



Pilleriin Sikka

Postdoctoral Scholar, Anesthesiology, Perioperative and Pain Medicine

CONTACT INFORMATION

- **Alternate Contact**

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Bio

BIO

Pilleriin Sikka is a postdoctoral scholar at the Stanford School of Medicine. She is also affiliated with the Stanford Psychophysiology Laboratory in the Department of Psychology at Stanford as well as with the Department of Psychology at the University of Turku (Finland). Pilleriin is also a senior lecturer in cognitive neuroscience in the Department of Cognitive Neuroscience and Philosophy at the University of Skövde (Sweden). She holds a PhD degree in psychology (University of Turku, Finland), MSc degree in neuroscience (University of Oxford, UK), as well as MSc and BSc degrees in psychology (University of Tallinn, Estonia). Previously, she worked in the Department of Psychiatry at the University of Oxford (UK) in the field of molecular neuroscience. Pilleriin has received several prestigious research (e.g., Postdoctoral Research Award from the Finnish Foundations' Post Doc Pool) and teaching (The Golden Apple Award for Excellence in Teaching) awards as well as research grants (as a PI) from international and national foundations. She has more than ten years of teaching experience (courses in neuroscience, psychology, and well-being) and supervised as well as served as a mentor to many undergraduate and graduate students in the fields of psychology and cognitive neuroscience.

HONORS AND AWARDS

- Merited Lecturer (awarded for excellence in research-based teaching), University of Skövde, Sweden (2022)
- First Prize for PhD dissertation, Skaraborg's Academy, Sweden (2021)
- PhD Dissertation Award, The Finnish Sleep Research Society, Finland (2021)
- Postdoctoral Fellowship, The Finnish Foundations' Post Doc Pool and the Emil Aaltonen Foundation (2020)
- The Golden Apple Award for Excellence in Teaching, University of Skövde, Sweden (2020)
- Best Poster Award, The Finnish Sleep Research Society, Finland (2018)
- The Golden Apple Award for Excellence in Teaching, University of Skövde, Sweden (2015)
- The Golden Apple Award for Excellence in Teaching, University of Skövde, Sweden (2010)
- Winner of the Main Prize at the National Contest for University Students, Estonian Research Council (2005)
- Winner of the Main Prize at the Contest of Students' Research Papers, Tallinn University, Estonia (2005)
- Harald Raudsep Scholarship, Estonian-Revelia Academic Fund, Maryland, USA (2005)
- Kristjan Jaak Scholarship, Archimedes Foundation, Estonia (2005)
- Kristjan Jaak Scholarship, Archimedes Foundation, Estonia (2004)
- National Scholarship, Estonian Ministry of Education and Research, Estonia (2000)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, Society for Affective Science (SAS)
- Member, International Society for Research on Emotion (ISRE)
- Member, Association for the Scientific Study of Consciousness (ASSC)
- Member, European Sleep Research Society (ESRS)
- Member, Finnish Sleep Research Society (SUS)
- Member, International Association for the Scientific Study of Dreams (IASD)

PROFESSIONAL EDUCATION

- Master of Science, Tallinn University (2005)
- Doctor of Philosophy, University Of Turku (2020)
- Master of Science, University of Oxford (2008)
- Bachelor of Science, Tallinn University (2003)
- Ph.D., University of Turku (Finland) , Psychology (2020)

STANFORD ADVISORS

- Boris Heifets, Postdoctoral Faculty Sponsor

LINKS

- Google Scholar: <https://scholar.google.com/citations?user=0GF-M4oAAAAJ&hl=en>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

I strive to understand the phenomenology, dynamics, mechanisms, and impact of subjective experiences that occur across different states of consciousness—from wakefulness to normal sleep and dreaming, to anesthesia dreaming, and to psychedelic experiences. As part of my doctoral research, conducted under the mentorship of Prof. Antti Revonsuo, I investigated the conceptual and methodological challenges in the study of dream experiences, the neural correlates of these experiences, and how dreaming is associated with waking well-being. In 2021, I joined Stanford University as a Postdoctoral Scholar, initially working at the Stanford Psychophysiology Laboratory under the mentorship of James J. Gross. In this role, I expanded my research to explore emotions and emotion regulation across the wake-sleep cycle and to study an oft-overlooked aspect of well-being—peace of mind. Since November 2023, I have been a Postdoctoral Scholar in the Department of Anesthesiology, Perioperative and Pain Medicine, where, under the mentorship of Dr. Boris Heifets, I am investigating transformative experiences, specifically, the mechanisms and therapeutic potential of anesthesia-induced dream states and psychedelic experiences.

Leveraging my unique multidisciplinary background, my goal is to bridge the fields of consciousness research, sleep and dream research, emotion research, and well-being research and draw upon the concepts, theories, and methods from psychology, neuroscience, and (molecular) biology. To this end, I have experience in using diverse methods, including self-reports (development, validation, and use of questionnaires), interviews, ecological momentary assessment (EMA/ESM; diaries), behavioural experiments, natural language processing, sleep monitoring techniques, and electrophysiological (EEG/ERP) recordings, combined with qualitative and quantitative data analysis.

With an overarching goal of conducting research with societal impact, I aspire to: (1) develop innovative diagnostic and prognostic markers of mental health and well-being, and (2) to devise and test interventions scalable for enhancing the mental and physical well-being of communities.

LAB AFFILIATIONS

- Boris Heifets, The Heifets Lab (11/1/2023)
- James Gross, Stanford Psychophysiology Laboratory (7/1/2021)

Publications

PUBLICATIONS

- **The role of objective sleep in implicit and explicit affect regulation: A comprehensive review** *NEUROBIOLOGY OF STRESS*
Straus, L. D., ten Brink, M., Sikka, P., Srivastava, R., Gross, J. J., Colvonen, P. J.
2024; 31
- **The role of objective sleep in implicit and explicit affect regulation: A comprehensive review.** *Neurobiology of stress*
Straus, L. D., Ten Brink, M., Sikka, P., Srivastava, R., Gross, J. J., Colvonen, P. J.
2024; 31: 100655
- **Reduction in Trauma-Related Symptoms After Anesthetic-Induced Intra-Operative Dreaming.** *The American journal of psychiatry*
Hack, L. M., Sikka, P., Zhou, K., Kawai, M., Chow, H. S., Heifets, B.
2024: appiajp20230698
- **Alexithymia profiles and depression, anxiety, and stress.** *Journal of affective disorders*
Preece, D. A., Mehta, A., Petrova, K., Sikka, P., Pemberton, E., Gross, J. J.
2024
- **Alexithymia or general psychological distress? Discriminant validity of the Toronto Alexithymia Scale and the Perth Alexithymia Questionnaire.** *Journal of affective disorders*
Preece, D. A., Petrova, K., Mehta, A., Sikka, P., Gross, J. J.
2024
- **Affect Across the Wake-Sleep Cycle.** *Affective science*
Sikka, P., Gross, J. J.
2023; 4 (3): 563-569
- **Individual differences in peace of mind reflect adaptive emotion regulation** *PERSONALITY AND INDIVIDUAL DIFFERENCES*
Sikka, P., Revonsuo, A., Gross, J. J.
2023; 215
- **COVID-19 on mind: Daily worry about the coronavirus is linked to negative affect experienced during mind-wandering and dreaming.** *Emotion (Washington, D.C.)*
Sikka, P., Tuominen, J., Ezquerro Nassar, A., Kirberg, M., Loukola, V., Revonsuo, A., Valli, K., Windt, J., Bekinshtein, T. A., Noreika, V.
2023
- **Mediation Analysis of Conspiratorial Thinking and Anti-Expert Sentiments on Vaccine Willingness** *HEALTH PSYCHOLOGY*
Blackburn, A. M., Han, H. A., Gelpi, R. A., Stockli, S., Jelic, A., Ch'ng, B., Koszalkowska, K., Lacko, D., Milfont, T., Lee, Y., Vestergren, S., COVIDISTRESS II Consortium
2023; 42 (4): 235-246
- **Alexithymia and Emotion Regulation** *AFFECTIVE SCIENCE*
Preece, D. A., Mehta, A., Petrova, K., Sikka, P., Bjureberg, J., Becerra, R., Gross, J. J.
2023; 4 (1)
- **The Perth Alexithymia Questionnaire-Short Form (PAQ-S): A 6-item measure of alexithymia.** *Journal of affective disorders*
Preece, D. A., Mehta, A., Petrova, K., Sikka, P., Bjureberg, J., Chen, W., Becerra, R., Allan, A., Robinson, K., Gross, J. J.
2023
- **COVIDISTRESS diverse dataset on psychological and behavioural outcomes one year into the COVID-19 pandemic (vol 9, 331, 2021)** *SCIENTIFIC DATA*
Blackburn, A. M., Vestergren, S., Tran, T. P., Stockli, S., Griffin, S. M., Ntontis, E., Jelic, A., Chrona, S., Ikizer, G., Han, H., Milfont, T. L., Parry, D., Byrne, et al
2023; 10 (1): 12

- **Alexithymia and emotion regulation.** *Journal of affective disorders*
Preece, D. A., Mehta, A., Petrova, K., Sikka, P., Bjureberg, J., Becerra, R., Gross, J. J.
2022
- **Event-Related Potential Correlates of Learning to Produce Novel Foreign Phonemes.** *Neurobiology of language (Cambridge, Mass.)*
Railo, H., Varjonen, A., Lehtonen, M., Sikka, P.
2022; 3 (4): 599-614
- **The Neural Bases of Expressive Suppression: A Systematic Review of Functional Neuroimaging Studies.** *Neuroscience and biobehavioral reviews*
Sikka, P., Stenberg, J., Vorobyev, V., Gross, J. J.
2022: 104708
- **Negative dream affect is associated with next-day affect level, but not with affect reactivity or affect regulation.** *Frontiers in behavioral neuroscience*
Sikka, P., Engelbrektsson, H., Zhang, J., Gross, J. J.
2022; 16: 981289
- **Event-Related Potential Correlates of Learning to Produce Novel Foreign Phonemes** *NEUROBIOLOGY OF LANGUAGE*
Railo, H., Varjonen, A., Lehtonen, M., Sikka, P.
2022; 3 (4): 599-614
- **The dynamics of affect across the wake-sleep cycle: From waking mind-wandering to night-time dreaming.** *Consciousness and cognition*
Sikka, P., Valli, K., Revonsuo, A., Tuominen, J.
2021; 94: 103189
- **Tears evoke the intention to offer social support: A systematic investigation of the interpersonal effects of emotional crying across 41 countries*** *JOURNAL OF EXPERIMENTAL SOCIAL PSYCHOLOGY*
Zickfeld, J. H., Ven, N., Pich, O., Schubert, T. W., Berkessel, J. B., Bhushan, B., Mateo, N., Barbosa, S., Sharman, L., Kokonyei, G., Schrover, E., Kardum, I., Aruta, et al
2021; 95
- **Stress and worry in the 2020 coronavirus pandemic: relationships to trust and compliance with preventive measures across 48 countries in the COVIDiSTRESS global survey** *ROYAL SOCIETY OPEN SCIENCE*
Lieberoth, A., Lin, S., Stockli, S., Han, H., Kowal, M., Gelpi, R., Chrona, S., Tran, T., Jelic, A., Rasmussen, J., Cakal, H., Milfont, T. L., Yamada, et al
2021; 8 (2): 200589
- **COVIDiSTRESS Global Survey dataset on psychological and behavioural consequences of the COVID-19 outbreak** *SCIENTIFIC DATA*
Yamada, Y., Cepulic, D., Coll-Martin, T., Debove, S., Gautreau, G., Han, H., Rasmussen, J., Tran, T. P., Travaglino, G. A., Lieberoth, A., Blackburn, A. M., Boullu, L., Bujic, et al
2021; 8 (1): 3
- **Subjective ratings of fear are associated with frontal late positive potential asymmetry, but not with early brain activity over the occipital and centro-parietal cortices** *PSYCHOPHYSIOLOGY*
Grassini, S., Sikka, P., Revonsuo, A., Koivisto, M.
2020; 57 (12): e13665
- **Dream affect: Conceptual and Methodological Issues in the Study of Emotions and Moods Experienced in Dreams** *PhD Dissertation*
Sikka, P.
University of Turku.2020
- **How to Study Dream Experiences** *DREAMS Understanding Biology, Psychology, and Culture*
Sikka, P.
Greenwood, an Imprint of ABC-CLIO LLC.2019; 1: 153-166
- **EEG Frontal Alpha Asymmetry and Dream Affect: Alpha Oscillations over the Right Frontal Cortex during REM Sleep and Presleep Wakefulness Predict Anger in REM Sleep Dreams** *The Journal of Neuroscience*
Sikka, P., Revonsuo, A., Noreika, V., Valli, K.
2019; 39 (24): 4775-4784
- **Peace of mind and anxiety in the waking state are related to the affective content of dreams** *SCIENTIFIC REPORTS*
Sikka, P., Pesonen, H., Revonsuo, A.

2018; 8: 12762

- **Dream emotions: a comparison of home dream reports with laboratory early and late REM dream reports** *JOURNAL OF SLEEP RESEARCH*
Sikka, P., Revonsuo, A., Sandman, N., Tuominen, J., Valli, K.
2018; 27 (2): 206-214
- **How You Measure Is What You Get: Differences in Self- and External Ratings of Emotional Experiences in Home Dreams** *AMERICAN JOURNAL OF PSYCHOLOGY*
Sikka, P., Feilhauer, D., Valli, K., Revonsuo, A.
2017; 130 (3): 367-384
- **I know how you felt last night, or do I? Self- and external ratings of emotions in REM sleep dreams** *CONSCIOUSNESS AND COGNITION*
Sikka, P., Valli, K., Virta, T., Revonsuo, A.
2014; 25: 51-66
- **The Existence of a Hypnotic State Revealed by Eye Movements** *PLOS ONE*
Kallio, S., Hyona, J., Revonsuo, A., Sikka, P., Nummenmaa, L.
2011; 6 (10): e26374
- **D-Serine Metabolism in C6 Glioma Cells: Involvement of Alanine-Serine-Cysteine Transporter (ASCT2) and Serine Racemase (SRR) but Not D-Amino Acid Oxidase (DAO)** *JOURNAL OF NEUROSCIENCE RESEARCH*
Sikka, P., Walker, R., Cockayne, R., Wood, M. A., Harrison, P. J., Burnet, P. J.
2010; 88 (8): 1829-1840
- **What is an altered state of consciousness?** *PHILOSOPHICAL PSYCHOLOGY*
Revonsuo, A., Kallio, S., Sikka, P.
2009; 22 (2): 187-204
- **D-amino acid oxidase activity and expression are increased in schizophrenia** *MOLECULAR PSYCHIATRY*
Burnet, P. J., Eastwood, S. L., Bristow, G. C., Godlewska, B. R., Sikka, P., Walker, M., Harrison, P. J.
2008; 13 (7): 658-660
- **Perception of successive targets presented in invariant-item streams** *ACTA PSYCHOLOGICA*
Bachmann, T., Sikka, P.
2005; 120 (1): 19-34