

Matthew K. Robison

Assistant Professor, Psychology, University of Texas at Arlington
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Employment

University of Texas at Arlington 2020-present
Assistant Professor, Department of Psychology

Arizona State University 2018-2020
Postdoctoral Research Associate

Education

University of Oregon, Ph.D. Psychology 2018

University of Oregon, M.S. Psychology 2014

University of Notre Dame, B.B.A. Entrepreneurship, Psychology 2013

Research Funding

Behavioral and Physiological Indicators of Vigilance and Cognitive Fatigue 2022-25
Funding agency: U.S. Naval Research Laboratory
Amount: \$692,065
Role: Principal Investigator

Using Cognitive Offloading to Mitigate Age-Related Declines in Prospective Memory 2022-26
Funding agency: National Institutes of Health
Amount: \$770,000
Role: Co-Investigator

Leveraging multimodal biometric sensing to detect and correct attention and memory failures 2022-23
Funding agency: University of Texas at Arlington (Interdisciplinary Research Program)
Amount: \$20,000
Role: Principal Investigator

Low-cost eye-tracking equipment for psychological research 2019
Cialdini Leap Forward Fund (Arizona State University, Internal Award)
Amount: \$7,500
Role: Co-Investigator

Publications

+denotes undergraduate student co-author

- Robison, M. K. (In press). Abrupt vs. gradual visual onsets in go/no-go measures of sustained attention. *Attention, Perception, & Psychophysics*.
- Unsworth, N., Miller, A. L., & Robison, M. K. (In press). Oculometric indicators of individual differences in preparatory control during the antisaccade task. *Journal of Experimental Psychology: Human Perception and Performance*.
- Robison, M. K., Coyne, J. T., Sibley, C., Brown, N. L., Neilson, B., & Foroughi, C. (2022). An examination of relations between baseline pupil measures and cognitive abilities. *Psychophysiology*.
- Unsworth, N., Robison, M. K., & Miller, A. L. (2022). The influence of working memory capacity and lapses of attention for variation in error monitoring. *Cognitive, Affective, & Behavioral Neuroscience*, 22(3), 450-466.
- Robison, M. K., Diede, N. T., Nicosia, J., Ball, B. H., & Bugg, J. M. (2022). A multimodal analysis of sustained attention in younger and older adults. *Psychology & Aging*, 37(3), 307-325.
- Robison, M. K., Trost, J. M., Schor, D., Gibson, B. S., & Healey, M. K. (2022). Pupillary correlates of individual differences in long-term memory. *Psychonomic Bulletin & Review*.
- Robison, M. K., & Brewer, G. A. (2022). Individual differences in working memory capacity, attention control, fluid intelligence, and pupillary measures of arousal. *Journal of Experimental Psychology: Learning, Memory and Cognition*.
- Ball, B. H., Robison, M. K., Coulson, A.,⁺ & Brewer, G. A. (2022). Individual differences in disqualifying monitoring underlie false memories across different paradigms. *Memory & Cognition*, 50, 751-764.
- Unsworth, N., Robison, M. K., & Miller, A. L. (2021). On the relation between working memory capacity and the antisaccade task. *Journal of Experimental Psychology: Learning, Memory, and Cognition*.
- Robison, M. K., Obulasetty, M. O.,⁺ Wingert, K. M., Blais, C., & Brewer, G. A. (2022). The effect of binaural beat stimulation on sustained attention. *Psychological Research*, 86(3), 808-822.
- Unsworth, N., Miller, A. L., & Robison, M. K. (2021). No consistent correlation between baseline pupil diameter and cognitive abilities after controlling for confounds—A comment on Tsukahara and Engle (2021). *Cognition*, 215, 104825.
- Robison, M. K., Ellis, D. M., Pitaes, M. M., Karoly, P., & Brewer, G. A. (2021). Acute pain impairs sustained attention. *Journal of Experimental Psychology: Applied*, 27, 3, 563-577.
- Unsworth, N., Miller, A. L., & Robison, M. K. (2021). Are individual differences in attention control related to working memory capacity? A latent variable mega-analysis. *Journal of Experimental Psychology: General*, 150, 7, 1332-1357.
- Unsworth, N., Robison, M. K., & Miller, A. L. (2021). Individual differences in lapses of attention: A latent variable analysis. *Journal of Experimental Psychology: General*, 150, 7, 1303-1331.

- Robison, M. K., Unsworth, N., & Brewer, G. A. (2021). Examining the effects of goal-setting, feedback, and incentives on sustained attention. *Journal of Experimental Psychology: Human Perception and Performance*, 47(6), 869-891.
- Ellis, D.M., Robison, M. K., & Brewer, G. A. (2021). The cognitive underpinnings of multiply-constrained problem-solving. *Journal of Intelligence*, 7, 9.
- Unsworth, N., Miller, A. L., & Robison, M. K. (2021). Is working memory capacity related to baseline pupil diameter? *Psychonomic Bulletin & Review*, 28, 228-237.
- Chowdry, M. S. N., Dutta, A., Robison, M. K., Blais, C., Brewer, G. A., & Bliss, D. W. (2020). Deep neural network for visual stimulus-based reaction time. *Sensors*, 20, 21, 6090.
- Robison, M. K., & Brewer, G. A. (2020). Individual differences in working memory capacity and the regulation of arousal. *Attention, Perception, & Psychophysics*, 82, 3273-3290.
- Robison, M. K., Miller, A. L., & Unsworth, N. (2020). A multi-faceted approach to understanding individual differences in mind-wandering. *Cognition*, 198, 104078.
- Unsworth, N., Miller, A. L., & Robison, M. K. (2020). Individual differences in lapses of sustained attention: Oculometric indicators of intrinsic alertness and preparatory control. *Journal of Experimental Psychology: Human Perception and Performance*, 46, 569-592.
- Chowdry, M. S. N., Dutta, N., Robison, M. K., Blais, C., Brewer, G. A., & Bliss, D. W. (2020). A generalized model to estimated reaction time corresponding to visual stimulus using single-trial EEG. *42nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society*. Montréal, QC, Canada. *Peer-reviewed conference paper*.
- Unsworth, N., & Robison, M. K. (2020). Working memory capacity and sustained attention: A cognitive-energetic perspective. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 46, 77 – 103.
- Unsworth, N., Robison, M. K., & Miller, A. L. (2019). Individual differences in baseline oculometrics: Examining variation in baseline pupil diameter, spontaneous eye blink rate, and fixation stability. *Cognitive, Affective, & Behavioral Neuroscience*, 19, 1074 – 1093.
- Unsworth, N., Miller, A. L., & Robison, M. K. (2019). Individual differences in encoding strategies and free recall dynamics. *The Quarterly Journal of Experimental Psychology*, 72, 2495 – 2508.
- Robison, M. K., Miller, A. L., & Unsworth, N. (2019). Examining the effects of probe frequency, response options, and framing within the thought-probe method. *Behavior Research Methods*, 51, 398 – 408.
- Robison, M. K., & Unsworth, N. (2019). Pupillometry tracks fluctuations in working memory performance. *Attention, Perception, & Psychophysics*, 81, 407 – 419.
- Unsworth, N., & Robison, M. K. (2018). Tracking mind-wandering and arousal state with pupillometry. *Cognitive, Affective, & Behavioral Neuroscience*, 18, 638 – 664.
- Unsworth, N., Robison, M. K., & Miller, A. L. (2018). Pupillary correlates of fluctuations in sustained attention. *Journal of Cognitive Neuroscience*, 30, 1241 – 1253.
- Adam, K. C. S., Robison, M. K., & Vogel, E. K. (2018). Contralateral delay activity tracks fluctuations in working memory performance. *Journal of Cognitive Neuroscience*, 30, 1229 – 1240.

- Robison, M. K., Miller, A. L., & Unsworth, N. (2018). Individual differences in working memory capacity and filtering. *Journal of Experimental Psychology: Human Perception and Performance*, *44*, 1038 – 1053.
- Unsworth, N., & Robison, M. K. (2018). Tracking working memory maintenance with pupillometry. *Attention, Perception, & Psychophysics*, *80*, 461 – 484.
- Robison, M. K., & Unsworth, N. (2018). Cognitive and contextual correlates of spontaneous and deliberate mind-wandering. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *44*, 85 – 98.
- Unsworth, N., & Robison, M. K. (2017). The importance of arousal for variation in working memory capacity and attention control: A latent variable pupillometry study. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *43*, 1962 – 1987.
- Robison, M. K., & Unsworth, N. (2017). Individual differences in working memory capacity predict learned control over attentional capture. *Journal of Experimental Psychology: Human Perception and Performance*, *43*, 1912 – 1924.
- Unsworth, N. & Robison, M. K. (2017). A locus coeruleus-norepinephrine account of individual differences in working memory capacity and attention control. *Psychonomic Bulletin & Review*, *24*, 1282 – 1311.
- Robison, M. K., & Unsworth, N. (2017). Variation in the use of cues to guide attention in visual working memory. *Attention, Perception, & Psychophysics*, *79*, 1652 – 1665.
- Robison, M. K., McGuirk, W. P., & Unsworth, N. (2017). No evidence for enhancements to visual working memory with transcranial direct current stimulation to prefrontal or posterior parietal cortices. *Behavioral Neuroscience*, *131*, 277 – 288.
- Robison, M. K., & Unsworth, N. (2017). Working memory capacity and mind-wandering during low-demand cognitive tasks. *Consciousness and Cognition*, *52*, 47 – 54.
- Unsworth, N., & Robison, M. K. (2017). Pupillary correlates of covert shifts of attention during working memory maintenance. *Attention, Perception, & Psychophysics*, *79*, 782 – 795.
- Robison, M. K., & Unsworth, N. (2017). Individual differences in working memory capacity and resistance to belief bias in syllogistic reasoning. *The Quarterly Journal of Experimental Psychology*, *70*, 1471 – 1484.
- Robison, M. K., Gath, K. I.,⁺ & Unsworth, N. (2017). The neurotic wandering mind: An individual differences investigation of neuroticism, mind-wandering, and executive control. *The Quarterly Journal of Experimental Psychology*, *70*, 649 – 663.
- Robison, M. K., & Unsworth, N. (2017). Working memory capacity, strategic allocation of study time, and value-directed remembering. *Journal of Memory and Language*, *93*, 231 – 244.
- Unsworth, N., & Robison, M. K. (2016). Pupillary correlates of lapses of sustained attention. *Cognitive, Affective, & Behavioral Neuroscience*, *16*, 601 – 615.
- Robison, M. K., & Unsworth, N. (2016). Do participants differ in their cognitive abilities, task motivation, or personality characteristics as a function of time of participation? *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *42*, 897 – 914.

Unsworth, N., & Robison, M. K. (2016). The influence of lapses of attention on working memory capacity. *Memory & Cognition*, 44, 188 – 196.

Robison, M. K., & Unsworth, N. (2015). Working memory capacity offers resistance to mind-wandering and external distraction in a context-dependent manner. *Applied Cognitive Psychology*, 29, 680 – 690.

Unsworth, N. & Robison, M. K. (2015). Individual differences in the allocation of attention to items in working memory: Evidence from pupillometry. *Psychonomic Bulletin & Review*, 22, 757 – 765.

Gibson, B. S., Gondoli, D. M., Johnson, A. C., & Robison, M. K. (2014). Recall initiation strategies must be controlled in training studies that use immediate free recall tasks to measure the components of working memory capacity across time. *Child Neuropsychology*, 20, 536-556.

Unfunded Research Proposals

Implementing low-cost eye-tracking and wearable actigraphy to detect abnormal locus coeruleus functioning, sleep disruptions, and cognitive decline for early detection of dementia

National Institutes of Health/National Institute of Aging

Amount: \$2,043,718 (Not funded)

A latent state-trait analysis of arousal regulation and cognition

National Science Foundation

Amount: \$838,755 (Not funded)

Predictive Modeling of Student Engagement with Virtual and Online Learning

James S. McDonnell Foundation Opportunity Program

Amount: \$250,000 (Not funded)

LC-NE Regulation and Attention

NIH Ruth L. Kirschstein NRSA Individual Postdoctoral Fellowship

Amount: \$187,662 (Not funded)

The Impact of Physical Fatigue on the Cognitive Health of Student Athletes

ASU Global Sport Institute

Amount: \$20,000 (Not funded)

Honors and Awards

Summer Faculty Fellowship (\$16,500)

2022 | Office of Naval Research

General University Scholarship (\$3,000)

2017 | University of Oregon

- Robison, M. K., & Unsworth, N. (2018, November). Pupillometry tracks fluctuations in working memory performance. *Poster presented at the 59th Annual Meeting of the Psychonomic Society, New Orleans, LA.*
- Robison, M. K., & Unsworth, N. (2017, November). Individual differences in working memory capacity and filtering. *Poster presented at the 58th Annual Meeting of the Psychonomic Society, Vancouver, BC, Canada.*
- Robison, M. K. (2017, September). Working memory capacity: Multiple mechanisms of control. *Invited talk given to the Cognition, Brain, and Behavior group at the University of Notre Dame.*
- Robison, M. K. (2016, October). Cognition, disposition, and context: A multifaceted approach to mind-wandering. *Presentation of Preliminary Exams at the University of Oregon.*
- Robison, M. K., Gath, K. I., & Unsworth, N. (2015, November). The neurotic wandering mind: An individual differences investigation of neuroticism, mind-wandering, and executive control. *Poster presented at the 56th Annual Meeting of the Psychonomic Society, Chicago, IL. (Graduate Travel Award recipient)*
- Robison, M.K. (2014, October). Mind-wandering and distraction in silent and noisy studying environments. *Presentation of a First-Year Project at the University of Oregon.*
- Robison, M.K. & Gibson, B.S. (2013, May). The role of recall initiation strategies in the measurement of primary and secondary memory in the context of a working memory training program. *Poster and oral presentation at the Department of Psychology Undergraduate Research Symposium, University of Notre Dame.*

Professional service

- Consulting Editor, *Psychonomic Bulletin & Review* 2021 – present
- Ad Hoc Reviewer: *Acta Psychologica; Applied Cognitive Psychology; Attention, Perception, and Psychophysics; Behavior Research Methods; Biological Psychology; Consciousness and Cognition; Cognition; Cortex; Discourse Processes; Frontiers in Psychology; Heliyon; International Journal of Psychology; Journal of Applied Research in Memory and Cognition; Journal of Educational Psychology; Journal of Experimental Child Psychology; Journal of Experimental Psychology: Applied; Journal of Experimental Psychology: General; Journal of Experimental Psychology: Human Perception and Performance; Journal of Experimental Psychology: Learning, Memory, and Cognition; Journal of Vision; Language and Linguistics Compass; Learning & Behavior; Learning and Individual Differences; Memory; Memory & Cognition; Neuropsychologia; Perspectives in Psychological Science; PLoS ONE; Psychonomic Bulletin & Review; Research in Developmental Disabilities; The Quarterly Journal of Experimental Psychology; Scientific Reports*

Departmental Service

- Graduate Curriculum Committee Member 2021 - present
- Cognitive Neuroscience Faculty Search Committee 2016-17
- Graduate Student Representative

Advising

Doctoral Dissertation Committees

Phil Peper	2022
Maxine Geltmeier	2021

Master's Thesis Committees

Stephen Campbell	2022
Durna Alakbarova	2021

Honors Thesis Advising

Kiera Wingo (UT-Arlington)	2022
Janine Shuman (UT-Arlington)	2022
Olivia Anchondo (UT-Arlington)	2021
Ben Pope (Arizona State)	2020
Faith Brown (Arizona State)	2020
Deanna Strayer (Arizona State)	2019
Dylan Vas (University of Oregon)	2017
Katherine Gath (University of Oregon)	2015
Kyung Hoon Jeong (University of Oregon)	2015
Christian Arenas (University of Oregon)	2014
Beth Ngan (University of Oregon)	2014

References

Nash Unsworth, Professor, University of Oregon

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Gene Brewer, Associate Professor, Arizona State University

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Thomas Redick, Associate Professor, Purdue University

tsredick@purdue.edu

Samuel McClure, Professor, Arizona State University

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