.org/10.1111/psyp.14424>
6. Silcox, J.W.\*, Mickey, B., & **Payne, B.R.** (2023). Disruption to left inferior frontal cortex modulates semantic prediction effects in reading and subsequent memory: Evidence from simultaneous TMS-EEG. *Psychophysiology*, e14312. <https://doi.org/10.1111/psyp.14312>
7. LoTemplio, S.\*, Lopes, C.\*, McDonnell, A.\* Scott, E., **Payne, B.R.** & Strayer, D.L. (2023). Updating the relationship of the Ne/ERN to task-related behavior: A brief review and suggestions for future research. *Frontiers in Human Neuroscience*, 17, 1-21. <https://doi.org/10.3389/fnhum.2023.1150244>
8. LoTemplio, S.\*, Silcox, J.W.\*, Murdock, R.S\* Strayer, D.L., & **Payne, B.R.** (2023). To err is human- to understand error-processing is divine: Contributions of working memory and anxiety to error-related brain and pupil responses. *Psychophysiology*, e14392. <https://doi.org/10.1111/psyp.14392>
9. Jongman, S., Copeland, A.\*, Yaki, X.\*, **Payne, B.R.**, & Federmeier, K.D. (2022). Older adults show intraindividual variation in the use of predictive processing in reading. *Experimental Aging Research*, 3, 1-24. <https://doi.org/10.1080/0361073x.2022.2137358>
10. Crandell, H.A.\*, Silcox, J.W.\*, Ferguson, S.H., Lohani, M., & **Payne, B.R.** (2022). The effects of captioning errors, background noise, and hearing loss on memory for text-captioned speech in younger and older adults. *Journal of Speech, Language, and Hearing Research*, 65, 2364-2390. [https://doi.org/10.1044/2022\\_JSLHR-21-00416](https://doi.org/10.1044/2022_JSLHR-21-00416)
11. **Payne, B.R.**, Silcox, J.W.\*, Crandell, H.A.\*, Lash, A., Ferguson, S.H., & Lohani, M. (2022). Text captioning buffers against the effects of background noise and hearing loss on memory for speech. *Ear and Hearing*, 43, 115-127. <https://doi.org/10.1097/aud.0000000000001079>
12. Silcox, J.W.\*, & **Payne, B.R.** (2021). The costs (and benefits) of effortful listening on context processing: A simultaneous electrophysiological, pupillometry, and behavioral study. *Cortex*, 142, 296-316. <https://doi.org/10.1016/j.cortex.2021.06.007><sup>1</sup>
13. Fennell, A.M.\*, Bugos, J.A., **Payne, B.R.**, & Schotter, E.R. (2021). Music is similar to language in terms of working memory interference. *Psychonomic Bulletin and Review*, 28, 512-525. <https://doi.org/10.3758/s13423-020-01833-5>
14. LoTemplio, S.\*, Silcox, J.W.\*, Federmeier, K.D., & **Payne, B.R.** (2021). Inter- and intraindividual coupling between pupillary, electrophysiological, and behavioral responses in a visual oddball task. *Psychophysiology*, 58, e13758. <https://doi.org/10.1111/psyp.13758>
15. Dewitte, L, Lewis, N.A., **Payne, B.R.**, Turiano, N.A., & Hill, P.L., (2021). Cross-lagged relationships between sense of purpose in life, memory performance, and subjective memory beliefs in adulthood over a 9-year interval. *Aging and Mental Health*, 25, 2018-2027. <https://doi.org/10.1080/13607863.2020.1822284>
16. **Payne, B.R.**, Federmeier, K.D. & Stine-Morrow, E.A.L. (2020). Literacy skill and intraindividual variability in eye fixation durations during reading: Evidence from a diverse community-based adult sample. *Quarterly Journal of Experimental Psychology*, 73, 1841-1861. <https://doi.org/10.1177/1747021820935457>

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<sup>1</sup>Special Issue: Mapping Sound to Meaning under Challenging Conditions.

17. LoTemplo, S.,\* Scott., E.,\* Hopman, R.J.,\* McDonnel, A.,\* McKinney, T.,\* **Payne, B.R.**, & Strayer, D. (2020). Nature as a potential moderator of the error-related negativity: A registered report. *International Journal of Psychophysiology*, *156*, 49-59. <https://doi.org/10.1016/j.ijpsycho.2020.06.014>
18. Hill, P.L., Aschwanden, D., **Payne, B.R.**, & Allemand, M. (2020). Daily cognitive complaints and engagement in older adulthood: Personality traits are more predictive than cognitive performance. *Psychology and Aging*, *35*, 317-328. <https://doi.org/10.1037/pag0000452>
19. Ng, S., **Payne, B. R.**, Liu, X., Anderson, C. J., Federmeier, K. D., & Stine-Morrow, E. A. L. (2020). Execution of lexical and conceptual processes in sentence comprehension among adult readers as a function of literacy skill. *Scientific Studies of Reading*, *20*, 338-355. <https://doi.org/10.1080/10888438.2019.1671849>
20. Jackson, J.J. Hill, P.L., **Payne, B.R.**, Parisi, J., & Stine-Morrow, E.A.L. (2020) Linking openness to cognitive ability in older adulthood: The role of diversity in daily behavior. *Aging and Mental Health*, *24*, 1079-1087. <https://doi.org/10.1080/13607863.2019.1655705>
21. Lohani, M., McElvaine, K., **Payne, B.R.**, Mitcheom, K., & Britton, W. (2020). A longitudinal training study to delineate the specific causal effects of open monitoring versus focused attention techniques on emotional health. *Complementary Therapies in Medicine*, *53*, e102525. <https://doi.org/10.1016/j.ctim.2020.102525>
22. **Payne, B.R.**, Stites, M.C., & Federmeier, K.D. (2019). Event-related brain potentials reveal how multiple aspects of semantic processing unfold across parafoveal and foveal vision during sentence reading. *Psychophysiology*, *56*, 1-15. <https://doi.org/10.1111/psyp.13432>
23. **Payne, B.R.** & Federmeier, K.D. (2019). Individual differences in reading speed are linked to variability in the processing of lexical and contextual information: Evidence from single-trial event-related brain potentials. *65, Word*, 252-272. <https://doi.org/10.1080/00437956.2019.1678826> <sup>2</sup>
24. Schotter, E.R., & **Payne, B.R.** (2019). Eye movements and comprehension are important to reading. *Trends in Cognitive Sciences*, *23*, 811-812. <https://doi.org/10.1016/j.tics.2019.06.005>
25. Lohani, M., **Payne, B.R.**, & Strayer, D.L. (2019). A review of psychophysiological measures to sense and assess cognition and performance in driving research. *Frontiers in Human Neuroscience*, *13*, 1-27. <https://doi.org/10.3389%2Ffnhum.2019.00057> <sup>3</sup>
26. Chandler, M.C.,\* McGowan, A.L.,\* Wray, A.H., **Payne, B.R.**, & Pontifex, M.B. (2019) Aerobic fitness relates to differential attentional but not language-related cognitive processes. *Brain and Language*, *198*, 104681. <https://doi.org/10.1016/j.bandl.2019.104681>
27. **Payne, B.R.** & Federmeier, K.D. (2018). Contextual constraints on lexico-semantic processing in aging: Evidence from single-word event-related brain potentials. *Brain Research*, *1687*, 117-128. <https://doi.org/10.1016/j.brainres.2018.02.021>
28. Ng, S., **Payne, B.R.**, Federmeier, K.D., & Stine-Morrow, E.A.L. (2018). How struggling adult readers use contextual information when comprehending speech: Evidence from event-

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<sup>2</sup>Special Issue: *Language and the Brain*

<sup>3</sup>*Cognitive Neuroscience Editors Pick: 2021.*

- related potentials. *International Journal of Psychophysiology*, *125*, 1-9. <https://doi.org/10.1016/j.ijpsycho.2018.01.013>
29. Gross, A.L., **Payne, B.R.**, Cassanova, R., Davoudzadeh, P., Dzierzewski, J., Farias, S., Giovannetti, T., Ip, E., Marsiske, M., Rebok, G., Schaie, W., Thomas, K., & Willis, S., & Jones, R.N. (2018). The ACTIVE conceptual framework as a structural equation model. *Experimental Aging Research*, *44*, 1-17. <https://doi.org/10.1080/0361073x.2017.1398802>
  30. Lohani, M., **Payne, B.R.**, & Issacowitz, D. (2018). Emotional coherence in early and later adulthood during sadness reactivity and regulation. *Emotion*, *18*, 789-804. <https://doi.org/10.1037/emo0000345>
  31. Farias, S., Giovannetti, T., **Payne, B.R.**, Marsiske, M., Rebok, G., Schaie, W., Thomas, K., Willis, S., Dzierzewski, J.M., Unverzagt, F., & Gross, A.L. (2018). Self-perceived difficulties in everyday function precede cognitive decline among older adults in the ACTIVE study. *Journal of the International Neuropsychological Society*, *24*, 104–112. <https://doi.org/10.1017/s1355617717000546>
  32. Ng, S., **Payne, B.R.**, Steen. A.A., Federmeier, K.D., & Stine-Morrow, E.A.L. (2017). Use of contextual information by struggling adult readers: Evidence from reading time and event-related brain potentials. *Scientific Studies of Reading*, *21*, 359-375. <https://doi.org/10.1016/j.ijpsycho.2018.01.013>
  33. **Payne, B.R.** & Federmeier, K.D. (2017). Pace yourself: Intraindividual variability in context use during reading revealed by self-paced event-related brain potentials. *Journal of Cognitive Neuroscience*, *29*, 837-854. [https://doi.org/10.1162/jocn\\_a\\_01090](https://doi.org/10.1162/jocn_a_01090)
  34. **Payne, B.R.** & Federmeier, K.D. (2017). Event-related brain potentials reveal age-related changes in parafoveal-foveal integration during sentence processing. *Neuropsychologia*, *106*, 358-370. <https://doi.org/10.1016/j.neuropsychologia.2017.10.002>
  35. Stites, M.C., **Payne, B.R.**, & Federmeier, K.D. (2017). Getting ahead of yourself: Parafoveal word expectancy modulates the N400 during sentence reading. *Cognitive, Affective, and Behavioral Neuroscience*, *17*, 475-490. <https://doi.org/10.3758%2Fs13415-016-0492-6>
  36. **Payne, B.R.** & Stine-Morrow, E.A.L. (2017). The effects of home-based cognitive training on verbal working memory and language comprehension in older adulthood. *Frontiers in Aging Neuroscience*, *9*, 1-20. <https://doi.org/10.3389%2Ffnagi.2017.00256>
  37. Hill, P.L. & **Payne, B.R.** (2017). Don't forget the person when promoting healthy cognitive aging: A comment on Smith (2016). *American Psychologist*, *72*, 390-392. <https://doi.org/10.1037/amp0000105>
  38. Steen-Baker, A., Ng, S., **Payne, B.R.**, Federmeier, K.D., & Stine-Morrow, E.A.L. (2017). The effects of context on processing words during sentence reading among adults varying in age and literacy skill. *Psychology and Aging*, *32*, 460-472. <https://doi.org/10.1037/pag0000184>
  39. Lewis, N.A., Turiano, N.A., **Payne, B.R.**, & Hill, P.L. (2017). Purpose and cognitive functioning in adulthood: Findings from the MIDUS study. *Aging, Neuropsychology, and Cognition*, *24*, 662-671. <http://dx.doi.org/10.1080/13825585.2016.1251549>
  40. **Payne, B.R.**, Gross, A. L., Hill, P.L., Parisi, J., Rebok, G., & Stine-Morrow, E.A.L. (2017). Decomposing the relationship between cognitive ability and self-referent memory beliefs in



older adulthood: What's memory got to do with it? *Aging, Neuropsychology, and Cognition*, 24, 345-362. <https://doi.org/10.1080/13825585.2016.1218425>

41. **Payne, B.R.**, Stites, M.C., & Federmeier, K.D. (2016). Out of the corner of my eye: Foveal semantic load modulates parafoveal processing in reading. *Journal of Experimental Psychology: Human Perception and Performance*, 26, 1839-1857. <https://doi.org/10.1037%2Fxhp0000253> <sup>4</sup>
42. **Payne, B.R.** & Stine-Morrow, E.A.L. (2016). Risk for mild cognitive impairment is associated with semantic integration deficits in sentence processing and memory. *The Journal of Gerontology: Psychological Sciences*, 71, 243-253. <https://doi.org/10.1093/geronb/gbu103> <sup>5</sup>
43. Stine-Morrow, E.A.L. & **Payne, B.R.** (2016). Age differences in language segmentation. *Experimental Aging Research*, 42, 107-125. <https://doi.org/10.1080/0361073x.2016.1108751> <sup>6</sup>
44. Liu, X., Chin, J., **Payne, B.R.**, Fu, W-T., Morrow, D., & Stine-Morrow, E.A.L. (2016). Adult age differences in information foraging in an interactive reading environment. *Psychology and Aging*, 31, 211-223. <https://doi.org/10.1037/pag0000079>
45. **Payne, B.R.**, Lee, C-L., & Federmeier, K.D. (2015). Revisiting the incremental effects of context on word processing: Evidence from single-word event-related brain potentials. *Psychophysiology*, 52, 1456-1469. <https://doi.org/10.1111/psyp.12515>
46. Chin, J., **Payne, B.R.**, Gao, X., Stine-Morrow, E.A.L., Morrow, D.G., Conner-Garcia, T., Graulich, J.F., & Murray, M.D. (2015). Knowledge influences comprehension and memory for health information among older adults: Distinguishing domain-general and domain-specific knowledge effects. *Memory*, 23, 577-589. <https://doi.org/10.1080/09658211.2014.912331>
47. Chin, J., **Payne, B.R.**, Fu, W.T., Morrow, D.G., & Stine-Morrow, E.A.L. (2015). Information foraging across the lifespan: Search and switch in unknown patches. *Topics in Cognitive Science*, 3, 428-450. <https://doi.org/10.1111/tops.12147>
48. **Payne, B.R.** & Stine-Morrow, E.A.L. (2014). Age differences in wrap-up during sentence understanding: Evidence from ex-Gaussian distributional analyses of reading time. *Psychology and Aging*, 29, 213-228. <https://doi.org/10.1037/a0036282>
49. **Payne, B.R.**, Grison, S., Gao, X., Christianson, K., Morrow, D.G., & Stine-Morrow, E.A.L. (2014). Aging and individual differences in binding during sentence understanding: Evidence from temporary and global syntactic attachment ambiguities. *Cognition*, 130, 157-173. <https://doi.org/10.1016/j.cognition.2013.10.005>
50. **Payne, B.R.**, Gross, A.L, Parisi, J.M., Sisco, S., Stine-Morrow, E.A.L., Marsiske, M., & Rebok, G.W. (2014). Modeling longitudinal changes in older adults' memory for spoken discourse: Findings from the ACTIVE cohort. *Memory*, 22, 990-1001. <https://doi.org/10.1080/09658211.2013.861916>
51. Stine-Morrow, E.A.L., **Payne, B.R.**, Roberts, B.W., Kramer, A.F., Morrow, D.G., Payne, L., Hill, P.L., Jackson, J.J., Gao, X., Noh, S.R., Janke, M., & Parisi, J.M. (2014). Training

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<sup>4</sup>2017 Early Career Award Paper: Society for Experimental Psychology and Cognitive Science (APA Division 3)

<sup>5</sup>Editors Choice

<sup>6</sup>Special issue on "Age, Hearing, and Speech Comprehension". A Festschrift in honor of Dr. Arthur Wingfield.

versus engagement as paths to cognitive optimization with aging. *Psychology and Aging*, 29, 891-906. <https://doi.org/10.1037/a0038244>

52. Hill, P.L., **Payne, B.R.**, Jackson, J.J., Stine-Morrow, E.A.L. & Roberts, B.W. (2014). Perceived social support predicts increased conscientiousness during older adulthood. *The Journal of Gerontology: Psychological Sciences*, 69, 543-547. <https://doi.org/10.1093/geronb/gbt024>
53. Jackson, J.J., Hill, P.L., **Payne, B.R.**, Roberts, B.W., & Stine-Morrow, E.A.L. (2012). Can an old dog learn (and want to experience) new tricks? Cognitive training changes openness in older adults. *Psychology and Aging*, 27, 286-292. <https://doi.org/10.1037/a0025918>
54. **Payne, B.R.**, Gao, X., Noh, S.R., Anderson, C.J., & Stine-Morrow, E.A.L. (2012). The effects of print exposure on sentence processing and memory among older adults: Evidence for efficiency and reserve. *Aging, Neuropsychology, and Cognition*, 19, 122-149. <https://doi.org/10.1080/08982643.2011.628376><sup>7</sup>
55. **Payne, B.R.**, Jackson, J.J., Hill, P.L., Gao, X., Roberts, B.W., & Stine-Morrow, E.A.L. (2012). Memory self-efficacy predicts responsiveness to inductive reasoning training in older adults. *The Journal of Gerontology: Psychological Sciences*, 67, 27-35. <https://doi.org/10.1093/geronb/gbr073>
56. **Payne, B.R.** & Stine-Morrow, E.A.L (2012). Aging, parafoveal preview, and semantic integration in sentence processing: Testing the cognitive workload of wrap-up. *Psychology and Aging*, 27, 638-649. <https://doi.org/10.1037/a0026540>
57. **Payne, B.R.**, Jackson, J.J., Noh, S.R., & Stine-Morrow, E.A.L. (2011). In the zone: Flow state and cognition in older adults. *Psychology and Aging*, 26, 738-743. <https://doi.org/10.1037/a0022359>

#### *Books and Edited Volumes*

1. Federmeier, K.D. & **Payne, B.R.** (Eds.). (2022). *Psychology of Learning and Motivation - Advances in Research and Theory: Cognitive Aging*. Vol. 77. Academic Press. ISBN: 9780323990240.

#### *Book Chapters*

1. **Payne, B.R.**, Ng, S., Shantz, K., & Federmeier, K.D. (2020). Event-related brain potentials and multilingual language processing: The N's and P's. In K.D. Federmeier and H. Huang (Eds.) *Psychology of Learning and Motivation - Advances in Research and Theory: Adult and Second Language Learning*; Vol. 72. (pp. 75-118). Academic Press Inc. <https://doi.org/10.1016/bs.plm.2020.03.003>
2. **Payne, B.R.** & Lohani, M. (2020). Personality and cognitive health in aging. In P.L. Hill and M. Allemand (Eds.) *Personality and Healthy Aging: New Directions and Techniques*. Springer. [https://doi.org/10.1007/978-3-030-32053-9\\_11](https://doi.org/10.1007/978-3-030-32053-9_11)
3. **Payne, B.R.** & Silcox, J\*. (2019). Aging, context processing, and comprehension. In K.D. Federmeier (Ed.) *Psychology of Learning and Motivation - Advances in Research and Theory*; Vol. 71. (pp. 215-264). Academic Press Inc. <https://doi.org/10.1016/bs.plm.2019.07.001>

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<sup>7</sup>Special issue on "Compensatory Mechanisms for Age-Related Cognitive Decline".



4. **Payne, B.R.** & Hill, P.L. (2016). Experimental research methods in lifespan human development. In M.H. Bornstein (Ed.) *The SAGE Encyclopedia of Lifespan Human Development.*, SAGE Press. <https://dx.doi.org/10.4135/9781506307633>
5. Stine-Morrow, E. A. L. & **Payne, B.R.** (2015). Education and learning: Lifespan perspectives. In J. D. Wright (Ed.) *International Encyclopedia of the Social and Behavioral Sciences (Second edition)*, Oxford: Elsevier. <https://doi.org/10.1016/B978-0-08-097086-8.92003-8>

*Peer Reviewed Conference Proceedings and White Papers*

1. Levac, D.E., Taylor, M. **Payne, B.R.**, Ward, N. (2019). The influence of virtual environment complexity on motor learning in typically developing children and children with cerebral palsy. *IEEE Proceedings of the 13th International Conference on Virtual Rehabilitation*, WG Wright, S Subramanian, G Fluet, M Agmon, RM Proffitt, M Roberts (Eds.) 1-7. <https://doi.org/10.1109/ICVR46560.2019.8994487>
2. **Payne, B.R.** (2018). Text captioning and speech understanding: A literature review. In *Federal Communications Commission Filing: Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*. Appendix B. 1-9.
3. Chin, J., **Payne, B.R.**, Battles, A., Fu, W.T., Morrow, D.G., & Stine-Morrow, E.A.L. (2012). Information foraging in unknown patches across the lifespan. in *Proceedings of the 34th Annual Meeting of the Cognitive Science Society*, N Miyake, D. Peebles, R.P. Cooper (Eds). Sapporo: Cognitive Science Society, 1404–1409. <https://escholarship.org/uc/item/5x50t2jf>

**Invited Talks and Symposia**

1. Symposium panelist and speaker. *Annual Meeting of the Society for Psychophysiological Research*. “Language: New approaches and new ideas.” 2023.
2. Department of Educational Psychology, *University of Illinois*. Urbana-Champaign, IL. 2023.
3. Department of Psychology, *North Carolina State University*. Raleigh, NC. 2022.
4. Department of Psychology, *University of Nebraska*. Lincoln, NE. 2022.
5. Department of Psychology, *University of New Hampshire*. Durham, NH. 2022.
6. Symposium Co-Chair. “Active vision in the real world: Co-registration of eye movements and EEG”. *Annual Meeting of the Psychonomic Society*. Boston, MA (2022).
7. Discussant/Moderator. “Covert vs. overt attention & the time course of processing during reading.” *NSF/Psychonomics Leading Edge Workshop*. Tampa, Florida. 2022.
8. Discussant/Moderator. “The impact of person-to-person differences on eye movements and neural responses.” *NSF/Psychonomics Leading Edge Workshop*. Tampa, Florida. 2022.
9. Cognitive Psychology Brownbag, Department of Psychology, *University of California, Santa Cruz*. Santa Cruz, Ca. 2022. Virtual talk.
10. Cognitive Neuroscience Brownbag, Department of Psychology, *University of South Florida*. Tampa, Florida. 2021. Virtual talk.
11. “The science of reading: From brain to behavior and back again”. *Summer Neurolinguistics School*. Higher School of Economics. Moscow, Russia. 2021. Virtual talk.

12. Discussant. "Individual differences in syntactic processing." Authors: Ariel James & Duane Watson. *Cycle Linguist Webcast*. Link: <https://t.co/tYIG2yvr4K?amp=1>. 2020
13. Symposium Co-Chair (with Dr. Liz Schotter). "Word processing across space and time during reading: Insights from eye tracking, electrophysiology, and computational modeling." *20th European Conference on Eye Movements*, Alicante, Spain. 2019.
14. *Non-invasive Neurostimulation Facility Open House*. University Neuropsychiatric Institute, University of Utah, Salt Lake City, Utah. 2018.
15. "Faces of the Future Symposium". *Annual Meeting of the Society for Psychophysiological Research*, Quebec City, Quebec, Canada, 2018.
16. GoogleX Tech Talk. *Google*. Mountain View, CA. 2018.
17. Symposium: "Developments in eye movement research on reading across the lifespan". *Annual Meeting of the Experimental Psychology Society*. Leicester, UK. 2018.
18. URPP Dynamics of Healthy Aging Workshop. *University of Zurich*. Zurich, Switzerland. 2018.
19. Symposium on "Personality and healthy aging". *European Conference on Personality*. Zadar, Croatia. 2018.
20. Cognitive and Brain Sciences, Department of Psychology. *Louisiana State University*. Baton Rouge, LA. 2016.
21. Department of Psychology and Cognitive Science Program. *University of North Carolina at Charlotte*. Charlotte, NC. 2016.
22. Cognition and Neural Sciences, Department of Psychology. *University of Utah*. Salt Lake City, UT. 2016.
23. Department of Psychology. *Old Dominion University*. Norfolk, Va. 2016.
24. Department of Psychological and Brain Sciences. *Washington University in St. Louis*. St Louis, MO. 2016.
25. Department of Psychology. *University of Birmingham*. Birmingham, UK. 2016.
26. Educational Neuroscience, Department of Educational Psychology. *University of Alabama*. Tuscaloosa, AL. 2016.
27. The Department of Psychology, *University of Illinois*. Urbana, IL. 2015.
28. Beckman Institute External Review of Biological Intelligence and Human-Computer Intelligent Interaction. *University of Illinois*. Urbana, IL. 2015.
29. Cognitive Neuroscience, Department of Psychology. *University of Illinois*. Urbana, IL. 2015.
30. Illinois Learning Sciences Design Laboratory Data Blitz. *University of Illinois*. Urbana, IL. <https://www.youtube.com/watch?v=mLM3VChCsos>. 2015.
31. Department of Psychology and Cognitive Science Program. *University of Richmond*. Richmond, VA. 2014.
32. Symposium: "WingfieldFest: A Festschrift in honor of Arthur Wingfield." Volen Center for Complex Systems. *Brandeis University*. Waltham, MA. 2014.

33. Sixth Annual Data Blitz Presentation. *Annual meeting of the American Psychological Association*. Orlando, FL. 2012. <sup>8</sup>
34. Symposium on: “Theoretical and empirical advances in memory self-efficacy research.” *Annual meeting of the American Psychological Association*. Orlando, FL. 2012.

## Presentations and Abstracts

\*Student researcher or trainee

1. Woods, S. J.\*, Silcox, J.W.\*, & **Payne, B.R.** (2024). Listening effort modulates aperiodic neural activity in younger and older listeners during speech comprehension. *The Annual Meeting of the Psychonomic Society*. New York City, NY.
2. Silcox, J.W.\*, Bennett, K.\*, & **Payne, B.R.** (2024). Event-related potentials reveal the effects of acoustic challenge on syntactic integration in speech comprehension in younger and older listeners. *The Annual Meeting of the Psychonomic Society*. New York City, NY.
3. Lopes, C.\* & **Payne, B.R.** (2024). Lexical valence moderates the parafoveal preview benefit in natural reading in younger and older adults: Evidence from gaze-contingent display change paradigms. *The Annual Meeting of the Psychonomic Society*. New York City, NY.
4. Sierra, M., Mbithi, I., Moher, J., & **Payne, B.R.** (2024). The Impact of User-Controlled Cues on Visual Search Performance and Quitting Behavior. *OPAM: Object Perception, visual Attention, and visual Memory Conference*, New York City, NY.
5. Quesada, F\*. Rice\*, S., Drew, T., **Payne, B.R.** & Moher, J. (2024). Salient distractors reduce total fixations and reflect early quitting in a visual search. *OPAM: Object Perception, visual Attention, and visual Memory Conference*, New York City, NY.
6. Han, E\*. Okamura, M.\*, **Payne, B.R.**, Drew, T., & Moher, J. (2024). The Impact of Computer-Aided Detection on Visual Search: Investigating Early Quitting and Error Patterns. *OPAM: Object Perception, visual Attention, and visual Memory Conference*, New York City, NY.
7. Woods, S. J.\*, Silcox, J.W.\*, & **Payne, B.R.** (2024). Not just noise: Using aperiodic EEG activity to study listening effort during speech comprehension. *Annual Meeting of the Society for the Neurobiology of Language*. Brisbane, Australia.
8. LoTemplio, S.B., Silcox, J.W.\*, Strayer, D., & **Payne, B.R.** (2024). Are the Pe and phasic pupil response better predictors of post-error behavior adjustment? *Annual Meeting of the Society for Psychophysiological Research*. Prague, Czech Republic.
9. Woods, S. J.\*, Silcox, J.W.\*, & **Payne, B.R.** (2024). A better alpha: Incorporating spectral parameterization to improve the measurement of listening effort. *The 46th Annual Meeting of the Cognitive Science Society*. Rotterdam, The Netherlands.
10. Moher, J., Mbithi, I.\*, Okamura, M.\*, Rice, S.\*, Rosan, L.\*, Quesada, F.S.\*, Drew, T. & **Payne, B.R.** (2024). Salient distractors produce fewer eye movements when targets are absent in visual search. *Annual Meeting of the Vision Science Society*. St. Petersburg, FL.

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<sup>8</sup> One of 15 nominated speakers. Representing division 20- Adult Development and Aging.

11. Silcox, J.W.\* & **Payne, B.R.** (2024). Did you say brain or brave? ERP false hearing paradigms reveal evidence of phonological prediction during speech comprehension. *The Annual Meeting of the Rocky Mountain Psychological Association*. Denver, Co.
12. LoTemplio, S.B., Silcox, J.W.\*, Strayer, D., & **Payne, B.R.** (2024). Coupling between error related brain and pupil responses. *The Annual Meeting of the Rocky Mountain Psychological Association*. Denver, Co.
13. Bennett, K.\*, Silcox, J.W.\*, Ferguson, S.H., & **Payne, B.R.** (2024). The effects of acoustic challenge on semantic and syntactic processing during speech comprehension among older adults: Evidence event-related brain potentials. *The Annual Meeting of the Rocky Mountain Psychological Association*. Denver, Co.
14. LoTemplio, S.,\* Silcox, J.W.,\* Strayer, D.L., & **Payne, B.R.** (2023). To err is human- to understand error-processing is divine: Contributions of working memory and anxiety to error-related brain and pupil responses. *The Annual Meeting of the Rocky Mountain Psychological Association*. Denver, Co.
15. Silcox, J.W.\*, Copeland, A.\*, Bennet, K.\*, Ferguson, S. & **Payne, B.R.** (2024). How does the aging brain respond to acoustically challenging speech? Insights from simultaneous EEG, pupillometry and memory outcomes. *Annual Meeting of the Cognitive Neuroscience Society*. Toronto, ON, Canada.
16. Copeland, A.\* & **Payne, B.R.** (2024). Fixation related brain potentials reveal multiple effects of context across the visual field in natural reading. *Annual Meeting of the Cognitive Neuroscience Society*. Toronto, ON, Canada.
17. Copeland, A.\*, Bennet, K.\*, Silcox, J.W.\*, & **Payne, B.R.** (2023). The effects of acoustic challenge on context use in older adults: Evidence from event-related brain potentials. *Annual Meeting of the Psychonomic Society*. San Francisco, CA.
18. Silcox, J.W.\*, Bennet, K.\*, & **Payne, B.R.** (2023). Did you say brain or brave? An electrophysiological investigation of the timecourse of false hearing. *Annual Meeting of the Psychonomic Society*. San Francisco, CA.
19. Woods, S.\*, Silcox, J.W.\* & **Payne, B.R.** (2023). The effects of background noise on aperiodic neural activity during speech perception. *22nd Annual Auditory Perception, Cognition, and Action Meeting*. San Francisco, CA.
20. Silcox, J.W.\*, Bennet, K.\*, & **Payne, B.R.** (2023). Did you say brain or brave? An ERP investigation of the timecourse of false hearing. *Society for Psychophysiological Research*. New Orleans, LA.
21. Lopes, C.\* & **Payne, B.R.** (2023). Investigating the age-related positivity effect in parafoveal word processing during natural reading. *Society for Affective Sciences*. Long Beach, CA.
22. Lopes, C.\* & **Payne, B.R.** (2022). Individual differences in verbal working memory and parafoveal word processing during natural reading. *Annual Meeting of the Society for Psychophysiological Research*. Vancouver, BC, Canada.
23. Silcox, J.W. \*, McDonnell, A.\*, Strayer, D.L., & **Payne, B.R.** (2022). Driving under the influence of misperception: The effects of speech perception and false hearing on driving performance. *Annual Meeting of the Psychonomic Society*. Boston, MA.

24. Silcox, J.\* & **Payne, B.R.** (2022). The neurocognitive consequences of listening effort for language and memory functioning. *15th Annual Utah Center on Aging Retreat*. Salt Lake City, Utah.
25. Silcox, J.\*, LoTemplo, S.\* & **Payne, B.R.** (2022). The eye as a window into the working brain: Co-registration of pupillometry, event related brain potentials, and behavior in human cognition. *Psychonomics/ NSF Leading Edge Workshop*. Tampa, FL.
26. Konold, C.\*, Copeland, A.\*, **Payne, B.R.**, & Drew, T. (2022). Semantic and syntactic effects in scene processing using eye movements and fixation-related potentials. *Psychonomics/ NSF Leading Edge Workshop*. Tampa, FL.
27. Lopes, C.\* & **Payne, B.R.** (2022). Individual differences in verbal working memory and parafoveal word processing during natural reading. *Psychonomics/ NSF Leading Edge Workshop*. Tampa, FL.
28. Lai, M.K.\*, **Payne, B.R.**, & Federmeier, K.D. (2022). Graded & ungraded expectations: Prediction dynamics during active comprehension. *Psychonomics/ NSF Leading Edge Workshop*. Tampa, FL.
29. Copeland, A.\*, Konold, C.\*, Drew, T., & **Payne, B.R.** (2022). Predictability and plausibility effects in reading using eye movements and fixation-related potentials. *Psychonomics/ NSF Leading Edge Workshop*. Tampa, FL.
30. Schmidt, J.\*, Bugos, J., **Payne, B.R.**, & Schotter, E.R. (2022). Music and language semantic anomalies: An ERP study on predictive processing of harmonic music. *Annual Meeting of the Society for Music Perception and Cognition*. Virtual conference.
31. LoTemplo, S.\*, McKinney T.\*, McDonnell, A.\*, Scott, E.\*, **Payne, B.R.**, Euler, M., & Strayer, D. (2021). Effects of nature exposure on EEG indices of cognitive control. *Annual Meeting of the Society for Psychophysiological Research*. Virtual conference.
32. Silcox, J.\*, LoTemplo, S.\*, Federmeier, K.D., & **Payne, B.R.** (2021). The eye as a window to the brain: Co-registration of pupillometry and event related brain potentials in human cognition. *Annual Meeting of the Society for Psychophysiological Research*. Virtual conference.
33. Silcox, J.\*, Mickey, B., & **Payne, B.R.** (2020). Disruption of left inferior frontal cortex eliminates the word predictability benefit in memory: An event-related rTMS study. *Annual Meeting of the Society for the Neurobiology of Language*. Virtual conference.
34. Crandell, H.\*, Silcox, J.\* & **Payne, B.R.** (2020). The effects of captioning errors, background noise, and hearing loss on memory for text-captioned speech in younger and older adults. *Annual Meeting of the Psychonomic Society*. Virtual conference.
35. LoTemplo, S.\*, Silcox, J.\*, Federmeier, K.D., & **Payne, B.R.** (2020). Distinct pupillary and neural responses to semantic and syntactic violations in sentence processing. *Annual Meeting of the Society for Psychophysiological Research*. Virtual conference.
36. Silcox, J.\* & **Payne, B.R.** (2020). The costs and benefits of listening effort in context processing: A study utilizing behavioral, electrophysiological and pupillometry measures. *Annual Meeting of the Society for Psychophysiological Research*. Virtual conference.

37. Lopes, C.\*, Silcox, J.\*, & **Payne, B.R.** (2020). What self-paced reading times and ERPs reveal about the role of volitional control in predictive processes during reading. *Annual Meeting of the Society for Psychophysiological Research*. Virtual conference.
38. Fennell, A. M.\*, Bugos, J. A., **Payne, B. R.**, & Schotter, E. R., (2020). Musical training's benefit to working memory is specific to the phonological loop. *Virtual Working Memory Symposium*. Virtual conference.
39. Silcox, J.\*, Lopes, C.L.\*, Mickey, B., & **Payne, B.R.** (2019). The role of the left inferior frontal cortex in memory for predictable and unpredictable words: An event-related rTMS study. *Snowbird Neuroscience Symposium*. Snowbird, Utah. <sup>9</sup>
40. LoTempio, S.\*, Silcox, J.\*, Federmeier, K.D., & **Payne, B.R.** (2019). A test of coupling between electrophysiological and pupillary responses in a visual oddball task. *Snowbird Neuroscience Symposium*. Snowbird, Utah.
41. LoTempio, S.\*, Scott., E.\*, Hopman, R.J.\*, McDonnel, A.\*, McKinney, T.\*, **Payne, B.R.**, & Strayer, D. (2019). Nature as a potential moderator of the error-related negativity. *The SHIFT Conference: Nature as Medicine*. Jackson Hole, Wyoming.
42. LoTempio, S.\*, Silcox, J.\*, Federmeier, K.D., & **Payne, B.R.** (2019). Simultaneous EEG-pupillometry reveals coupling between electrophysiological and pupillary responses in a visual oddball task. *Annual Meeting of the Society for Psychophysiological Research*. Washington, D.C.
43. LoTempio, S.\*, Federmeier, K.D., & **Payne, B.R.** (2018). Co-registration of pupillary and electrophysiological responses in a visual oddball task. *Annual Meeting of the Psychonomic Society*. New Orleans, LA.
44. **Payne, B.R.**, Silcox, J.\*, Lash, A., Ferguson, S.H., & Lohani, M. (2018). Text captioning reduces the effects of perceptual effort on speech memory. *Annual Meeting of the Psychonomic Society*. New Orleans, LA.
45. **Payne, B.R.**, Silcox, J.\*, Lash, A., Ferguson, S.H., & Lohani, M. (2018). Assistive text captioning offsets the effects of background noise on speech memory and pupillometry. *Academy of Rehabilitative Audiology Institute*. Pittsburgh, PA.
46. Chandler, M.C.\*, McGowan, A.L., Wray, A.H., **Payne, B.R.**, Pontifex, M.B. (2018). The relationship between aerobic fitness and neuroelectric indices of reading in college-aged adults. *Annual Meeting of the Society for Psychophysiological Research*. Quebec City, Quebec, Canada.
47. Ostlund, B.D.\*, Williams, L.H.\*, **Payne, B.R.**, Conradt, E., Crowell, S.E., & Drew, T. (2018). The adaptive influence of pregnancy-specific anxiety on infant neurophysiology. *Cognitive Science Association for Interdisciplinary Learning*. Hood River, Oregon.
48. **Payne, B.R.** & Federmeier, K.D. (2018). Semantic activation and integration across parafoveal and foveal vision during sentence reading: Evidence from event-related brain potentials. *CUNY Conference on Human Sentence Processing*, Davis, CA.
49. **Payne, B.R.** & Federmeier, K.D. (2017). Take your time: Aging, volitional control, and intraindividual variability in context processing in sentence comprehension. *Annual Meeting*

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<sup>9</sup>Note: Won first place in best poster award.



of the Society for Psychophysiological Research. Vienna, Austria.

50. Ng, S., **Payne, B.R.**, Federmeier, K.D., & Stine-Morrow, E.A.L. (2017). How do low literacy adults read and how much do they retain? A reading-time and recall study. *Annual Meeting of the Association for Psychological Science*. Boston, MA.
51. Gross A.L., **Payne, B.R.**, Casanova, R., Dvoudzadeh, P., Dzierzewski, J., Farias, S., Giovannetti, T., Ip, E., Marsiske, M., Rebok, G., Schaie, W., Thomas, K., Willis, S., Jones, K. (2017). Moving Theory to Practice: Hands-On Approaches to Cognitive Remediation in Older Adults. *Annual Meeting of the American Psychological Association*. Washington, DC.
52. **Payne, B.R.** & Federmeier, K.D. (2017). Age-related changes in incremental semantic processing: Evidence from single-word ERPs. *Annual Meeting of the Cognitive Neuroscience Society*. San Francisco, CA.
53. Hill, P.L., Lewis, N.A., **Payne, B.R.**, & Turiano, N.A. (2016). Sense of purpose predicts level and change in subjective memory beliefs: Findings from the MIDUS cohort. *Annual Meeting of the Gerontological Society of America*. Boston, MA.
54. **Payne, B.R.** & Federmeier, K.D. (2016). As far as the eye can see: Event-related brain potentials reveal dynamics of visuospatial attention allocation during reading. *56th Annual Meeting of the Society for Psychophysiological Research*. Minneapolis, MN.
55. **Payne, B.R.** & Federmeier, K.D. (2016). Co-registration of event-related single-trial EEG and reading time reveal intraindividual variability in context use in language processing. *Annual Meeting of the Cognitive Neuroscience Society*. New York City, New York.
56. **Payne, B.R.** & Federmeier, K.D. (2016). Event-related brain potentials reveal age-related changes in the recruitment of parafoveal visual attention in reading. *The Cognitive Aging Conference*. Atlanta, GA.
57. Steen, A., Ng, S., **Payne, B.R.**, Federmeier, K.D., & Stine-Morrow, E.A.L. (2016). The effects of age and literacy skill on eye-movement control during lexical ambiguity resolution. *The Cognitive Aging Conference*. Atlanta, GA.
58. Ng, S., **Payne, B.R.**, Stine-Morrow, E.A.L. & Federmeier, K.D. (2016). Literacy skill modulates age differences in the use of context in language processing: Evidence from ERPs. *The Cognitive Aging Conference*. Atlanta, GA.
59. **Payne, B.R.** & Stine-Morrow, E.A.L. (2016). Mild cognitive impairment and semantic integration in language processing. *CLEAR Initiative: Cognition, Lifespan Engagement, Aging, and Resilience*. Beckman Institute, Urbana, IL.
60. **Payne, B.R.** & Federmeier, K.D. (2015). Multiple effects of sentential context on lexical processing: Evidence from single-item event-related brain potentials. *Annual Meeting of the Psychonomic Society*. Chicago, IL.
61. **Payne, B.R.** & Federmeier, K.D. (2015). Risky readers? Event-related brain potentials reveal age-related changes in the recruitment of parafoveal visual attention in reading. *Society for the Neurobiology of Language*. Chicago, IL.
62. **Payne, B.R.** & Federmeier, K.D. (2015). Pace yourself: Intraindividual variability in context use revealed by self-paced event-related brain potentials. *55th Annual Meeting of the Society for Psychophysiological Research*. Seattle, WA.

63. Steen, A., Ng, S., **Payne, B.R.**, Federmeier, K.D., & Stine-Morrow, E.A.L. (2015). Use of contextual constraint among adult readers varying in age and literacy skill. *Annual Meeting of the American Psychological Association*. Toronto, ON, Canada.
64. Gross A.L., **Payne, B.R.**, Casanova, R., Dvoudzadeh, P., Dzierzewski, J., Farias, S., Giovannetti, T., Ip, E., Marsiske, M., Rebok, G., Schaie, W., Thomas, K., Willis, S., Jones, K. (2015). The ACTIVE conceptual diagram as a structural equation model. *Annual Meeting of the Gerontological Society of America*. Orlando, FL.
65. **Payne, B.R.**, Stites, M.C., & Federmeier, K.D. (2015). Out of the corner of my eye: Event-related potentials reveal effects of foveal load on parafoveal word processing during reading. *Annual Meeting of the Cognitive Neuroscience Society*. San Francisco, CA.
66. Stites, M.C., **Payne, B.R.**, & Federmeier, K.D. (2015). Getting ahead of yourself: Parafoveal word expectancy modulates the N400 during sentence reading. *Annual Meeting of the Cognitive Neuroscience Society*. San Francisco, CA.
67. Lewis, N., Turiano, N., **Payne, B.R.**, & Hill, P. (2014). Purpose and cognitive functioning from middle to older adulthood. *67th Annual Meeting of the Gerontological Society of America*. Washington, DC.
68. **Payne, B.R.** & Stine-Morrow, E.A.L. (2014). RT distributional analyses of age differences in wrap-up during sentence comprehension. *The Cognitive Aging Conference*. Atlanta, GA.
69. **Payne, B.R.** & Stine-Morrow, E.A.L. (2014). The iTrain project: Effects of home-based verbal working memory training on language comprehension in older adults. *The Cognitive Aging Conference*. Atlanta, GA.
70. Chin, J., **Payne, B.R.**, Fu, W-T, Morrow, D.G., Stine-Morrow, E.A.L. (2014). Information foraging across the lifespan: Search and switch in unknown patches. *The Cognitive Aging Conference*, Atlanta, GA.
71. **Payne, B.R.**, James, A., Stine-Morrow, E.A.L., & Watson, D. (2014). Eye movements during reading reflect subsequent sentence memory: Evidence from subject and object relative clauses. *CUNY Conference on Human Sentence Processing*, Columbus, OH.
72. Stine-Morrow, E.A.L., **Payne, B.R.**, & Giffin, L. (2013). Everyday engagement as a source of cognitive vitality? Lessons learned from the Senior Odyssey Project. In (Chairs), Plasticity and Real-Life Interventions. Symposium presented at the *66th annual meeting of the Gerontological Society of America*. Orlando, FL.
73. **Payne, B.R.** (2013). Publishing in experimental psychology: A graduate student's perspective. In D. Morrow, F. Durso, & Brewer, N. (Chairs). How to publish papers that matter. Symposium presented at the *Annual Meeting of the American Psychological Association*. Honolulu, HI.
74. Giffin, L., **Payne, B.R.**, & Stine-Morrow, E.A.L. (2013). Dispositional flow: A resource for successful aging. *The 66th Annual Meeting of the Gerontological Society of America*, New Orleans, LA.
75. **Payne, B.R.**, Hill, P.L., Gross, A.L., Parisi, J.M., Rebok, G.W., & Stine-Morrow, E.A.L. (2013). Bifactor modeling of subjective memory beliefs and cognitive function in older adulthood: What's memory got to do with it? *The 121st Annual Meeting of the American Psychological Association*, Honolulu, HI.

76. **Payne, B.R.** & Stine-Morrow, E.A.L. (2012). Aging and parafoveal word processing at clause and sentence boundaries: An eye-movement study. *The 2012 Cognitive Aging Conference*, Atlanta, GA.
77. Chin, J., **Payne, B.R.**, Morrow, D., Stine-Morrow, E.A.L., Gao, X., Conner-Garcia, T., Graulich, J., & Murray, M. (2012). Effects of domain: General and health knowledge effects on sentence processing and recall among older adults. *The 2012 Cognitive Aging Conference*, Atlanta, GA.
78. Gao, X., Grison, S., **Payne, B.R.**, Christianson, K., Morrow, D.G., & Stine-Morrow, E.A.L. (2012). Aging and text integration across sentence boundaries: An eye-movement study. *The 2012 Cognitive Aging Conference*, Atlanta, GA.
79. Chin, J., **Payne, B.R.**, Battles, A., Fu, W., Morrow, D.G., & Stine-Morrow, E.A.L. (2012). Age differences in information foraging: Search and switch in word search puzzles. *The 2012 Cognitive Aging Conference*, Atlanta, GA.
80. Grison, S., **Payne, B.R.**, Christianson, K., Morrow, D.G., & Stine-Morrow E.A.L. (2012). Aging and under-specification of syntactic ambiguity resolution. *The 2012 Cognitive Aging Conference*, Atlanta, GA.
81. **Payne, B.R.** (2012). Language experience moderates sentence comprehension in adulthood. *HABITS Initiative: Health, Attitudes, Biology, Information, Technology, Society*, Urbana, IL.
82. Stine-Morrow, E. A. L., **Payne, B. R.**, Gao, X., Chui, H., Jackson, J., & Hill, P. (2011). *Engagement as an organizing principle for cognitive resilience*. In P. Hartman-Stein (Chair), Innovative interventions for cognitive enhancement. Symposium presented at the annual meeting of the American Psychological Association. Washington, DC.
83. **Payne, B.R.**, Jackson, J.J., Hill, P.L., Gao, X., Roberts, B.W. & Stine-Morrow, E.A.L. (2011). Memory self-efficacy predicts responsiveness to inductive reasoning training in older adults. *The 64th meeting of the Gerontological Society of America*, Boston, MA.
84. Chui, H., Gao, X., **Payne, B.R.**, Hill, P., Jackson, J.J., Kramer, A.F., & Stine-Morrow, E.A.L. (2011). Social support moderates the effect of attentional inconsistency on fluid ability in older adults. *The 119th annual convention of the American Psychological Association*, Washington, DC.
85. **Payne, B.R.** (2011). Memory beliefs in older adulthood: Individual differences in non-target cognitive training outcomes. *The Lifelong Brain and Cognition Proseminar*, Urbana, IL.
86. **Payne, B.R.** (2011). Cognitive reserve in language processing across the lifespan: The role of print exposure. *The Beckman Institute Innovation Summit on Educational Neuroscience: Minds, Brains, and New Literacies*, Urbana, IL.
87. **Payne, B.R.** (2010). Cognitive plasticity in older adulthood: The role of self-efficacy beliefs in cognitive training. *The Cognitive Science of Teaching and Learning Proseminar*, Urbana, IL.
88. Gao, X., **Payne, B.R.**, & Stine-Morrow, E.A.L. (2010). Memory self-efficacy predicts longitudinal changes in resource allocation and text memory in reading. *The Gerontologist*, 50, 149.

89. **Payne, B.R.**, Gao, X., & Stine-Morrow, E.A.L. (2010). Measures of reading skill dissociate online language processes among older adults. *The Gerontologist*, 50, 148.
90. Jackson, J.J, Hill, P.L., **Payne, B.R.**, Roberts, B.W., & Stine-Morrow, E.A.L. (2010). Can an old dog learn (and want to experience) new tricks? Cognitive training increases openness in older adults. *The 15th Annual European Conference on Personality*, Brno, Czech Republic.
91. **Payne, B.R.**, Noh, S.R., & Stine-Morrow, E.A.L. (2010). In the zone: Flow and cognition in older adults. *The 2010 Cognitive Aging Conference*, Atlanta, GA.
92. Noh, S.R., Shake, M.C., **Payne, B.R.**, & Stine-Morrow, E.A.L. (2010). Age differences in the detection of textbase or situational inconsistency during narrative comprehension: An eye movement study. *The 2010 Cognitive Aging Conference*, Atlanta, GA.
93. **Payne, B.R.** (2009). Cognition and activity engagement in adulthood. *The Cognitive Science of Teaching and Learning Proseminar*, Urbana, IL.
94. **Payne, B.R.**, Smiler, A.P., & O'Brien, C. (2009). You are what you watch: Identity and media usage. *The 117th annual convention of the American Psychological Association*, Toronto, ON, Canada.
95. **Payne, B.R.** (2008). Investigating the occurrence of change deafness and inattentive deafness in musical auditory scenes. *The Cornell University Sigma Xi Conference*, Ithaca, NY.

## Editorial Service

<i>Psychology and Aging</i> , Consulting Editor	2018 - 2024
<i>Journal of Language and Aging Research</i> . Associate Editor (inaugural board member)	2023
<i>Attention, Perception, and Psychophysics</i> . Special Issue Associate Editor	2023-2024
<i>Psychology of Learning and Motivation</i> , Volume 77, Co-Editor	2022

### *Ad Hoc Journal Review*

*N* = 42 peer reviewed journals

*Aging, Neuropsychology, and Cognition; Applied Gerontology; Applied Psycholinguistics; Attention Perception and Psychophysics; Brain and Cognition; Brain and Language; Brain Imaging and Behavior; British Journal of Psychology; Clinical Interventions in Aging Research; Clinical Psychological Sciences; Cognition; Cortex; Cognitive Science; Cognitive Neuropsychology; Developmental Psychology; The Gerontologist; The International Journal of Aging and Human Development; The Journal of Adolescent Health, Medicine, and Therapeutics; Journal of Experimental Psychology: Human Perception and Performance; Journal of Experimental Psychology: Learning, Memory, and Cognition; Journal of Memory and Language; Journal of Neuroscience; Journal of Gerontology: Psychological Science; Journal of Speech, Language, and Hearing Research; Journal of the Acoustical Society of America; Journal of Research in Reading; Laboratory Phonology; Language, Cognition, and Neuroscience; Language Learning; Memory; Neurobiology of Aging; NeuroImage; NeuroImage: Clinical; Neuropsychologia; Neuroscience Letters; PLOS ONE; Proceedings of the National Academy of Sciences; Psychophysiology; Psychology and Aging; Quarterly Journal of Experimental Psychology; Scientific Reports; Trends in Cognitive Science.*

## Teaching Experience

### *Courses*

<b>Introduction to Quantitative Methods</b> PSY 5499/6499. Instructor of Record. University of Utah	2019, 2021
<b>Advanced Cognitive Electrophysiology</b> PSY 5150/6150. Co-creator and Instructor of Record. University of Utah.	2019, 2020
<b>Cognitive Neuropsychology</b> PSYC 3140. Instructor of Record. University of Utah	2018 - 2024
<b>Cognitive Neuroscience: Applications to Research</b> PSY 6140. Instructor of Record. University of Utah	2018, 2022
<b>Applied Hierarchical Linear Modeling with Lab</b> EPSY 590. Instructor of Record. University of Illinois	2013

### *Educational Workshops*

<b>Society for Psychophysiological Research</b> Workshop on Human Electrophysiology Webinar <a href="https://sprweb.org/events/EventDetails.aspx?id=1221567">https://sprweb.org/events/EventDetails.aspx?id=1221567</a> Co-Instructor with Dr. Kara Federmeier	2019
<b>Linear Mixed-Effects Modeling of Electrophysiological Data</b> Summer Methods Workshop. Beckman Institute. University of Illinois	2016

## Student Supervision

### *Postdoctoral Research Scientist Mentorship*

Jack Silcox, PhD	2023 - present
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### *PhD Student Mentorship*

Sara LoTempio <sup>10</sup> , NSF Fellow, Cognition and Neural Science	2018 - 2022
Jack Silcox <sup>11</sup> , Cognition and Neural Science	2018 - 2023
Clara Lopes, Cognition and Neural Science	2019 - present
Lydia Kallhoff <sup>12</sup> , Speech Language Pathology (co-advisor)	2020 - present
Ryan Murdock <sup>13</sup> , Cognition and Neural Science	2020 - 2021
Allyson Copeland, NSF Fellow, Cognition and Neural Science	2021- present
Sarah Woods, NIDCD Scholar & NSF Fellow, Cognition and Neural Science	2022 - present
Caroline Armknecht, Clinical Neuropsychology (co-advisor)	2024 - present

### *Communication Sciences & Disorders Research Mentor*

Mark Rasmussen, Doctor of Audiology (AuD) Capstone	2020 - 2022
Brittany Carpenter, Doctor of Audiology (AuD) Capstone	2019 - 2021
Nicole Parente, Doctor of Audiology (AuD) Capstone	2019 - 2021

<sup>10</sup>Now Assistant Professor (Tenure Track) at Colorado State University.

<sup>11</sup>Now Postdoctoral Research Scientist at University of Utah.

<sup>12</sup>Now Assistant Professor of Medical Speech Language Pathology (tenure track) at Rocky Mountain University of Health Professions.

<sup>13</sup>Now Machine Learning Engineer at Adobe.

### *Undergraduate Mentorship*

Hope Caviness, Baylor University. SPUR Visiting Student	2022
Benning Lozada, University of Utah. Research Assistant	2022 - present
Tyler Endow, University of Utah. Research Assistant	2022 - present
Mariah Erickson <sup>14</sup> , University of Utah, Honors & UROP Program	2020 - 2021
Avery Wall, UNC Chapel Hill. SPUR Visiting Student	2021
Karen Bennet, University of Utah. Research Assistant and Lab Manager	2020 - present
Ali Bergmark <sup>15</sup> , University of Utah. UROP Program & Human Factors Certificate	2021 - 2022
Nathania Wong, University of Utah. Research Assistant	2021 - 2022
Jim Faulkner, University of Utah. Research Assistant	2021 - present
Jordan Colligan, University of Utah. Research Assistant	2021 - present
Hakop Kardzhyan, University of Utah. Research Assistant	2021
Shaylie Platten, University of Utah. UROP Program	2021 - Present
Andre Stensaas, University of Utah. Research Assistant	2020 - 2021
Victoria Estevez, University of South Florida. Honors Program	2021
Dimitri Brunelle, University of South Florida. Honors Program	2020
Haily Latimer, University of Utah. Human Factors Certificate	2020
Elisabeth Antley, University of Utah. Honors Program	2020 - 2021
Jordan Anderson, University of Utah. Research Assistant	2019 - 2020
William Finaly, University of Utah. SPUR Visiting Student	2019
Vanessa Srivastava <sup>16</sup> , University of Utah. Honors and UROP Program	2018 - 2019
Jessica Stoker <sup>17</sup> , University of Utah. Research Assistant and UROP Program	2018 - 2020
Wardah Ishak, University of Utah. Research Assistant	2018
Hannah Crandell <sup>18</sup> , University of Utah. Research Assistant and Lab Manager	2018 - 2021
Irene Kim <sup>19</sup> , University of Utah. Research Assistant	2018 - 2019
Melissa Coeffel <sup>20</sup> , University of Illinois Behavioral Neuroscience Honors Program	2016 - 2017

### **Thesis, Prelim Exam, and Dissertation Committees**

#### Committee Chair or Co-Chair\*

Clara Lopes, PhD. Cognition and Neural Science, University of Utah\*  
Sara Milligan, PhD. Psychology, University of South Florida  
Sarah Woods, M.S. Cognition and Neural Science, University of Utah\*  
Martina Hollearn, M.S. Cognition and Neural Science, University of Utah  
Keith Jones, PhD. Neuroscience, University of Utah  
Dara Zwemer, M.S. Cognition and Neural Science, University of Utah  
Morgan Saxon, PhD. Cognition and Neural Science. University of Utah  
Allyson Copeland, M.S. Cognition and Neural Science. University of Utah\*  
Lydia Kalhoff, PhD. Communication Sciences and Disorders. University of Utah\*  
Melinh Lai, PhD. Cognitive Neuroscience. University of Illinois  
Sara LoTempio, M.S. & PhD. Cognition and Neural Science, University of Utah\*

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<sup>14</sup> Now psychiatric staff at Huntsman Mental Health Institute.

<sup>15</sup> Now PhD student at UConn.

<sup>16</sup> Now at Summit Community Counseling.

<sup>17</sup> Now M.S. student at Idaho State University.

<sup>18</sup> Now PhD student at University of Central Florida.

<sup>19</sup> Now PhD student at at Yonsei University (South Korea).

<sup>20</sup> Now PhD student at Columbia University.



Clara Lopes, M.S. Cognition and Neural Science, University of Utah\*  
 Emily Scott, M.S. & PhD. Cognition and Neural Science, University of Utah  
 Jack Silcox, M.S. Cognition and Neural Science, University of Utah\*  
 Holly Gagnon, M.S. & PhD. Cognition and Neural Science, University of Utah  
 Keith Jones, M.S. Neuroscience, University of Utah  
 Amy McDonnell, M.S. Cognition and Neural Science, University of Utah  
 Ty McKinney, M.S. Cognition and Neural Science, University of Utah  
 Rachel Hopman, PhD. Cognition and Neural Science, University of Utah  
 Spencer Castro, PhD. Cognition and Neural Science, University of Utah  
 Ascher Munion, PhD. Cognition and Neural Science, University of Utah

## Professional Service

### *Departmental and University Service*

<i>Program Area Head.</i> Cognition and Neural Science Program, University of Utah.	2024 - present
<i>Search Committee Chair.</i> Psychology Department. University of Utah.	2024 - 2025
<i>Personnel Committee.</i> Psychology Department, University of Utah.	2024 - 2027
<i>Working Group Member.</i> Undergraduate Neuroscience Major, University of Utah.	2024 - present
<i>Scientific Mentor.</i> VPCAT Program. School of Medicine, University of Utah.	2022 - 2024
<i>Graduate Committee.</i> Department of Psychology, University of Utah.	2021 - 2023
<i>Faculty Mentor.</i> BUILDing Scholars NIH Training Program. <sup>21</sup>	2020
<i>Faculty Search Committee.</i> Department of Psychology, University of Utah.	2019
<i>Faculty Search Committee.</i> Communication Sciences and Disorders, University of Utah.	2019
<i>Faculty Search Committee.</i> Neurobiology and Neuroanatomy, University of Utah.	2018
<i>Graduate Committee.</i> Department of Psychology, University of Utah.	2017 - 2019
<i>Beckman Institute Initiative.</i> University of Illinois.	2016
<i>Faculty Search Committee.</i> Cognitive Science of Learning. University of Illinois.	2014
<i>Co-organizer</i> NIH Language Processing Seminar. University of Illinois.	2013
<i>Fellowship Search Committee.</i> Paul D. Doolen Fellow. University of Illinois.	2013
<i>Community Outreach and Science Education.</i> Beckman Institute Open House.	2011 - 2015

### *Other Service*

<i>Committee Chair.</i> Archive Committee. Society for Psychophysiological Research.	2024 - 2027
<i>NIH Panelist.</i> FO1B. "Learning and Memory, Language, and Related Neurosciences."	2023-2024
<i>Co-Organizer.</i> Co-Registration Leading Edge Workshop.	2021 - 2022
<i>Bylaws Committee.</i> Society for Psychophysiological Research.	2021 - 2024
<i>Graduate Poster Judge.</i> Meeting of the Society for Psychophysiological Research	2019 - 2019
<i>Grant Reviewer.</i> National Science Foundation.	2018 - 2019
<i>Education and Training Committee.</i> Society for Psychophysiological Research	2017 - 2020

## Tools and Scale Development

The AFSS (Activity Flow State Scale) (with Elizabeth A.L. Stine-Morrow, Soo Rim Noh, and Joshua Jackson). Available from PsycTESTS. <http://dx.doi.org/10.1037/t06855-000>

The iTrain Working Memory App for iPad (with Elizabeth A.L. Stine-Morrow & Thomas Deegan). Source Code available at: <https://github.com/TALL1532/itrain>

<sup>21</sup>Note: Cancelled early due to COVID-19.

## In The News

<i>Psychonomic Society Blog</i>	2022
<a href="#">“I don’t know what working memory interference is, I’m a musician”</a>	
<i>Health &amp; Medicine Week</i>	2022
<a href="#">“Study results from University of Utah in the area of hearing loss reported”</a>	
<i>Sorensen</i>	2022
<a href="#">“Assistive captioning can benefit adults with age-related hearing loss”</a>	
<i>Psychology Today</i>	2021
<a href="#">“Language, Comprehension, and the Aging Brain”</a>	
<i>Yahoo! News</i>	2021
<a href="#">“How to nurture creativity in your kids”</a>	
<i>World Economic Forum</i>	2017
<a href="#">“What is cognitive reserve, and how do we increase it?”</a>	
<i>Beckman Institute Annual Report</i>	2015
<a href="#">“Read between the lines”</a>	
<i>Elderbranch</i>	2014
<a href="#">“Interview: Memory for language in older adulthood”</a>	
<i>Beckman Institute News</i>	2013
<a href="#">“Power of positive thinking in older adulthood”</a>	
<i>Illinois News Bureau</i>	2012
<a href="#">“Doolen scholarships awarded to continue studies in gerontology”</a>	
<i>CNN</i>	2012
<a href="#">“Study: Challenging seniors brains can also change their personality”</a>	
<i>Science Daily</i>	2012
<a href="#">“Enhancing cognition in older adults also changes personality”</a>	
<i>Futurity</i>	2011
<a href="#">“Brainy tasks keep seniors mentally fit”</a>	