

Dr. Dan Denis  
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Psychology  
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## Employment

### Marie Curie Senior Research Fellow

Psychology  
University of York  
Heslington, York  
1 Jun 2022 → 31 May 2024

### Lecturer

Lecturer  
Psychology  
University of York  
Heslington, York  
1 Jun 2024 → present

### Postdoctoral Research Associate

Department of Psychology, University of Notre Dame  
United States  
2 Sept 2019 → 31 Dec 2021

### Postdoctoral Research Fellow

Department of Psychiatry, Harvard Medical School  
United States  
3 Jan 2017 → 31 Aug 2019

### Research Assistant

King's College London, MRC Social, Genetic, and Developmental Psychiatry Centre, Institute of Psychiatry, Psychology, and Neuroscience  
United Kingdom  
17 Oct 2016 → 17 Mar 2016

## Qualifications

PhD, Department of Psychology, University of Sheffield  
1 Oct 2013 → 22 Dec 2016  
Award Date: 22 Aug 2017

Masters, Department of Psychology, Goldsmiths, University of London  
26 Sept 2012 → 26 Sept 2013  
Award Date: 26 Sept 2013

BSc, Department of Psychology, Goldsmiths, University of London  
20 Sept 2009 → 20 Jun 2012  
Award Date: 20 Jun 2012

## Research outputs

**Intimate partner violence, mental health, and associations with self-reported and objective sleep quality in pregnancy**  
Park, J. E., Denis, D., Payne, J. D. & Miller-Graff, L. E., 2 Apr 2025, (Accepted/In press) In: Sleep and Vigilance.

**Both slow wave and rapid eye movement sleep contribute to emotional memory consolidation**

Yuksel, C., Denis, D., Coleman, J., Ren, B., Oh, A., Cox, R., Morgan, A., Sato, E. & Stickgold, R., 23 Mar 2025, In: Communications Biology. 8, 10 p., 485.

**Slow oscillation-sleep spindle coupling is associated with fear extinction retention in trauma-exposed individuals**

Denis, D., Bottary, R., Cunningham, T. J., Davidson, P., Yuksel, C., Milad, M. R. & Pace-Schott, E. F., 28 Jan 2025, bioRxiv, at Cold Spring Harbor Laboratory, (bioRxiv : the preprint server for biology).

**Theta oscillations dictate the evolution of memories across periods of sleep or wakefulness**

Denis, D., Chen, Z., Kaur, M., Clayden, B., Schreiner, T. & Cairney, S. A., 26 Jan 2025, bioRxiv, at Cold Spring Harbor Laboratory.

**Sleep and retrieval practice both strengthen and distort story recollection**

Denis, D., DiPietro, C., Nathan Spreng, R., Schacter, D. L., Stickgold, R. & Payne, J. D., 16 Dec 2024, In: Sleep Advances. 5, 10 p., zpae083.

**Sleep oscillations and their relations with sleep-dependent memory consolidation in early course psychosis and first-degree relatives**

Denis, D., Baran, B., Mylonas, D., Spitzer, C., Raymond, N., Talbot, C., Kohnke, E., Larson, O., Stickgold, R., Keshavan, M. & Manoach, D. S., 1 Dec 2024, In: Schizophrenia Research. 274, p. 473-485 13 p.

**Electrophysiological mechanisms of memory consolidation in human non-rapid eye movement sleep**

Denis, D. & Cairney, S. A., Jun 2024, In: Current Sleep Medicine Reports. 10, 2, p. 181-190 10 p.

**Targeted dream incubation at a distance: The development of a remote and sensor-free tool for incubating hypnagogic dreams and mind-wandering**

Bellaiche, L., Haar Horowitz, A., McClay, M., Bottary, R., Denis, D., Chen, C., Maes, P. & Seli, P., 28 May 2024, In: Frontiers in Sleep. 3, 15 p., 1258345.

**Targeted memory reactivation during non-rapid eye movement sleep enhances neutral, but not negative, components of memory**

Denis, D. & Payne, J. D., 20 May 2024, In: eNeuro. 11, 5, 13 p., 0285-23.

**Delineating memory reactivation in sleep with verbal and non-verbal retrieval cues**

Guttesen, A., Denis, D., Gaskell, G. & Cairney, S. A., 16 May 2024, In: Cerebral Cortex. 34, 11 p., bhae183.

**Age-related positivity effect in emotional memory consolidation from middle age to late adulthood**

Niu, X., Utayde, M. F., Sanders, K. E. G., Denis, D., Kensinger, E. A. & Payne, J. D., 24 Jan 2024, In: Frontiers in behavioral neuroscience. 18, 13 p., 1342589.

**Advances in sleep-associate memory consolidation research**

Bottary, R., Denis, D., Baxter, B. S. & Cunningham, T. J., 19 Dec 2023, *Advances in the Psychobiology of Sleep and Circadian Rhythms*. Jackson, M. L. & Drummond, S. P. A. (eds.). 1 ed. Routledge, p. 17-34

**Neural reactivation during human sleep**

Denis, D. & Cairney, S. A., 6 Dec 2023, (E-pub ahead of print) In: Emerging Topics in Life Sciences. 12 p.

**NREM sleep oscillations and their relations with sleep-dependent memory consolidation in early course psychosis and first-degree relatives**

Denis, D., Baran, B., Mylonas, D., Spitzer, C., Raymond, N., Talbot, C., Kohnke, E., Stickgold, R., Keshavan, M. & Manoach, D. S., 2 Nov 2023, bioRxiv, at Cold Spring Harbor Laboratory, (bioRxiv).

**The influence of encoding strategy on associative memory consolidation across wake and sleep**

Denis, D., Bottary, R., Cunningham, T. J., Tcheukado, M.-C. & Payne, J. D., Sept 2023, In: Learning & memory (Cold Spring Harbor, N.Y.). 30, 9, p. 185-191 7 p.

**Beta spectral power during sleep is associated with impaired recall of extinguished fear**

Denis, D., Bottary, R., Cunningham, T. J., Drummond, S. P. A. & Straus, L. D., 5 Aug 2023, (E-pub ahead of print) In: Sleep.

**The associations between paranormal beliefs and sleep variables**

Rauf, B., Perach, R., Madrid-Valero, J. J., Denis, D., Sharpless, B. A., Poerio, G. L., French, C. C. & Gregory, A. M., 1 Aug 2023, In: Journal of sleep research. 32, 4, 9 p., e13810.

**Ears Wide Shut: A Complete Failure to Recognize Relevant Acoustic Stimuli**

Stickgold, R., Okamoto, C., Hon, K. & Denis, D., 24 Jul 2023, (Research square).

**Emotional memories are enhanced when reactivated in slow wave sleep, but impaired when reactivated in REM**

Yuksel, C., Denis, D., Coleman, J., Oh, A., Cox, R., Morgan, A., Sato, E. & Stickgold, R., 29 Jun 2023, bioRxiv, at Cold Spring Harbor Laboratory.

**The effects of cognitive reappraisal and sleep on emotional memory formation**

Martinez, B. S., Denis, D., Kim, S. Y., DiPietro, C. H., Stare, C., Kensinger, E. A. & Payne, J. D., 12 Jun 2023, In: Cognition & emotion. 37, 5, p. 942-958 17 p.

**Targeted memory reactivation during non-rapid eye movement sleep enhances neutral, but not negative, components of memory**

Denis, D. & Payne, J. D., 26 May 2023, bioRxiv, at Cold Spring Harbor Laboratory.

**Associations between sleep variables and ostensibly paranormal experiences and paranormal beliefs: A scoping review**

Rauf, B., Perach, R., Madrid-Valero, J. J., Denis, D., Sharpless, B. A., Farron, H., French, C. C. & Gregory, A. M., 18 Apr 2023, (E-pub ahead of print) In: British journal of psychology. 22 p.

**Isolated sleep paralysis: Clinical features, perception of aetiology, prevention and disruption strategies in a large international sample**

Rauf, B., Sharpless, B. A., Denis, D., Perach, R., Madrid-Valero, J. J., French, C. C. & Gregory, A. M., 1 Apr 2023, In: Sleep medicine. 104, p. 105-112 8 p.

**Recurrent isolated sleep paralysis**

Denis, D., 27 Jan 2023, *Encyclopedia of Sleep and Circadian Rhythms*. Kushida, C. A. (ed.). 2nd ed. Elsevier, p. 102-109

**Changes in Sleep Regularity and Perceived Life Stress across the COVID-19 Pandemic: A Longitudinal Analysis of a Predominately Female United States Convenience Sample**

Bottary, R., Fields, E. C., Ugheoke, L., Denis, D., Mullington, J. M. & Cunningham, T. J., 26 Dec 2022, In: Clocks & sleep. 5, 1, p. 1-9 9 p.

**How the 2020 US Presidential election impacted sleep and its relationship to public mood and alcohol consumption**

Cunningham, T. J., Fields, E. C., Denis, D., Bottary, R., Stickgold, R. & Kensinger, E. A., 8 Dec 2022, In: Sleep Health. 8, 6, p. 571-579 9 p.

**Sleep preferentially consolidates negative aspects of human memory: Well-powered evidence from two large online experiments**

Denis, D., Sanders, K. E. G., Kensinger, E. A. & Payne, J. D., Nov 2022, In: Proceedings of the National Academy of Sciences of the United States of America. 119, 44, 8 p., e2202657119.

**Slow oscillation-spindle coupling is negatively associated with emotional memory formation following stress**

Denis, D., Kim, S. Y., Kark, S. M., Daley, R. T., Kensinger, E. A. & Payne, J. D., 1 May 2022, In: European Journal of Neuroscience. 55, 9, p. 2632-2650 19 p.

**Sleep Power Spectral Density and Spindles in PTSD and Their Relationship to Symptom Severity**

Denis, D., Bottary, R., Cunningham, T. J., Zeng, S., Daffre, C., Oliver, K. L., Moore, K., Gazecki, S., Kram Mendelsohn, A., Martinez, U., Gannon, K., Lasko, N. B. & Pace-Schott, E. F., 19 Nov 2021, In: *Frontiers in psychiatry*. 12, 14 p., 766647.

**Sleep spectral power correlates of prospective memory maintenance**

Cunningham, T. J., Bottary, R., Denis, D. & Payne, J. D., 1 Sept 2021, In: *Learning & memory* (Cold Spring Harbor, N.Y.). 28, 9, p. 291-299 9 p.

**Sleep Spindles Preferentially Consolidate Weakly Encoded Memories**

Denis, D., Mylonas, D., Poskanzer, C., Bursal, V., Payne, J. D. & Stickgold, R., 5 May 2021, In: *Journal of neuroscience*. 41, 18, p. 4088-4099 12 p.

**Using EEG microstates to examine post-encoding quiet rest and subsequent word-pair memory**

Poskanzer, C., Denis, D., Herrick, A. & Stickgold, R., 1 May 2021, In: *Neurobiology of learning and memory*. 181, 10 p., 107424.

**Exploding head syndrome: clinical features, theories about etiology, and prevention strategies in a large international sample**

Sharpless, B. A., Denis, D., Perach, R., French, C. C. & Gregory, A. M., 1 Nov 2020, In: *Sleep medicine*. 75, p. 251-255 5 p.

**A paradoxical effect of sleep for emotional reactivity in insomnia disorder?**

Bottary, R. & Denis, D., 3 Feb 2020, In: *Sleep*. 43, 7, 4 p., zsaa005.

**Is digital cognitive behavioural therapy for insomnia effective in treating sub-threshold insomnia: a pilot RCT**

Denis, D., Eley, T. C., Rijssdijk, F., Zavos, H. M., Keers, R., Espie, C. A., Luik, A. I., Badini, I., Derveeuew, S., Hodsoll, J. & Gregory, A. M., 1 Feb 2020, In: *Sleep medicine*. 66, p. 174-183 10 p.

**The roles of item exposure and visualization success in the consolidation of memories across wake and sleep**

Denis, D., Schapiro, A. C., Poskanzer, C., Bursal, V., Charon, L., Morgan, A. & Stickgold, R., 2020, In: *Learning & memory* (Cold Spring Harbor, N.Y.). 30, 7, p. 451-456 6 p.

**Associations between exploding head syndrome and measures of sleep quality and experiences, dissociation, and well-being**

Denis, D., Poerio, G., Derveeuew, S., Badini, I. & Gregory, A. M., 2019, In: *Sleep*. 42, 2, zsy216.

**Associations between pre-sleep arousal and insomnia symptoms in early adulthood: a twin and sibling study**

Schneider, M. N., Denis, D., Buysse, D. J., Kovas, Y. & Gregory, A. M., 2019, In: *Sleep*. 42, 5, zsz029.

**A systematic review of variables associated with sleep paralysis**

Denis, D., French, C. C. & Gregory, A. M., 2018, In: *Sleep Medicine Reviews*. 38, p. 141-157

**Relationships between sleep paralysis and sleep quality: current insights**

Denis, D., 2018, In: *Nature and Science of Sleep*. 10, p. 355-367

**Subjective sleep-related variables in those who have and have not experienced sleep paralysis**

Denis, D., French, C. C., Schneider, M. N. & Gregory, A. M., 2018, In: *Journal of sleep research*. 27, 5, e12650.

**Recurrent Isolated Sleep Paralysis**

Sharpless, B. A. & Denis, D., 23 Jun 2017, *Neuroscience and Biobehavioral Psychology*. Stein, J. (ed.). Elsevier, p. 1-5

**Isolated sleep paralysis**

Sharpless, B. A. & Denis, D., 1 Mar 2017, *Unusual and Rare Psychological Disorders: A Handbook for Clinical Practice and Research*. Sharpless, B. A. (ed.). Oxford University Press, p. 7-26

**Externalizing Behaviors and Callous-Unemotional Traits: Different Associations With Sleep Quality**

Denis, D., Akhtar, R., Holding, B. C., Murray, C., Panatti, J., Claridge, G., Sadeh, A., Barclay, N. L., O'Leary, R., Maughan, B., McAdams, T. A., Rowe, R., Eley, T. C., Viding, E. & Gregory, A. M., 2017, In: *Sleep*. 40, 8, zsx070.

**Sleep Treatment Outcome Predictors (STOP) Pilot Study: a protocol for a randomised controlled trial examining predictors of change of insomnia symptoms and associated traits following cognitive-behavioural therapy for insomnia in an unselected sample**

Denis, D., Eley, T. C., Rijssdijk, F., Zavos, H. M., Keers, R., Espie, C. A., Luik, A. I., Badini, I., Derveeuw, S., Romero, A., Hodsoll, J. & Gregory, A. M., 2017, In: *BMJ Open*. 7, 11, e017177.

**Terror and bliss? Commonalities and distinctions between sleep paralysis, lucid dreaming, and their associations with waking life experiences**

Denis, D. & Poerio, G., 2017, In: *Journal of sleep research*. 26, 1

**The role of cortical sensorimotor oscillations in action anticipation**

Denis, D., Rowe, R., Williams, A. M. & Milne, E., 2017, In: *Neuroimage*. 146, p. 1102-1114

**A twin and molecular genetics study of sleep paralysis and associated factors**

Denis, D., French, C. C., Rowe, R., Zavos, H. M., Nolan, P. M., Parsons, M. J. & Gregory, A. M., 2015, In: *Journal of sleep research*. 24, 4, p. 438-446