

Joshua D. Koen

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Principal Investigator
Memory, Aging, & Cognition Laboratory
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ACADEMIC APPOINTMENTS

2018-Present **Assistant Professor**, Department of Psychology, University of Notre Dame

EDUCATION

2013-2018 **Postdoctoral Fellow, Cognitive Neuroscience and Cognitive Aging**

University of Texas at Dallas
Advisor: Michael Rugg

2010-2013 **Ph.D., Cognitive Psychology and Neuroscience**

University of California, Davis
Advisor: Andrew Yonelinas

2008-2010 **M.S., Cognitive Psychology and Neuroscience**

University of California, Davis
Advisor: Andrew Yonelinas

2003-2008 **B.S., Psychology** (*summa cum laude*)

University of Texas at Arlington
Advisor: Timothy Odegard

RESEARCH GRANTS AND FELLOWSHIPS

In Progress

October 2022 **Principal Investigator** **National Institutes of Health**
Submission

Longitudinal changes in neural noise and dedifferentiation, and their relationship cognition across the lifespan
Direct Costs: TBD

July 2022 **Principal Investigator** **National Science Foundation**
Submission

The contribution of age-related reductions in neuromodulatory drive to the neural dedifferentiation (NSF CAREER)
Total Costs: \$875,000

Funded

09/2020-08/2023 **Principal Investigator** **National Institutes of Health**

Investigating the Mechanisms and Functional Consequences of Age-Related Neural Dedifferentiation. (R56 AG068149)

Last Revised: 12/10/2021

Direct Costs: \$420,195

01/2018-10/2023 **Co-Principal Investigator** **University of Notre Dame**
Linking longitudinal stress exposure and resilience with Alzheimer's disease biomarkers.
Direct Costs: \$90,000

Completed

01/2018-12/2018 **Co-Principal Investigator** **University of Notre Dame**
Metasurface-Enabled Diffuse Correlation Spectroscopy: A neuroscientist's tool for elucidating human neurovascular coupling.
Direct Costs: \$50,000

09/2014-08/2017 **Principal Investigator** **National Institutes of Health**
Age differences in episodic memory encoding (F32 AG049583).
Direct Costs: \$163,726

09/2010 -10/2013 **Principal Investigator** **National Science Foundation**
Graduate Research Fellowship (1148897).
Direct Costs: \$121,500

Unsuccessful

07/2020 **Principal Investigator** **National Institutes of Health**
Investigating the mechanisms and functional consequences of age-related neural dedifferentiation. (R01 AG068149)
Direct Costs: \$3,200,574

02/2020 **Principal Investigator** **Esther A. and Joseph Klingenstein Fund**
Neural noise as a mechanism of age-related neural dedifferentiation.
Direct Costs: \$225,000

12/2018 **Co-Principal Investigator** **National Institutes of Health**
Age-related Neural Dedifferentiation: Functional Significance and Sensitivity to Alzheimer's Risk. (R01 AG062143)
Direct Costs: \$3,200,574

01/2019 **Principal Investigator** **Brain Research Foundation**
Investigating the role of GABA in age-related neural dedifferentiation.
Direct Costs: \$80,000

12/2019 **Principal Investigator** **American Federation for Aging Research**
Investigating the role of neural noise and neural dedifferentiation on cognitive aging.

Direct Costs: \$92,593

12/2018

Principal Investigator

American Federation for Aging Research

Contributions of neural dedifferentiation to cognitive aging.

Direct Costs: \$92,593

HONORS AND AWARDS

2017-2018

Postdoctoral Fellowship Award from the Dallas Aging Mind Foundation

2016

Kavli Summer Institute in Cognitive Neuroscience Fellow

PUBLICATIONS

^Ppostdoctoral fellow

^Ggraduate student advisee

^{G*}co-mentored graduate student advisee

^Uundergraduate student advisee under my supervision

[^]post-baccalaureate trainee

[#]student advisee (graduate and post-baccalaureate) I mentored as a postdoctoral fellow

[♦]Co-first authorship

2022

Koen, J.D. (2022). Age-related neural dedifferentiation for individual items: An across-participant pattern similarity analysis. *Aging, Neuropsychology, and Cognition*, 29, 552-576.

2021

Koen, J.D., [#]Hauck, N., & Rugg, M. D. (2021). An own-age bias in the human hippocampus during unfamiliar face viewing. *European Journal of Neuroscience*, 54, 7876-7885.

^GYeh, N., Payne, J. D., Kim, S. Y., Kensinger, E. A., **Koen, J. D.**, & Rose, N. S. (2021). Medial Prefrontal Cortex Has a Causal Role in Selectively Enhanced Consolidation of Emotional Memories after a 24-Hour Delay: A TBS Study. *Journal of Neuroscience*, 41, 6273-6280.

<https://doi.org/10/gj6nrv>

Hill, P. F., [#]Horne, E. D., **Koen, J. D.**, & Rugg, M. D. (2021). Transcranial magnetic stimulation of right dorsolateral prefrontal cortex does not affect associative retrieval in healthy young or older adults. *NeuroImage: Reports*, 1, 100027. <https://doi.org/10.1016/j.nirp.2021.100027>

2020

[#]Liu, E. S., **Koen, J. D.**, & Rugg, M. D. (2020). Effects of Age on Prestimulus Neural Activity Predictive of Successful Memory Encoding: An fMRI Study. *Cerebral Cortex*, 31, 917-932.

<https://doi.org/10.1093/cercor/bhaa265>

Srokova, S., Hill, P. F., **Koen, J. D.**, King, D. R., & Rugg, M. D. (2020). Neural differentiation is moderated by age in scene- but not face-selective cortical regions. *eNeuro*, 7(3), 1-16.

Koen, J. D., Srokova, S., & Rugg, M. D. (2020). Age-related neural dedifferentiation and cognition. *Current Opinion in Behavioral Sciences*, 32, 7-14. <http://doi.org/dmgr>

#Horne, E. D., **Koen, J. D.**, #Hauck, N., & Rugg, M. D. (2020). Age differences in the neural correlates associated with the specificity of recollection: an event-related potential study. *Neuropsychologia*, 140, 107394. <http://doi.org/dr9r>

2019

Koen, J. D., & Rugg, M. D. (2019). Neural Dedifferentiation in the Aging Brain. *Trends in Cognitive Sciences*, 23(7), 547-559. <https://doi.org/10/gf3sfj>

Koen, J. D., #Hauck, N., & Rugg, M. D. (2019). The relationship between age, neural differentiation, and memory performance. *Journal of Neuroscience*, 39(1), 149-162. <http://doi.org/gfj82k>

2018

Koen, J. D., #Horne, E. D., #Hauck, N., & Rugg, M. D. (2018). Age-related Differences in Prestimulus Subsequent Memory Effects Assessed with Event-Related Potentials. *Journal of Cognitive Neuroscience*, 30(6), 829-850. <https://doi.org/10/gdz7qr>

• **Koen, J. D.**, •Thakral, P. P., & Rugg, M. D. (2018). Transcranial magnetic stimulation of the left angular gyrus during encoding does not impair associative memory performance. *Cognitive Neuroscience*, 9(3-4), 127-138. <https://doi.org/10/gdz7qs>

2017

Koen, J. D., Barrett, F. S., Harlow, I. M., & Yonelinas, A. P. (2017). The ROC Toolbox: A toolbox for analyzing receiver-operating characteristics derived from confidence ratings. *Behavior Research Methods*, 49(4), 1399-1406. <https://doi.org/10/gbsc4g>

Koen, J. D., Borders, A. A., Petzold, M. T., & Yonelinas, A. P. (2017). Visual short-term memory for high resolution associations is impaired in patients with medial temporal lobe damage. *Hippocampus*, 27(2), 184-193. <https://doi.org/10/f9q52t>

2016

Koen, J. D., & Rugg, M. D. (2016). Memory Reactivation Predicts Resistance to Retroactive Interference: Evidence from Multivariate Classification and Pattern Similarity Analyses. *Journal of Neuroscience*, 36(15), 4389-4399. <https://doi.org/10/f8jphf>

Koen, J. D., & Yonelinas, A. P. (2016). Recollection, not familiarity, decreases in healthy ageing: Converging evidence from four estimation methods. *Memory*, 24(1), 75-88. <https://doi.org/10/gdz7qp>

2014

Koen, J. D., & Yonelinas, A. P. (2014). The Effects of Healthy Aging, Amnesic Mild Cognitive Impairment, and Alzheimer's Disease on Recollection and Familiarity: A Meta-Analytic Review. *Neuropsychology Review*, 24(3), 332-354. <https://doi.org/10/gdz7qn>

2013

Koen, J. D., Aly, M., Wang, W.-C., & Yonelinas, A. P. (2013). Examining the causes of memory strength variability: Recollection, attention failure, or encoding variability? *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 39(6), 1726-1741. <https://doi.org/10/gdz7qq>

Koen, J. D., & Yonelinas, A. P. (2013). Still no evidence for the encoding variability hypothesis: A reply to Jang, Mickes, and Wixted (2012) and Starns, Rotello, and Ratcliff (2012). *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 39(1), 304-312. <https://doi.org/10/gdz7qm>

2011

- Koen, J. D.**, & Yonelinas, A. P. (2011). From humans to rats and back again: Bridging the divide between human and animal studies of recognition memory with receiver operating characteristics. *Learning & Memory*, 18(8), 519-522. <https://doi.org/10/crq6qw>
- Yonelinas, A. P., Parks, C. M., **Koen, J. D.**, Jorgenson, J., & Mendoza, S. P. (2011). The effects of post-encoding stress on recognition memory: Examining the impact of skydiving in young men and women. *Stress*, 14(2), 136-144. <https://doi.org/10/gdz7vh>

2010 and earlier

- Koen, J. D.**, & Yonelinas, A. P. (2010). Memory variability is due to the contribution of recollection and familiarity, not to encoding variability. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 36(6), 1536-1542. <https://doi.org/10/ctpwbw>
- Odegard, T. N., Jenkins, K. M., & **Koen, J. D.** (2010). Developmental differences in the use of recognition memory rejection mechanisms. *Developmental Psychology*, 46(3), 691-698. <https://doi.org/10/cd86zj>
- Yonelinas, A. P., Aly, M., Wang, W.-C., & **Koen, J. D.** (2010). Recollection and familiarity: Examining controversial assumptions and new directions. *Hippocampus*, 20(11), 1178-1194. <https://doi.org/10/bmwc4n>
- Odegard, T. N., **Koen, J. D.**, & Gama, J. M. (2008). Process demands of rejection mechanisms of recognition memory. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 34(5), 1296-1304. <https://doi.org/10/fbrkri>
- Odegard, T. N., & **Koen, J. D.** (2007). "None of the above" as a correct and incorrect alternative on a multiple-choice test: Implications for the testing effect. *Memory*, 15(8), 873-885. <https://doi.org/10/cmpckn>

In Preparation

- [¶]Pichot, R.E., [^]Henreckson, D.J., ^UFoley, M., & **Koen, J.D.** (preparing for submission). The relationship between age-related neural dedifferentiation and neural noise. *Journal of Neuroscience*.
- [¶]Kafafi, S., [¶]Pichot, R.E., [^]Henreckson, D., ^UFoley, M. & **Koen, J.D.** (preparing for submission). Time frequency subsequent memory effects in older and younger adults for object and scene images. *Neurobiology of Aging*.
- [^]Henreckson, D.J., & **Koen, J.D.** (preparing for submission). Does image memorability moderate eye movement correlates of successful encoding and retrieval of scenes? *PLoS ONE*.
- Yeh, N., Barber, S.J., & **Koen, J.D.** (preparing for submission). The influence of pre-stimulus cues on emotional regulation and memory.
- Yeh, N., **Koen, J.D.**, & Barber, S.J. (preparing for submission). Cognitive reappraisal success and failure moderates the emotional memory-tradeoff.

Under Review

- Doss, M.K., Samaha, J., Barrett, F.S., Griffiths, R.R., de Wit, H., Gallo, D.A., & **Koen, J.D.** (in revision). Unique Effects of Sedatives, Dissociatives, Psychedelics, Stimulants, and Cannabinoids on Episodic Memory: A Review and Reanalysis of Acute Drug Effects on Recollection, Familiarity, and Metamemory. *Psychological Review Review*.
- Koen, J.D.**, #Lewis, L., Rugg, M.D., Clementz, B.A., Keshavan, M.S., Pearlson, G.D., Sweeney, J.A., Tamminga, C.A., Ivleva, E.I. (under review). Using a Supervised Machine Learning Approach to

Classify Psychosis Biotypes based on Brain Structure: Findings from the Bipolar-Schizophrenia Network for Intermediate Phenotypes (B-SNIP). *Scientific Reports*.

Hou, M., Liu, E.S., **Koen, J.D.**, Rugg, M.D. (under review). Effects of age on the neural correlates of encoding source and item information: an fMRI study. *Neuropsychologia*

Invited Revision

^GYeh, N., & **Koen, J.D.** (invited revision). Pre-stimulus encoding cues benefit subsequent familiarity and source memory. *Memory*.

INVITED TALKS

Neural Dedifferentiation and Cognitive Aging. (2021, August). *Talk present at the Center for Neuroimaging at Indiana University School of Medicine.*

Age-related neural dedifferentiation and cognition. (2021, April). *Talk present at the Cognitive Colloquium at Purdue University.*

Neural selectivity and memory performance in young and older adults (2021, April). *Talk presented at the annual meeting of the Midwestern Psychological Association, Chicago, IL.*

Investigating the role of neural dedifferentiation in cognitive aging (2019, November). *Talk presented at Middle Tennessee State University, Murfreesboro, TN.*

Age, memory, and cortical specialization. (2018, May). *Talk presented at the Center for Vital Longevity Science Advisory Council Research Spotlight at the University of Texas at Dallas, Dallas, TX.*

MVPA is not a panacea for cognitive neuroscience: Issues with feature selection and cerebrovascular reactivity. (2016, October). *Talk presented at the Center for Vital Longevity Science Luncheon Series at the University of Texas at Dallas, Dallas, TX.*

Memory encoding and memory interference: An fMRI study. (2015, February). *Talk presented at the Center for Vital Longevity Science Luncheon Series at the University of Texas at Dallas, Dallas, TX.*

CONFERENCE TALKS

^Ggraduate student advisee

^Uundergraduate student advisee under my supervision

[^]post-baccalaureate trainee

[#]student advisee (graduate and post-baccalaureate) I mentored as a postdoctoral fellow

Koen, J.D. (2022, May). The role of category-level and item-level age-related neural dedifferentiation to episodic memory. *Talk presented at the International Conference on Cognitive Neuroscience, Helsinki, Finland.*

Koen, J.D. (2022, April). The role of category-level and item-level age-related neural dedifferentiation to episodic memory. *Talk presented at the Cognitive Aging Conference, Atlanta, GA.*

^GPichot, R.E., [^]Henreckson, D. J., ^UFoley, M., & **Koen, J.D.** (2021, November). Age-related reductions in neural selectivity: evidence from electrophysiology. *Talk presented at the Big Ideas session on Psychophysiology Across the Lifespan at the annual meeting of the Society for Psychophysical Research.*

- Koen, J.D.**, #Hauck, N., & Rugg, M.D. (2019, January). Neural differentiation and memory performance in young and older adults. *Talk presented at the Dallas Aging and Cognition Conference, Dallas, TX.*
- Koen, J.D.**, #Hauck, N., & Rugg, M.D. (2018, March). The relationship between age, neural dedifferentiation, and memory encoding. *Talk presented at the 25th annual meeting of Cognitive Neuroscience Society, Boston, MA.* (Chair and Organizer of Symposium)
- Koen, J.D.**, #Hauck, N., & Rugg, M.D. (2017, November). Neural differentiation during encoding predicts subsequent memory independent of age. *Talk presented at the 47th annual meeting of the Society for Neuroscience, Washington, D.C.* (Chair and Organizer of Nanosymposium)
- Koen, J.D.**, & Rugg, M.D. (2016, August). Feature selection and MVPA. *Talk presented at the Dallas and Austin Area Memory Meeting, Dallas, TX.*
- Koen, J. D.**, Yonelinas, A.P., Parks, C.M., Aly, M., & Ranganath, C.R. (2010, November). Medial temporal lobe contributions to encoding novel cross modal associations: An examination of temporal discontinuity. *Talk presented at the 40th annual meeting of the Society for Neuroscience, San Diego, CA.*

CONFERENCE POSTERS

^Ggraduate student advisee

^{G*}co-mentored graduate student advisee

^Uundergraduate student advisee under my supervision

[^]post-baccalaureate trainee

[#]student advisee (graduate and post-baccalaureate) I mentored as a postdoctoral fellow

^GKafafi, S., ^GPichot, R.E., [^]Henreckson, D. J., ^UFoley, M., & **Koen, J.D.** (2022, April). Age-related differences in EEG oscillatory subsequent memory effects. *Poster presented at the Cognitive Aging Conference.*

^GPichot, R.E., [^]Henreckson, D. J., ^UFoley, M., & **Koen, J.D.** (2022, April). Age-related reductions in neural selectivity: evidence from ERPs. *Poster presented at the Cognitive Aging Conference.*

^GPichot, R.E., [^]Henreckson, D. J., ^UFoley, M., & **Koen, J.D.** (2021, November). Age-related reductions in neural selectivity: evidence from ERPs. *Poster presented at the annual meeting of the Society for Neuroscience.*

Harmon, L., & Koen, J.D. (2021, November). Analysis of age-related neural dedifferentiation in multiple cognitive states. *Poster presented at the annual meeting of the Society for Neuroscience.*

^GMunsen, M. & **Koen, J.D.** (2021, March). An EEG investigation of the neural correlates of reactivation and retroactive interference at encoding. *Poster presented at the annual meeting of the Cognitive Neuroscience Society.*

^{G*}DiPietro, C., Payne, J.D., & **Koen, J.D.** (2020, November). Age dependency of the relationships between cortical and hippocampal subsequent memory effects and memory performance. *Poster presented at the annual meeting of the Psychonomic Society.*

^GYeh, N. & **Koen, J.D.** (2020, November). Age dependency of the relationships between cortical and hippocampal subsequent memory effects and memory performance. *Poster presented at the annual meeting of the Psychonomic Society. Poster presented at the annual meeting of the Psychonomic Society.*

[#]Liu, E.S., **Koen, J.D.**, & Rugg, M.D. (2019, March). Age-invariant, overlapping pre- and post-stimulus subsequent memory effects in dorsal medial prefrontal cortex. *Poster presented at the 26th annual meeting of the Society for Neuroscience, Chicago, IL.*

- Srokova, S., Hill, P.F., **Koen, J.D.**, King, D.R., & Rugg, M.D. (2019, October). Neural pattern similarity is moderated by age and subsequent memory in scene-selective but not face-selective cortical regions. *Poster presented at the 26th annual meeting of the Society for Neuroscience, Chicago, IL.*
- ^GYeh, N., Rose, N.S., **Koen, J.D.**, Kim, S.Y., Kensinger, E.A., & Payne, J.D. (2019, October). Medial prefrontal cortex plays a causal role in selectively enhancing consolidation of emotional memories: A TMS-EEG study. *Poster presented at the 26th annual meeting of the Society for Neuroscience, Chicago, IL.*
- Koen, J.D.**, [#]Hauck, N., & Rugg, M.D. (2019, March). An own-age bias in the hippocampus in young and older adults. *Poster presented at the 26th annual meeting of the Cognitive Neuroscience Society, San Francisco, CA.*
- Srokova, S., Hill, P.F., **Koen, J.D.**, King, D.R., & Rugg, M.D. (2019, March). Neural differentiation at encoding predicts subsequent source memory performance in young and older adults. *Poster presented at the 26th annual meeting of the Cognitive Neuroscience Society, San Francisco, CA.*
- [#]Liu, E.S., **Koen, J.D.**, Hawkins, C., & Rugg, M.D. (2019, March). Successful Encoding of Item and Source Information is Predicted by Graded Neural Activity. *Poster presented at the 26th annual meeting of the Cognitive Neuroscience Society, San Francisco, CA.*
- ^UNguyen, K., [#]Hauck, N., [#]Horne, E.D., **Koen, J.D.**, & Rugg, M.D. (2019, January). Prestimulus subsequent memory effects: An EEG time frequency-analysis in young and older adults. *Poster presented at the Dallas Aging and Cognition Conference, Dallas, TX.*
- Koen, J.D.**, [#]Hauck, N., & Rugg, M.D. (2018, November). Neural pattern similarity during encoding tracks subsequent memory in young, but not older, adults. *Poster presented at the 48th annual meeting of the Society for Neuroscience, San Diego, CA.*
- Koen, J.D.**, [#]Hauck, N., & Rugg, M.D. (2018, May). Own-age biases in the neural correlates of passively viewing faces. *Poster presented at the Cognitive Aging Conference, Atlanta, GA.*
- [#]Hauck, N., **Koen, J.D.**, & Rugg, M.D. (2017, November). Age differences in prestimulus subsequent memory effects: A time-frequency analysis. *Poster presented at the 47th annual meeting of the Society for Neuroscience, Washington, D.C.*
- [#]Horne, E.D., **Koen, J.D.**, & Rugg, M.D. (2017, November). Age differences in ERP correlates of subjective recollection and source memory. *Poster presented at the 47th annual meeting of the Society for Neuroscience, Washington, D.C.*
- Koen, J.D.**, [#]Horne, E.D., [#]Hauck, N., & Rugg, M.D. (2017, March). Age differences in pre-stimulus subsequent memory effects: an event-related potential study. *Poster presented at the 23rd annual meeting of the Cognitive Neuroscience Society, San Francisco, CA.*
- [#]Horne, E.D., **Koen, J.D.**, [#]Hauck, N., & Rugg, M.D. (2017, March). Age differences in event-related potential effects associated with strong and weak recollection. *Poster presented at the 23rd annual meeting of the Cognitive Neuroscience Society, San Francisco, CA.*
- Koen, J.D.**, [#]Horne, E.D., [#]Hauck, N., & Rugg, M.D. (2017, January). Pre-stimulus subsequent memory effects in healthy young and older adults. *Poster presented at the 5th biennial Dallas Aging & Cognition Conference, Dallas, TX.*
- Koen, J.D.**, [#]Lewis, L.J., Ivleva, E.I., Clementz, B.A., Lu, H., Sweeney, J.A., Pearlson, G.D., Keshavan, M.S., Rugg, M.D., Tamminga, C.A. (2016, November). Classification of DSM- and Biotype-derived categories of psychosis from regional gray matter density: A machine learning approach. *Poster presented at the 46th annual meeting of the Society of Neuroscience, San Diego, CA.*

- #Wong, J.X., **Koen, J.D.**, #Lewis, L.J., & Rugg, M.D. (2016, November). Comparison of the ERP correlates of encoding item-item and item-context associations. *Poster presented at the 46th annual meeting of the Society of Neuroscience, San Diego, CA.*
- Koen, J.D.**, Borders, A.A., Petzold, M.T., & Yonelinas, A.P. (2016, July). Medial temporal lobe damage impairs short-term memory for high resolution associations. *Poster presented at the International Conference on Memory, Budapest, Hungary.*
- Koen, J.D.**, & Rugg, M.D. (2016, April). Feature selection prior to classification based MVPA: Univariate analysis is not always optimal. *Poster presented at the 23rd annual meeting of the Cognitive Neuroscience Society, New York, NY.*
- Koen, J.D.**, & Rugg, M.D. (2015, March). Specific and general memory reactivation helps overcome retroactive interference in the AB/AC paradigm. *Poster presented at the 22nd annual meeting of the Cognitive Neuroscience Society, San Francisco, CA.*
- Koen, J.D.**, & Rugg, M.D. (2014, November). Neural correlates during memory encoding associated with resistance to retroactive interference. *Poster presented at the 44th annual meeting of the Society for Neuroscience, Washington, DC.*
- Koen, J.D.**, & Yonelinas, A.P. (2013, April). Recollection and familiarity declines in healthy aging, aMCI, and AD. *Poster presented at the 20th annual meeting of the Cognitive Neuroscience Society, San Francisco, CA.*
- Leitman, D.I., Yonelinas, A.P., Chan, C., **Koen, J.D.**, Brensing, C.M., Hansen, J., Richard, J., Calkins, M.E., Gur, R. E., & Gur, R. C. (2012, May). Remembrance of things past: The role of item familiarity and recollection of circumstance in schizophrenia delayed recall memory performance. *Poster presented at the 67th annual meeting of the Society of Biological Psychiatry, Philadelphia, PA.*
- Koen, J.D.**, Aly, M., Wang, W.C., Kroll, N.E.A., & Yonelinas, A.P. (2011, November). The necessity of theoretical validity in signal-detection models of recognition memory. *Poster presented at the 52nd annual meeting of the Psychonomic Society, Seattle, WA.*
- Cooper, C. M., Farris, E. A., **Koen, J. D.**, Bartlett, J. C., & Odegard, T. N. (2009, May). Role of the left hippocampus and left inferior parietal network in successful recollection of names. *Poster presented at the 21st annual convention of the Association for Psychological Science, San Francisco, CA.*
- Farris, E.A., **Koen, J.D.**, Douglas, A., Wilson, M.M., Wood, H.F., & Odegard, T.N. (2009, November). Reappearance of the positive testing effect through the provision of feedback on items where none-of-the-above is the correct response. *Poster presented at the 50th annual meeting of the Psychonomic Society, Boston, MD.*
- Koen, J. D.**, Cooper, C. M., Jenkins, K. J., Odegard, T. N., Bartlett, J. C. (2009, May). The neural correlates at encoding that predict cued-recall of associative information. *Poster presented at the 21st annual convention of the Association for Psychological Science, San Francisco, CA.*
- Koen, J. D.**, & Yonelinas, A. P. (2009, November). Memory related increases in variance are due to recollection rather than encoding variability. *Poster presented at the 50th annual meeting of the Psychonomic Society, Boston, MD.*
- Koen, J. D.**, & Yonelinas, A. P. (2009, August). The contribution of recollection, not encoding variability, better explains memory related increases in variance. *Poster presented at the 6th annual Bay Area Memory Meeting, San Francisco, CA.*
- Jenkins, K. M., **Koen, J. D.**, & Odegard, T. N. (2008, May). Using plausibility judgments to improve recognition memory performance. *Poster presented at the 20th annual convention of the Association for Psychological Science, Chicago, IL.*

Koen, J. D., Gama, J. M., Odegard, T. N. (2008, May). Differential processing demand requirements for recollection rejection, plausibility judgments, and novelty detection. *Poster presented at the 20th annual convention of the Association for Psychological Science, Chicago, IL.*

Koen, J. D., & Odegard, T. N. (2007, March). "None-of-the-above" as a correct alternative eliminates the testing effect. *Talk presented at the Annual Celebration of Excellence by Students (ACES) at the University of Texas at Arlington, Arlington, TX.*

TEACHING EXPERIENCE

University of Notre Dame

2018- Cognitive Neuroscience of Aging (seminar)
2019-2021 Cognitive Aging (lecture)
2020-2021 Cognitive Electrophysiology (seminar with lab)
2022- Research Methods in Psychology (lecture with lab)

University of Texas at Dallas

Fall 2018 Guest Lecture on Human Forgetting in a graduate Cognitive Neuroscience of Memory Class
Fall 2017 Guest Lecture on Human Forgetting in a graduate Cognitive Neuroscience of Memory Class

University of California, Davis

Winter 2010 Human Learning, Teaching Assistant
Spring 2009 Developmental Psychology, Teaching Assistant
Fall 2008 Human Learning, Teaching Assistant

Organized Workshops

Fall 2017 MATLAB programming bootcamp
(Organizer and instructor)
Programming geared towards graduate students and postdoctoral researchers.

MENTORSHIP EXPERIENCE

Graduate Student and Postdoctoral Mentorship

2021- Seham Kafafi, Graduate Student Advisor
2020- Rachelle Pichot, Graduate Student Advisor
2019-2022 Morgan Widhalm, Graduate Student Advisor
2019-2022 Nicholas Yeh, Graduate Student Advisor

Undergraduate Student Thesis and Fellowship Mentorship

2022- Margaret Allen, Neuroscience & Behavior Senior Thesis Advisor
2022- Brooke Friedman, Senior Thesis Advisor
2019-2022 Meghan McReynolds, Undergraduate Summer Research Fellowship Advisor & Neuroscience & Behavior Senior Thesis Advisor
2019-2022 Stephanie Franczak, Glynn Honor's College Thesis Advisor
2018-2021 Leah Harmon, Glynn Honor's College Thesis Advisor

2018-2021	Morgan Foley, Undergraduate Summer Research Fellowship Advisor & Glynn Honor's College Thesis Advisor
2019-2021	Willian De Faria, Neuroscience & Behavior Senior Thesis Advisor
2019-2020	Mary Glass, Psychology Senior Thesis Advisor
2018-2019	Kim Nguyen, Neuroscience & Behavior Senior Thesis Advisor Honors
2019	Cole Edwards, Undergraduate Summer Research Fellowship Advisor

Undergraduate Student Research Assistant Mentorship

2018-2021	Jake Berg
2019-2021	Shannon O-Hara
2019-2020	Derek Rubadeux
2019-2020	Cheyenne Schuster
2019-2021	Anna Benedict
2019-2020	Gwenyth Gasper
2019-Present	Kate Schumacher
2019-Present	Aviva Lund
2019-Present	Helina Kassa
2020-Present	Macie Anundson
2020-Present	Maddie Galvin
2020-Present	Natalie Munguia
2020-Present	Sofia Zitella
2020-Present	Maggie Allen
2021-Present	Brooke Friedman
2019-2020	Sydney Habermann

PHD STUDENT COMMITTEE SERVICE

Master's Committee Member

Antonio Martinez
 Sara Kim
 Chaz Rich
 Sean Dageforde

Dissertation Committee Member

Jerry Fisher
 Abigail Doolean
 Antonio Martinez
 Sara Kim
 Nicholas Ross

PROFESSIONAL SERVICE

Editorial:

- 2021- Reviewing Editor, *Frontiers in Aging Neuroscience*, Neurocognitive Aging and Behavior specialty section
- 2021- Consulting Editor, *Aging, Neuropsychology, and Cognition*

2021 Guest Editor, *Aging, Neuropsychology, and Cognition*, special issue on "Advances in understanding the cognitive neuroscience of aging with multivariate methods".

Conference Organization:

2021 Memory Disorders Research Society Virtual Conference Organization Committee

Grant/Fellowship Review Panels:

2021 Human Complex Mental Function Center for Scientific Review, *ad hoc* Reviewer (Early Career Researcher member)

2021 Graduate Women in Science, National Fellowship Program Reviewer

2019 Wellcome Trust, Sir Henry Dale Fellowship, Reviewer

Ad Hoc Journal Reviewer:

American Journal of Psychiatry • *American Journal of Psychology* • *Brain Research* • *Cerebral Cortex* • *Cognition* • *Cognitive Neuroscience* • *eLife* • *Hippocampus* • *Journal of Educational Psychology* • *Journal of Experimental Psychology: Learning, Memory, & Cognition* • *Journal of the International Neuropsychological Society* • *Journal of Memory and Language* • *Journal of Neuroscience* • *Learning & Memory* • *Memory* • *Memory & Cognition* • *Neurobiology of Aging* • *NeuroImage* • *Neuropsychologia* • *Neuroscience Letters* • *PLOS ONE* • *Psychology & Aging* • *Psychonomic Bulletin & Review* • *Scientific Reports* • *The Journals of Gerontology: Series B* • *Quarterly Journal of Experimental Psychology* • *Neurobiology of Aging* • *Neurobiology of Learning and Memory* • *Schizophrenia Bulletin*

DEPARTMENTAL/UNIVERSITY LEADERSHIP AND SERVICE

University of Notre Dame

2021 Research MRI Initiative, Consultant
2020-2022 Department of Psychology Diversity, Equity, and Inclusion Committee Member
2021-2022 Developmental Cognitive Neuroscience Assistant Professor Search Committee, Diversity Chair
2020-2021 Developmental Psychology Assistant Professor Search Committee, Diversity Chair
2019-2020 Neurodevelopmental Disorders Assistant Professor Search Committee, Diversity Chair
2019-2020 Department of Psychology Computer Committee Member
2019-2020 Neuroscience and Behavior Steering Committee Member
2019 Talk at Notre Dame Alumni Reunion Weekend, "Memory as we grow older" (sponsored by Notre Dame Senior Alumni)
2018 Arts & Letter Advisory Council, New Faculty Panel Member
2018 Graduate Student Career Panel Member