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Contemplations into respiration: effects of breathing and meditative movement on body and mind

Gerritsen, R.J.S.

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References

A

- Aliverti, A. (2016). The respiratory muscles during exercise. *Breathe*, 12(2), 165–168. <https://doi.org/10.1183/20734735.008116>
- Allen, M. & Patterson, S. (1995). Hemoconcentration and stress: a review of physiological mechanisms and relevance for cardiovascular disease risk. *Biological Psychology*, 41, 1-27. [https://doi.org/10.1016/0301-0511\(95\)05123-R](https://doi.org/10.1016/0301-0511(95)05123-R)
- Allen, J. J. B., Chambers, A. S. & Towers, D. N. (2007). The many metrics of cardiac chronotropy: A pragmatic primer and a brief comparison of metrics. *Biological Psychology*, 74, 243-262. <https://doi.org/10.1016/j.biopsycho.2006.08.005>
- Amann, M. (2012). Pulmonary system limitations to endurance exercise performance in humans. *Experimental Physiology*, 97, 311–318. <https://doi.org/10.1113/expphysiol.2011.058800>
- Amboni, M., Barone, P., & Hausdorff, J. M. (2013). Cognitive contributions to gait and falls: Evidence and implications. *Movement Disorders*, 28, 1520-1533. <https://doi.org/10.1002/mds.25674>
- Ambrose, A. F., Paul, G., & Hausdorff, J. M. (2013). Risk factors for falls among older adults: A review of the literature. *Maturitas*, 75, 51-61. <https://doi.org/10.1016/j.maturitas.2013.02.009>
- Anderson, M. L. (2003). Embodied Cognition: A field guide. *Artificial Intelligence*, 149, 91-130. [https://doi.org/10.1016/S0004-3702\(03\)00054-7](https://doi.org/10.1016/S0004-3702(03)00054-7)
- Andraszewicz, S., Scheibehenne, B., Rieskamp, J., Grasman, R., Verhagen, J., & Wagenmakers, E. J. (2015). An introduction to Bayesian hypothesis testing for management research. *Journal of Management*, 41(2), 521–543. <https://doi.org/10.1177/0149206314560412>
- Andreu, C. I., Moënné-Loccoz, C., López, V., Slagter, H. A., Franken, I. H. A. & Cosmelli, D. (2017). Behavioral and electrophysiological evidence of enhanced monitoring in meditators. *Mindfulness*, 8, 1603-1614. <https://doi:10.1007/s12671-017-0732-z>
- Andrews, P. L. R. and Lawes, I. N. C., (1992). A protective role for vagal afferents: an hypothesis. In Ritter S., Ritter R. C., Barnes C. D., Eds. *Neuroanatomy and Physiology of Abdominal Vagal Afferents* (p. 280-303). Boca Raton: CRC Press.
- Araujo, H. F., Kaplan, J. & Damasio, A. (2013). Cortical midline structures and autobiographical-self processes: An activation-likelihood estimation meta-analysis. *Frontiers in Human Neuroscience*, 7: 548. <https://doi:10.3389/fnhum.2013.00548>
- Arnold, R. W. (1999). The human heart rate response profiles to five vagal maneuvers. *Yale Journal of Biology and Medicine*, 72, 237–244.

- Arnsten, A. F. T. (2009). Stress signaling pathways that impair prefrontal cortex structure and function. *Nature Reviews Neuroscience*, 10, 410-422.
<https://doi.org/10.1038/nrn2648>
- Arnsten, A. F. T. (2015). Stress weakens prefrontal networks: molecular insults to higher cognition. *Nature Neuroscience*, 18, 1376–1385. <https://doi.org/10.1038/nn.4087>
- Ashhad, S., Kam, K., Negro, C. A. D., & Feldman, J. L. (2022). Breathing Rhythm and Pattern and Their Influence on Emotion. *Annual Review of Neuroscience*, 45, 223-247. <https://doi.org/10.1146/annurev-neuro-090121-014424>
- Aston-Jones, G., & Cohen, J. D. (2005). An integrative theory of locus coeruleus-norepinephrine function: adaptive gain and optimal performance. *Annual Review of Neuroscience*, 28, 403-450.
<https://dx.doi.org/10.1146/annurev.neuro.28.061604.135709>

B

- Baddeley, A. D., & Hitch, G. (1974). Working Memory. *Psychology of Learning and Motivation*, 8, 47-89. [http://dx.doi.org/10.1016/S0079-7421\(08\)60452-1](http://dx.doi.org/10.1016/S0079-7421(08)60452-1).
- Badran, B. W., Dowdle, L. T., Mithoefer, O. J., LaBate, N. T., Coatsworth, J., Brown, J. C., ... George, M. S. (2018). Neurophysiologic effects of transcutaneous auricular vagus nerve stimulation (taVNS) via electrical stimulation of the tragus: A concurrent taVNS/fMRI study and review. *Brain Stimulation*, 11, 492–500.
<https://dx.doi.org/10.1016/j.brs.2017.12.009>
- Balasubramaniam, M., Telles, S. & Doraiswamy, P. M. (2013). Yoga on our minds: A systematic review of yoga for neuropsychiatric disorders. *Frontiers in Psychiatry*, 3: 117. <https://dx.doi.org/10.3389/fpsy.2012.00117>
- Ballesteros, S., Kraft, E., Santana, S., & Tziraki, C. (2015). Maintaining older brain functionality: a targeted review. *Neuroscience & Biobehavioral Reviews*, 55, 453-477. <https://doi.org/10.1016/j.neubiorev.2015.06.008>
- Band, G. P. H., van der Molen, M. W., & Logan, G. D. (2003). Horse-race model simulations of the stop-signal procedure. *Acta Psychologica*, 112, 105–142.
[https://doi.org/10.1016/S0001-6918\(02\)00079-3](https://doi.org/10.1016/S0001-6918(02)00079-3)
- Baranski, M. F. S. (2021). No State Effects of Brief Mindfulness Meditation on the Executive Functions of Inhibition, Shifting, and Updating. *Journal of Cognitive Enhancement*, 5, 311–329. <https://doi.org/10.1007/s41465-020-00198-w>
- Belli, F., Felisatti, A., & Fischer, M. H. (2021). “BreaThink”: breathing affects production and perception of quantities. *Experimental Brain Research*, 239, 2489–2499.
<https://doi.org/10.1007/s00221-021-06147-z>

- Benarroch, E. E. (1993). The central autonomic network: Functional organization, dysfunction, and perspective. *Mayo Clinic Proceedings*, 68, 988–1001. [https://dx.doi.org/10.1016/S0025-6196\(12\)62272-1](https://dx.doi.org/10.1016/S0025-6196(12)62272-1)
- Benarroch, E. E. (1997). The central autonomic network. In: Low, P. A. (ed.), *Clinical Autonomic Disorders* (pp. 17–23). Philadelphia: Lippincott-Raven.
- Benson, H., Greenwood, M. M., & Klemchuk, H. (1975). The relaxation response: psychophysiologic aspects and clinical applications. *Psychiatry in Medicine*, 6, 87–98. <https://doi.org/10.2190/376w-e4mt-qm6q-h0um>
- Bernard, C. (1865). *An introduction to the study of experimental medicine*. Dover Publications.
- Bernardi, L., Wdowczyk-Szulc, J., Valenti, C., Castoldi, S., Passino, C., Spadacini, G. & Sleight, P. (2000). Effects of controlled breathing, mental activity and mental stress with or without verbalization on heart rate variability. *Journal of the American College of Cardiology*, 35, 1462–1469. [https://dx.doi.org/10.1016/S0735-1097\(00\)00595-7](https://dx.doi.org/10.1016/S0735-1097(00)00595-7)
- Bernardi, L., Passino, C., Wilmerding, V., Dallam, G. M., Parker, D. L., Robergs, R. A. & Appenzeller, O. (2001). Breathing patterns and cardiovascular autonomic modulation during hypoxia induced by simulated altitude. *Journal of Hypertension*, 19, 947–958. <https://dx.doi.org/10.1097/00004872-200105000-00016>
- Bernstein, A., Hadash, Y., Lichtash, Y., Tanay, G., Shepherd, K. & Fresco, D. M. (2015). Decentering and related constructs: A critical review and meta-cognitive processes model. *Perspectives on Psychological Science*, 10, 599–617. <https://dx.doi.org/10.1177/1745691615594577>
- Berntson, G. G. & Cacioppo, J. T. (1999). Heart rate variability: A neuroscientific perspective for further studies. *Cardiac Electrophysiology Review*, 3, 279–282. <https://dx.doi.org/10.1023/A:1009920002142>
- Berridge, C. W., & Waterhouse, B. D. (2003). The locus coeruleus–noradrenergic system: modulation of behavioral state and state-dependent cognitive processes. *Brain research reviews*, 42(1), 33–84. [https://dx.doi.org/10.1016/S0165-0173\(03\)00143-7](https://dx.doi.org/10.1016/S0165-0173(03)00143-7)
- Berryman, N., Bherer, L., Nadeau, S., Lauzière, S., Lehr, L., Bobeuf, F., ... Bosquet, L. (2014). Multiple roads lead to Rome: combined high-intensity aerobic and strength training vs. gross motor activities leads to equivalent improvement in executive functions in a cohort of healthy older adults. *Age*, 36: 9710. <https://dx.doi.org/10.1007/s11357-014-9710-8>
- Berthoud, H. R. & Neuhuber, W. L. (2000). Functional and chemical anatomy of the afferent vagal system. *Autonomic Neuroscience: Basic and Clinical*, 85, 1–17. [https://dx.doi.org/10.1016/S1566-0702\(00\)00215-0](https://dx.doi.org/10.1016/S1566-0702(00)00215-0)
- Besnier, F., Labrunee, M., Pathak, A., Pavy-Le Traon, A., Gales, C., Senard, J. M., & Guiraud, T. (2017). Exercise training-induced modification in autonomic nervous

- system: An update for cardiac patients. *Annals of physical and rehabilitation medicine*, 60(1), 27-35. <https://dx.doi.org/10.1016/j.rehab.2016.07.002>
- Billman, G. E. (2013). The LF/HF ratio does not accurately measure cardiac sympatho-vagal balance. *Frontiers in Physiology*, 4, 26. <https://doi.org/10.3389/fphys.2013.00026>
- Birnbach, B., Höpner, J., & Mikolajczyk, R. (2020). Cardiac symptom attribution and knowledge of the symptoms of acute myocardial infarction: a systematic review. *BMC Cardiovascular Disorders*, 20(1), 1-12. <https://dx.doi.org/10.1186/s12872-020-01714-8>
- Black, D. S., Cole, S. W., Irwin, M. R., Breen, E., St. Cyr, N. M., Nazarian, N., Khalsa, D. S., et al. (2013). Yogic meditation reverses NF- κ B and IRF-related transcriptome dynamics in leukocytes of family dementia caregivers in a randomized controlled trial. *Psychoneuroendocrinology*, 38, 348-355. <https://dx.doi.org/10.1016/j.psyneuen.2012.06.011>
- Blum, J., Rockstroh, C., & Göritz, A. S. (2020). Development and Pilot Test of a Virtual Reality Respiratory Biofeedback Approach. *Applied Psychophysiology Biofeedback*, 45, 153–163. <https://doi.org/10.1007/s10484-020-09468-x>
- Bonomini, M. P., Calvo, M. V., Morcillo, A. Di., Segovia, F., Vicente, J. M. F., & Fernandez-Jover, E. (2020). The Effect of Breath Pacing on Task Switching and Working Memory. *International Journal of Neural Systems*, 30, 1-12. <https://doi.org/10.1142/S0129065720500288>
- Borovikova, L. V., Ivanova, S., Zhang, M., Yang, H., Botchkina, G. I., Watkins, L. R., Wang, H., et al. (2000). Vagus nerve stimulation attenuates the systemic inflammatory response to endotoxin. *Nature*, 405, 458-462. <https://dx.doi.org/10.1038/35013070>
- Boucard, G. K., Albinet, C. T., Bugaiska, A., Bouquet, C. A., Clarys, D., & Audiffren, M. (2012). Impact of physical activity on executive functions in aging: A selective effect on inhibition among old adults. *Journal of Sport and Exercise Psychology*, 34, 808–827. <https://doi.org/10.1123/jsep.34.6.808>
- Boucsein, W., Fowles, D. C., Grimnes, S., Ben-Shakhar, G., Roth, W. T., Dawson, M. E., & Filion, D. L. (2012). Publication recommendations for electrodermal measurements. *Psychophysiology*, 49, 1017–1034. <https://doi.org/10.1111/j.1469-8986.2012.01384.x>
- Bower, J. E. & Irwin, M. R. (2016). Mind-body therapies and control of inflammatory biology: A descriptive review. *Brain, behavior, and immunity*, 51, 1-11. <https://dx.doi.org/10.1016/j.bbi.2015.06.012>
- Bratton, B. O., Martelli, D., Mckinley, M. J., Trevaks, D., Anderson, C. R., & Mcallen, R. M. (2012). Neural regulation of inflammation: No neural connection from the vagus to splenic sympathetic neurons. *Experimental Physiology*, 97, 1180–1185. <https://dx.doi.org/10.1113/expphysiol.2011.061531>

- Breuer, J. (1868). Die Selbststeuerung der Athmung durch den Nervus vagus. *Sitzungsberichte der kaiserlichen Akademie der Wissenschaften*, 58, 909-937.
- Brosschot, J. (2017). Ever at the ready for events that never happen. *European Journal of Psychotraumatology*, 8: 1309934. <https://dx.doi.org/10.1080/20008198.2017.1309934>
- Brown, R. P. & Gerbarg, P. L. (2005). Sudarshan Kriya yogic breathing in the treatment of stress, anxiety, and depression: part I-neurophysiologic model. *Journal of alternative and complementary medicine*, 11, 189-201. <https://dx.doi.org/10.1089/acm.2005.11.189>
- Brown, R. P. & Gerbarg, P. L. (2009). Yoga breathing, meditation, and longevity. *Annals of the New York Academy of Sciences*, 1172, 54-62. <https://dx.doi.org/10.1111/j.1749-6632.2009.04394.x>
- Browning, K. N., Verheijden, S., & Boeckxstaens, G. E. (2017). The Vagus Nerve in Appetite Regulation, Mood, and Intestinal Inflammation. *Gastroenterology*, 152, 730-744. <https://dx.doi.org/10.1053/j.gastro.2016.10.046>
- Burgener, S. C., Yang, Y., Gilbert, R., & Marsh-Yant, S. (2009). The effects of a multimodal intervention on outcomes of persons with early-stage dementia. *American Journal of Alzheimer's Disease and Other Dementias*, 23, 382-394. <https://doi.org/10.1177/1533317508317527>
- Büssing, A., Michalsen, A., Khalsa, S. B. S., Telles, S. & Sherman, K. J. (2012). Effects of yoga on mental and physical health: A short summary of reviews. *Evidence-based Complementary and Alternative Medicine*, 2012:165410. <https://dx.doi.org/10.1155/2012/165410>

C

- Cabeza, R. (2001). Cognitive neuroscience of aging: Contributions of functional neuroimaging. *Scandinavian Journal of Psychology*, 42, 277-286. <https://doi.org/10.1111/1467-9450.00237>
- Cacioppo, J. T., Berntson, G. G., Binkley, P. F., Quigley, K. S., Uchino, B. N., & Fieldstone, A. (1994). Autonomic cardiac control. II. Noninvasive indices and basal response as revealed by autonomic blockades. *Psychophysiology*, 31(6), 586-598. <https://doi.org/10.1111/j.1469-8986.1994.tb02351.x>
- Cahn, B. R. & Polich, J. (2006). Meditation states and traits: EEG, ERP, and neuroimaging studies. *Psychological bulletin*, 132, 180-211. <https://dx.doi.org/10.1037/0033-2909.132.2.180>
- Cakmak, Y. O., Ekinici, G., Afsar, N., & Cavdar, S. (2011). Structural cortical plasticity induced by the mindfulness meditation of the Sufi Whirling Derwishes. *Neuroscience Research*, 71: e96. <https://dx.doi.org/10.1016/j.neures.2011.07.412>

- Cakmak, Y. O., Ekinci, G., Heinecke, A., & Çavdar, S. (2017). A Possible Role of Prolonged Whirling Episodes on Structural Plasticity of the Cortical Networks and Altered Vertigo Perception: The Cortex of Sufi Whirling Dervishes. *Frontiers in Human Neuroscience*, 11: 3. <https://dx.doi.org/10.3389/fnhum.2017.00003>
- Canning, B. J. (2006). Reflex regulation of airway smooth muscle tone. *Journal of Applied Physiology*, 101, 971–985. <https://dx.doi.org/10.1152/japplphysiol.00313.2006>
- Capuana, L. J., Dywan, J., Tays, W. J. & Segalowitz, S. J. (2012). Cardiac workload and inhibitory control in younger and older adults. *Biological Psychology*, 90, 60–70. <https://dx.doi.org/10.1016/j.biopsycho.2012.02.018>
- Capuana, L. J., Dywan, J., Tays, W. J., Elmers, J. L., Witherspoon, R. & Segalowitz, S. J. (2014). Factors influencing the role of cardiac autonomic regulation in the service of cognitive control. *Biological Psychology*, 102, 88–97. <https://dx.doi.org/10.1016/j.biopsycho.2014.07.015>
- Carney, R. M., Freedland, K. E., Stein, P. K., Miller, G. E., Steinmeyer, B., Rich, M. W. & Duntley, S. P. (2007). Heart rate variability and markers of inflammation and coagulation in depressed patients with coronary heart disease. *Journal of Psychosomatic Research*, 62, 463–467. <https://dx.doi.org/10.1016/j.jpsychores.2006.12.004>
- Carroll, D., Ginty, A. T., Painter, R. C., Roseboom, T. J., Phillips, A. C., & de Rooij, S. R. (2012). Systolic blood pressure reactions to acute stress are associated with future hypertension status in the Dutch Famine Birth Cohort Study. *International Journal of Psychophysiology*, 85(2), 270–273. <https://dx.doi.org/10.1016/j.ijpsycho.2012.04.001>
- Cásedas, L., Pirruccio, V., Vadillo, M. A., & Lupiáñez, J. (2020). Does Mindfulness Meditation Training Enhance Executive Control? A Systematic Review and Meta-Analysis of Randomized Controlled Trials in Adults. *Mindfulness*, 11: 411–424. <https://doi.org/10.1007/s12671-019-01279-4>
- Chalmers, A. F. (1976). *What is this thing called science?*. Hackett Publishing.
- Chalmers, J., Quintana, D., Abbott, M. & Kemp, A. (2014). Anxiety disorders are associated with reduced heart rate variability: A meta-analysis. *Frontiers in Psychiatry*, 5, 1–11. <https://dx.doi.org/10.3389/fpsy.2014.00080>
- Chang, R. B., Strohlic, D. E., Umans, B. D., Liberles, S. D. & Williams, E. K. (2015). Vagal sensory neuron subtypes that differentially control breathing. *Cell*, 161, 622–633. <https://dx.doi.org/10.1016/j.cell.2015.03.022>
- Chang, Y., Nien, Y., Tsai, C. & Etnier, J. L. (2010). Physical activity and cognition in older adults: The potential of Tai Chi Chuan. *Journal of Aging and Physical Activity*, 18, 451–472. <https://dx.doi.org/10.1123/japa.18.4.451>

- Chang, Y.-K., Nien, Y.-H., Chen, A.-G., & Yan, J. (2014). Tai Ji Quan, the brain, and cognition in older adults. *Journal of Sport and Health Science*, 3, 36–42.
<https://doi.org/10.1016/j.jshs.2013.09.003>
- Chen, Y.-S., Crowley, Z., Zhou, S., & Cartwright, C. (2012). Effects of 12-week Tai Chi training on soleus H-reflex and muscle strength in older adults: a pilot study. *European Journal of Applied Physiology*, 112, 2363–2368.
<https://doi.org/10.1007/s00421-011-2182-y>
- Chi, I., Jordan-Marsh, M., Guo, M., Xie, B. & Bai, Z. (2013). Tai chi and reduction of depressive symptoms for older adults: a meta-analysis of randomized trials. *Geriatrics & gerontology international*, 13, 3-12. <https://dx.doi.org/10.1111/j.1447-0594.2012.00882.x>
- Chiesa, A., & Serretti, A. (2010). A systematic review of neurobiological and clinical features of mindfulness meditations. *Psychological Medicine*, 40, 1239-1252.
<https://doi.org/10.1017/S0033291709991747>
- Chiesa, A. & Serretti, A. (2011). Mindfulness based cognitive therapy for psychiatric disorders: A systematic review and meta-analysis. *Psychiatry Research*, 187, 441-453. <https://dx.doi.org/10.1016/j.psychres.2010.08.011>
- Choi, K. H., Kim, J., Kwon, O. S., Kim, M. J., Ryu, Y. H., & Park, J. E. (2017). Is heart rate variability (HRV) an adequate tool for evaluating human emotions?—A focus on the use of the International Affective Picture System (IAPS). *Psychiatry research*, 251, 192-196. <https://dx.doi.org/10.1016/j.psychres.2017.02.025>
- Clamor, A., Lincoln, T. M., Thayer, J. F. & Koenig, J. (2016). Resting vagal activity in schizophrenia: Meta-Analysis of heart rate variability as a potential endophenotype. *British Journal of Psychiatry*, 208, 9-16.
<https://dx.doi.org/10.1192/bjp.bp.114.160762>
- Clancy, J., Mary, D. & Witte, K. (2014). Non-invasive vagus nerve stimulation in healthy humans reduces sympathetic nerve activity. *Brain Stimulation*, 7, 871-877.
<https://dx.doi.org/10.1016/j.brs.2014.07.031>
- Clark, A. (1997). *Being There: Putting Brain, Body, and World Together Again*. MIT Press.
- Clark, K. B., Naritoku, D. K., Smith, D. C., Browning, R. A., & Jensen, R. A. (1999). Enhanced recognition memory following vagus nerve stimulation in human subjects. *Nature Neuroscience*, 2, 94–98. <https://dx.doi.org/10.1038/4600>
- Clark, D., Schumann, F. & Mostofsky, S. H. (2015). Mindful movement and skilled attention. *Frontiers in Human Neuroscience*, 9: 297.
<https://dx.doi.org/10.3389/fnhum.2015.00297>
- Coetsee, C., & Terblanche, E. (2017). The effect of three different exercise training modalities on cognitive and physical function in a healthy older population. *European Review of Aging and Physical Activity*, 14(1), 13.
<https://doi.org/10.1186/s11556-017-0183-5>

- Cohen, H. & Benjamin, J. (2006). Power spectrum analysis and cardiovascular morbidity in anxiety disorders. *Autonomic Neuroscience: Basic & Clinical*, 128, 1–8.
<https://dx.doi.org/10.1016/j.autneu.2005.06.007>
- Colcombe, S., & Kramer, A. F. (2003). Fitness effects on the cognitive function of older adults: A meta-analytic study. *Psychological science*, 14, 125–130.
<https://doi.org/10.1111/1467-9280.t01-1-01430>
- Coles, N. A., Larsen, J. T., & Lench, H. C. (2019). A meta-analysis of the facial feedback literature: Effects of facial feedback on emotional experience are small and variable. *Psychological bulletin*, 145(6), 610. <https://dx.doi.org/10.1037/bul0000194>
- Colzato, L. S., Ozturk, A. & Hommel, B. (2012). Meditate to create: The impact of focused-attention and open-monitoring training on convergent and divergent thinking. *Frontiers in Psychology*, 3, 116. <https://dx.doi.org/10.3389/fpsyg.2012.00116>
- Colzato, L. S., Sellaro, R., Samara, I. & Hommel, B. (2015a). Meditation-induced cognitive-control states regulate response-conflict adaptation: Evidence from trial-to-trial adjustments in the Simon task. *Consciousness and Cognition*, 35, 110–114.
<https://dx.doi.org/10.1016/j.concog.2015.04.012>
- Colzato, L. S., Sellaro, R., Samara, I., Baas, M. & Hommel, B. (2015b). Meditation-induced states predict attentional control over time. *Consciousness and Cognition*, 37, 57–62. <https://dx.doi.org/10.1016/j.concog.2015.08.006>
- Conrad, A., Müller, A., Doberenz, S., Kim, S., Meuret, A. E., Wollburg, E. & Roth, W. T. (2007). Psychophysiological effects of breathing instructions for stress management. *Applied Psychophysiology Biofeedback*, 32, 89–98.
<https://dx.doi.org/10.1007/s10484-007-9034-x>
- Coronado-Montoya, S., Levis, A. W., Kwakkenbos, L., Steele, R. J., Turner, E. H., & Thombs, B. D. (2016). Reporting of positive results in randomized controlled trials of mindfulness-based mental health interventions. *PLoS ONE*, 11: e0153220.
<https://doi.org/10.1371/journal.pone.0153220>
- Cotman, C. W., Berchtold, N. C., & Christie, L. A. (2007). Exercise builds brain health: key roles of growth factor cascades and inflammation. *Trends in Neurosciences*, 30, 464–472. <https://doi.org/10.1016/j.tins.2007.06.011>
- Coupland, R. E., Parker, T. L., Kesse, W. K. & Mohamed, A. A. (1989). The innervation of the adrenal gland. III. Vagal innervation. *Journal of Anatomy*, 163, 173–81.
- Craig, C. L., Marshall, A. L., Sjöström, M., Bauman, A. E., Booth, M. L., Ainsworth, B. E., ... Oja, P. (2003). International physical activity questionnaire: 12-Country reliability and validity. *Medicine and Science in Sports and Exercise*, 35, 1381–1395. <https://doi.org/10.1249/01.MSS.0000078924.61453.FB>
- Cramer, H., Lauche, R., Langhorst, J. & Dobos, G. (2013). Yoga for depression: A systematic review and meta-analysis. *Depression and Anxiety*, 30, 1068–1083.
<https://dx.doi.org/10.1002/da.22166>

- Cregg, J. M., Chu, K. A., Dick, T. E., Landmesser, L. T., & Silver, J. (2017). Phasic inhibition as a mechanism for generation of rapid respiratory rhythms. *Proceedings of the National Academy of Sciences of the United States of America*, 114, 12815–12820. <https://doi.org/10.1073/pnas.1711536114>
- Critchley, H. D., Mathias, C. J., Josephs, O., O'Doherty, J., Zanini, S., Dewar, B. K., ... Dolan, R. J. (2003). Human cingulate cortex and autonomic control: Converging neuroimaging and clinical evidence. *Brain*, 126, 2139–2152. <https://dx.doi.org/10.1093/brain/awg216>
- Critchley, H. D., Nicotra, A., Chiesa, P. A., Nagai, Y., Gray, M. A., Minati, L. & Bernardi, L. (2015a). Slow breathing and hypoxic challenge: Cardiorespiratory consequences and their central neural substrates. *PLoS ONE*, 10: 127082. <https://dx.doi.org/10.1371/journal.pone.0127082>
- Critchley, H. D. & Garfinkel, S. N. (2015b). Interactions between visceral afferent signaling and stimulus processing. *Frontiers in Neuroscience*, 9, 286. <https://dx.doi.org/10.3389/fnins.2015.00286>
- Cysarz, D. & Büssing, A. (2005). Cardiorespiratory synchronization during Zen meditation. *European Journal of Applied Physiology*, 95, 88–95. <https://dx.doi.org/10.1007/s00421-005-1379-3>

D

- Dahl, C. J., Lutz, A. & Davidson, R. J. (2015). Reconstructing and deconstructing the self: Cognitive mechanisms in meditation practice. *Trends in Cognitive Science*, 19, 515–523. <https://dx.doi.org/10.1016/j.tics.2015.07.001>
- Damasio, A. R. (1996). The somatic marker hypothesis and the possible functions of the prefrontal cortex. *Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences*, 351(1346), 1413–1420. <https://dx.doi.org/10.1098/rstb.1996.0125>
- Damasio, A. (1999). *The Feeling of What Happens: Body and Emotion in the Making of Consciousness*. Harcourt.
- Damasio, A. (2003). Feelings of emotion and the self. *Annals of the New York Academy of Sciences*, 1001, 253–261. <https://dx.doi.org/10.1196/annals.1279.014>
- Dantzer, R., O'Connor, J. C., Freund, G. G., Johnson, R. W. & Kelley, K. W. (2008). From inflammation to sickness and depression: when the immune system subjugates the brain. *Nature Reviews Neuroscience*, 9, 46–56. <https://dx.doi.org/10.1038/nrn2297>
- Danucalov, M. Á. D., Simões, R. S., Kozasa, E. H. & Leite, J. R. (2008). Cardiorespiratory and metabolic changes during yoga sessions: The effects of respiratory exercises and meditation practices. *Applied Psychophysiology Biofeedback*, 33, 77–81. <https://dx.doi.org/10.1007/s10484-008-9053-2>

- Das, U. N. (2011). Vagal nerve stimulation in prevention and management of coronary heart disease. *World Journal of Cardiology*, 3, 105–110.
<https://dx.doi.org/10.4330/wjc.v3.i4.105>
- Davis, S. W., Dennis, N. A., Daselaar, S. M., Fleck, M. S., & Cabeza, R. (2008). Qué PASA? the posterior-anterior shift in aging. *Cerebral Cortex*, 18, 1201–1209.
<https://doi.org/10.1093/cercor/bhm155>
- Dawson, M. R. (2022). *What is Cognitive Psychology?* Athabasca University Press.
- Deandrea, S., Lucenteforte, E., Bravi, F., Foschi, R., La Vecchia, C., & Negri, E. (2010). Risk Factors for Falls in Community-dwelling Older People. *Epidemiology*, 21, 658–668. <https://dx.doi.org/10.1097/ede.0b013e3181e89905>
- Delgado-Pastor, L. C., Perakakis, P., Subramanya, P., Telles, S. & Vila, J. (2013). Mindfulness (Vipassana) meditation: Effects on P3b event-related potential and heart rate variability. *International Journal of Psychophysiology*, 90, 207–214.
<https://dx.doi.org/10.1016/j.ijpsycho.2013.07.006>
- De Rooij, S. R. (2013). Blunted cardiovascular and cortisol reactivity to acute psychological stress: A summary of results from the Dutch Famine Birth Cohort Study. *International Journal of Psychophysiology*, 90(1), 21–27.
<https://dx.doi.org/10.1016/j.ijpsycho.2012.09.011>
- Desai, R., Tailor, A. & Bhatt, T. (2015). Effects of yoga on brain waves and structural activation: A review. *Complementary Therapies in Clinical Practice*, 21, 112–118.
<https://dx.doi.org/10.1016/j.ctcp.2015.02.002>
- De Smet, S., Ottaviani, C., Verkuil, B., Kappen, M., Baeken, C., & Vanderhasselt, M. A. (2023). Effects of non-invasive vagus nerve stimulation on cognitive and autonomic correlates of perseverative cognition. *Psychophysiology*: e14250.
<https://doi.org/10.1111/psyp.14250>
- Dietrich, S., Smith, J., Scherzinger, C., Hofmann-Preiß, K., Freitag, T., Eisenkolb, A. & Ringler, R. (2008). A novel transcutaneous vagus nerve stimulation leads to brainstem and cerebral activations measured by functional MRI. *Biomedizinische Technik*, 53, 104–111. <https://dx.doi.org/10.1515/BMT.2008.022>
- Ditto, B., Eclache, M. & Goldman, N. (2006). Short-term autonomic and cardiovascular effects of mindfulness body scan meditation. *Annals of Behavioral Medicine*, 32, 227–234. https://dx.doi.org/10.1207/s15324796abm3203_9
- Doll, A., Hölzel, B. K., Boucard, C. C., Wohlschläger, A. M. & Sorg, C. (2015). Mindfulness is associated with intrinsic functional connectivity between default mode and salience networks. *Frontiers in Human Neuroscience*, 9, 1–11.
<https://dx.doi.org/10.3389/fnhum.2015.00461>
- Donders, F. C. (1868). Die Schnelligkeit psychischer Prozesse. *Archiv fuer Anatomie und Physiologie und wissenschaftliche Medizin*, 657–681.

- Dresler, M., Sandberg, A., Bublitz, C., Ohla, K., Trenado, C., Mroczko-Wasowicz, A., ... & Repantis, D. (2018). Hacking the brain: dimensions of cognitive enhancement. *ACS chemical neuroscience*, 10(3), 1137-1148.
<https://dx.doi.org/10.1021/acscchemneuro.8b00571>
- Duman, R. S. & Monteggia, L. M. (2006). A neurotrophic model for stress-related mood disorders. *Biological Psychiatry*, 59, 1116-1127.
<https://dx.doi.org/10.1016/j.biopsych.2006.02.013>

E

- Eberth, J. & Sedlmeier, P. (2012). The effects of mindfulness meditation: A meta-analysis. *Mindfulness*, 3:174–189. <https://dx.doi.org/10.1007/s12671-012-0101-x>
- Ebner, K., & Singewald, N. (2017). Individual differences in stress susceptibility and stress inhibitory mechanisms. *Current Opinion in Behavioral Sciences*, 14, 54-64.
<https://dx.doi.org/10.1016/j.cobeha.2016.11.016>
- Eckberg D. L., Eckberg M. J. (1982). Human sinus node responses to repetitive, ramped carotid baroreceptor stimuli. *American Journal of Physiology*, 242, H638–H644.
<https://dx.doi.org/10.1152/ajpheart.1982.242.4.h638>
- Eckberg, D. L. (2003). The human respiratory gate. *Journal of Physiology*, 548, 339-352.
<https://dx.doi.org/10.1113/jphysiol.2002.037192>
- Eckert, M. A. (2011). Slowing down: Age-related neurobiological predictors of processing speed. *Frontiers in Neuroscience*, 5: 25. <https://doi.org/10.3389/fnins.2011.00025>
- Egan, H. D. (1991). *An Anthology of Christian mysticism*. Collegeville: the Liturgical Press.
- Ekdahl, C., Jarnlo, G. B., & Andersson, S. I. (1989). Standing balance in healthy subjects. Evaluation of a quantitative test battery on a force platform. *Scandinavian Journal of Rehabilitation Medicine*, 21, 187–195.
- Elenkov, I. J. & Chrousos, G. P. (2002). Stress hormones, proinflammatory and antiinflammatory cytokines, and autoimmunity. *Annals of the New York Academy of Sciences*, 966, 290-303. <https://dx.doi.org/10.1111/j.1749-6632.2002.tb04229.x>

F

- Fan, J., McCandliss, B. D., Fossella, J., Flombaum, J. I. & Posner, M. I. (2005). The activation of attentional networks. *NeuroImage*, 26, 471–479.
<https://dx.doi.org/10.1016/j.neuroimage.2005.02.004>
- Fang, J., Rong, P., Hong, Y., Fan, Y., Liu, J., Wang, H., ... Kong, J. (2016). Transcutaneous vagus nerve stimulation modulates default mode network in major depressive disorder. *Biological Psychiatry*, 79, 266–273.
<https://dx.doi.org/10.1016/j.biopsych.2015.03.025>

- Faurholt-Jepsen, M., Kessing, L. V. & Munkholm, K. (2017). Heart rate variability in bipolar disorder: A systematic review and meta-analysis. *Neuroscience and Biobehavioral Reviews*, 73, 68–80. <https://dx.doi.org/10.1016/j.neubiorev.2016.12.007>
- Feldman, J. L., & Del Negro, C. A. (2006). Looking for inspiration: New perspectives on respiratory rhythm. *Nature Reviews Neuroscience*, 7, 232–242. <https://doi.org/10.1038/nrn1871>
- Felger, J. & Lotrich, F. (2013). Inflammatory cytokines in depression: Neurobiological mechanisms and therapeutic implications. *Neuroscience*, 246, 199–229. <https://dx.doi.org/10.1016/j.neuroscience.2013.04.060>
- Flavell, J. H. (1976). Metacognitive aspects of problem solving. In L. B. Resnick (Ed.), *The nature of intelligence* (pp. 231–235). Hillsdale, NJ: Lawrence Erlbaum.
- Fodor, J. A. (1968). *Psychological Explanation*. Random House.
- Fodor, J. A. (1975). *The Language of Thought*. Harvard University Press.
- Folstein, M. F., Folstein, S. E., & McHugh, P. R. (1975). “Mini-mental state”. A practical method for grading the cognitive state of patients for the clinician. *Journal of Psychiatric Research*, 12, 189–198. [https://doi.org/10.1016/0022-3956\(75\)90026-6](https://doi.org/10.1016/0022-3956(75)90026-6)
- Forbes, D., Forbes, S. C., Blake, C. M., Thiessen, E. J. & Blake, C. M. (2015). Exercise programs for people with dementia. *Cochrane Database of Systematic Reviews* 2015, 4: CD006489. <https://doi.org/10.1002/14651858.CD006489.pub4>
- Fowles, D. C., Christie, M. J., Edelberg, R., Grings, W. W., Lykken, D. T., & Venables, P. H. (1981). Publication Recommendations for Electrodermal Measurements. *Psychophysiology*, 18, 232–239. <https://doi.org/10.1111/j.1469-8986.1981.tb03024.x>
- Fowles, D. C. (1986): The eccrine system and electrodermal activity. In *Psychophysiology*, ed. MGH Coles, E Donchin, SW Porges, (pp. 51–96). New York: Guilford Press.
- Francescomarino, S. D., Sciartilli, A., Valerio, V. D., Baldassarre, A. D. & Gallina, S. (2009). The effect of physical exercise on endothelial function. *Sports Medicine*, 39, 797–812. <https://dx.doi.org/10.2165/11317750-000000000-00000>
- Frangos, E., Ellrich, J. & Komisaruk, B. R. (2015). Non-invasive access to the vagus nerve central projections via electrical stimulation of the external ear: FMRI evidence in humans. *Brain Stimulation*, 8, 624–636. <https://dx.doi.org/10.1016/j.brs.2014.11.018>
- Freeman, R. (2006). Assessment of cardiovascular autonomic function. *Clinical Neurophysiology*, 117, 716–30. <https://dx.doi.org/10.1016/j.clinph.2005.09.027>
- Froeliger, B., Garland, E. L. & McClernon, F. J. (2012). Yoga meditation practitioners exhibit greater gray matter volume and fewer reported cognitive failures: Results of

- a preliminary voxel-based morphometric analysis. *Evidence-based Complementary and Alternative Medicine*, 2012: 821307. <https://dx.doi.org/10.1155/2012/821307>
- Fu, Q., & Levine, B. D. (2012). In *Primer on the autonomic nervous system* (pp. 275-279). Academic Press. <https://doi.org/10.1016/B978-0-12-386525-0.00057-3>
- Fucci, E., Pouban-Couzardot, A., Abdoun, O., & Lutz, A. (2022). No effect of focused attention and open monitoring meditation on EEG auditory mismatch negativity in expert and novice practitioners. *International Journal of Psychophysiology*, 176, 62–72. <https://doi.org/10.1016/j.ijpsycho.2022.03.010>

G

- Gabay, S., Pertzov, Y., & Henik, A. (2011). Orienting of attention, pupil size, and the norepinephrine system. *Attention, Perception, & Psychophysics*, 73, 123-129. <https://dx.doi.org/10.3758/s13414-010-0015-4>
- Garcia III, A. J., Koschnitzky, J. E., Dashevskiy, T. & Ramirez, J. M. (2013). Cardiorespiratory coupling in health and disease. *Autonomic Neuroscience: Basic and Clinical*, 175, 26-37. <https://dx.doi.org/10.1016/j.autneu.2013.02.006>
- Gallant, S. N. (2016). Mindfulness meditation practice and executive functioning: Breaking down the benefit. *Consciousness and Cognition*, 40, 116-130. <https://doi.org/10.1016/j.concog.2010.03.014>
- Gard, T., Hölzel, B. K., & Lazar, S. W. (2013). The potential effects of meditation on age-related cognitive decline: a systematic review. *Annals of the New York Academy of Sciences*, 1307, 89-103. <https://doi.org/10.1111/nyas.12348>
- Gard, T., Noggle, J. J., Park, C. L., Vago, D. R. & Wilson, A. (2014). Potential self-regulatory mechanisms of yoga for psychological health. *Frontiers in Human Neuroscience*, 8: 770. <https://dx.doi.org/10.3389/fnhum.2014.00770>
- Geneen, L. J., Moore, R. A., Clarke, C., Martin, D., Colvin, L. A. & Smith, B. H. (2017). Physical activity and exercise for chronic pain in adults: an overview of Cochrane Reviews. *Cochrane Database of Systematic Reviews* 2017, 1: CD011279. <https://dx.doi.org/10.1002/14651858.CD011279.pub3>
- Gerritsen, R. J. S., & Band, G. P. H. (2018). Breath of Life: The Respiratory Vagal Stimulation Model of Contemplative Activity. *Frontiers in Human Neuroscience*, 12: 397. <https://doi.org/10.3389/fnhum.2018.00397>
- Gerritsen, R. J. S., Lafeber, J., van den Beukel, N., & Band, G. P. H. (2021). No panacea? Tai Chi enhances motoric but not executive functioning in a normal aging population. *Aging, Neuropsychology, and Cognition*, 28, 645–668. <https://doi.org/10.1080/13825585.2020.1809629>

- Gevins, A., & Cuttolo, B (1993). Spatiotemporal dynamics of component processes in human working memory. *Electroencephalography and Clinical Neurophysiology*, 87, 128–143. [https://dx.doi.org/10.1016/0013-4694\(93\)90119-G](https://dx.doi.org/10.1016/0013-4694(93)90119-G)
- Ghacibeh, G. A., Shenker, J. I., Shenal, B., Uthman, B. M. & Heilman, K. M. (2006). The influence of vagus nerve stimulation on memory. *Cognitive and Behavioral Neurology*, 19, 119–122. <https://dx.doi.org/10.1097/01.wnn.0000213908.34278.7d>
- Gill, L. N., Renault, R., Campbell, E., Rainville, P., & Khoury, B. (2020). Mindfulness induction and cognition: A systematic review and meta-analysis. *Consciousness and Cognition*, 84, 102991. <https://dx.doi.org/10.1016/j.concog.2020.102991>
- Gillespie, L. D., Roberston, M. C., Gillespie, W. J., Lamb, S. E., Gates, S., Cumming, R. G. & Rowe, B. H. (2012). Interventions for preventing falls in older people living in the community (Review). *Cochrane Database of Systematic Reviews*, 9: CD007146. <https://doi.org/10.1002/14651858.CD007146.pub3>
- Glass, L. (2001). Synchronization and rhythmic processes in physiology. *Nature*, 410, 277–284. <https://doi.org/10.1038/35065745>
- Gold, P. W. & Chrousos, G. P. (2002). Organization of the stress system and its dysregulation in melancholic and atypical depression: high vs low CRH/NE states. *Molecular Psychiatry*, 7, 254–275. <https://dx.doi.org/10.1038/sj.mp.4001032>
- Goldstein, D. S. (2010). Adrenal responses to stress. *Cellular and molecular neurobiology*, 30, 1433–1440. <https://dx.doi.org/10.1007/s10571-010-9606-9>
- Gothe, N., Pontifex, M. B., Hillman, C. & McAuley, E. (2013). The acute effects of yoga on executive function. *Journal of physical activity & health*, 10, 488–495. <https://dx.doi.org/10.1123/jpah.10.4.488>
- Gothe, N. P. & McAuley, E. (2015). Yoga and cognition: A meta-analysis of chronic and acute effects. *Psychosomatic Medicine*, 77, 784–797. <https://dx.doi.org/10.1097/PSY.0000000000000218>
- Gourine, A. V., & Ackland, G. L. (2019). Cardiac vagus and exercise. *Physiology*, 34(1), 71–80. <https://dx.doi.org/10.1152/physiol.00041.2018>
- Green, C. S. & Bavelier, D. (2012). Learning, attentional control, and action video games. *Current Biology*, 22: R197–206. <https://dx.doi.org/10.1016/j.cub.2012.02.012>
- Green, C. S., Bavelier, D., Kramer, A. F., Vinogradov, S., Ansorge, U., Ball, K. K., ... Witt, C. M. (2019). Improving Methodological Standards in Behavioral Interventions for Cognitive Enhancement. *Journal of Cognitive Enhancement*, 3(1), 2–29. <https://doi.org/10.1007/s41465-018-0115-y>
- Grossman, P. & Kollai, M. (1993). Respiratory sinus arrhythmia, cardiac vagal tone, and respiration: Within- and between-individual relations. *Psychophysiology*, 30, 486–495. <https://dx.doi.org/10.1111/j.1469-8986.1993.tb02072.x>

- Grossman, P., Niemann, L., Schmidt, S. & Walach, H. (2004). Mindfulness-based stress reduction and health benefits: A meta-analysis. *Journal of Psychosomatic Research*, 57, 35-43. [https://dx.doi.org/10.1016/S0022-3999\(03\)00573-7](https://dx.doi.org/10.1016/S0022-3999(03)00573-7)
- Grossman, P. & Taylor, E. W. (2007). Toward understanding respiratory sinus arrhythmia: Relations to cardiac vagal tone, evolution and biobehavioral functions. *Biological Psychology*, 74, 263-285. <https://dx.doi.org/10.1016/j.biopsycho.2005.11.014>
- Grossman, P. (2015). Mindfulness: awareness informed by an embodied ethic. *Mindfulness*, 6, 17-22. <https://dx.doi.org/10.1007/s12671-014-0372-5>
- Groves, D. A. & Brown, V. J. (2005). Vagal nerve stimulation: A review of its applications and potential mechanisms that mediate its clinical effects. *Neuroscience and Biobehavioral Reviews*, 29, 493-500.
- Grund, M., Al, E., Pabst, M., Dabbagh, A., Stephani, T., Nierhaus, T., ... & Villringer, A. (2022). Respiration, heartbeat, and conscious tactile perception. *Journal of Neuroscience*, 42(4), 643-656. <https://dx.doi.org/10.1523/JNEUROSCI.0592-21.2021>

H

- Haensel, A., Mills, P. J., Nelesen, R. A., Ziegler, M. G. & Dimsdale, J. E. (2008). The relationship between heart rate variability and inflammatory markers in cardiovascular diseases. *Psychoneuroendocrinology*, 33, 1305-1312. <https://dx.doi.org/10.1016/j.psyneuen.2008.08.007>
- Hanh, T. N. (1997). *The heart of Buddha's teaching*. Random House.
- Hamidovic, A., Van Hedger, K., Choi, S. H., Flowers, S., Wardle, M., & Childs, E. (2020). Quantitative meta-analysis of heart rate variability finds reduced parasympathetic cardiac tone in women compared to men during laboratory-based social stress. *Neuroscience & Biobehavioral Reviews*, 114, 194-200. <https://dx.doi.org/10.1016/j.neubiorev.2020.04.005>
- Hammond, K. R., & Summers, D. A. (1972). Cognitive control. *Psychological review*, 79(1), 58-67. <https://dx.doi.org/10.1037/h0031851>
- Hansen, A. L., Johnsen, B. H. & Thayer, J. F. (2003). Vagal influence on working memory and attention. *International Journal of Psychophysiology*, 48, 263-274. [https://dx.doi.org/10.1016/S0167-8760\(03\)00073-4](https://dx.doi.org/10.1016/S0167-8760(03)00073-4)
- Hansen, A. L., Johnsen, B. H., Sollers, J. J., Stenvik, K. & Thayer, J. F. (2004). Heart rate variability and its relation to prefrontal cognitive function: The effects of training and detraining. *European Journal of Applied Physiology*, 93, 263-272. <https://dx.doi.org/10.1007/s00421-004-1208-0>

- Hare, D. L., Toukhsati, S. R., Johansson, P. & Jaarsma, T. (2014). Depression and cardiovascular disease: A clinical review. *European Heart Journal*, 35, 1365-1372. <https://dx.doi.org/10.1093/eurheartj/eh462>
- Haroon, E., Raison, C. L. & Miller, A. H. (2012). Psychoneuroimmunology meets neuropsychopharmacology: Translational implications of the impact of inflammation on behavior. *Neuropsychopharmacology*, 37, 137-162. <https://dx.doi.org/10.1038/npp.2011.205>
- Hartley, L., Mavrodaris, A., Flowers, N., Ernst, E. & Rees, K. (2014a). Transcendental meditation for the primary prevention of cardiovascular disease. *Cochrane database of systematic reviews* 2014, 12: CD010359. <https://dx.doi.org/10.1002/14651858.CD010359.pub2>
- Hartley, L., Flowers, N., Lee, M. S., Ernst, E. & Rees, K. (2014b). Tai chi for primary prevention of cardiovascular disease. *Cochrane database of systematic reviews* 2014, 4: CD010366. <https://dx.doi.org/10.1002/14651858.CD010366.pub2>
- Hartley, L., Lee, M. S., Kwong, J. S. W., Flowers, N., Todkill, D., Ernst, E. & Rees, K. (2015). Qigong for the primary prevention of cardiovascular disease. *Cochrane Database of Systematic Reviews* 2015, 6: CD010390. <https://dx.doi.org/10.1002/14651858.CD010390.pub2>
- Hasenkamp, W. & Barsalou, L. W. (2012). Effects of meditation experience on functional connectivity of distributed brain networks. *Frontiers in Human Neuroscience*, 6: 38. <https://dx.doi.org/10.3389/fnhum.2012.00038>
- Hausdorff, J. M., & Buchman, A. S. (2013). What links gait speed and MCI with dementia? A fresh look at the association between motor and cognitive function. *Journals of Gerontology - Series A Biological Sciences and Medical Sciences*, 68, 409-411. <https://doi.org/10.1093/gerona/glt002>
- Hawkes, T. D., Manselle, W., & Woollacott, M. H. (2014). Tai Chi and meditation-plus-exercise benefit neural substrates of executive function: A cross-sectional, controlled study. *Journal of Complementary and Integrative Medicine*, 11, 279–288. <https://doi.org/10.1515/jcim-2013-0031>
- Hayashi, N., Ishihara, M., Tanaka, A., Osumi, T. & Yoshida, T. (1997). Face immersion increases vagal activity as assessed by heart rate variability. *European Journal of Applied Physiology and Occupational Physiology*, 76, 394–399. <https://dx.doi.org/10.1007/s004210050267>
- He, W., Goodkind, D., & Kowal, P. (2016). An Aging World: 2015. *Census Bureau*, 1035, 1–155.
- Heathers, J. A. J., Quintana, D. S., Angus, D. J., Krygier, J. R., Kemp, A. H., & Rosnay, M. de. (2018). Water consumption as a source of error in the measurement of heart rate variability. *OSF Preprints*, February. <https://doi.org/10.31219/osf.io/83exy>

- Heck, D. H., Kozma, R., & Kay, L. M. (2019). The rhythm of memory: How breathing shapes memory function. *Journal of Neurophysiology*, 122, 563–571.
<https://doi.org/10.1152/jn.00200.2019>
- Henriksen, M., Hansen, J. B., Klokke, L., Bliddal, H. & Christensen, R. (2016). Comparable effects of exercise and analgesics for pain secondary to knee osteoarthritis: a meta-analysis of trials included in Cochrane systematic reviews. *Journal of Comparative Effectiveness Research*, 5: 7. <https://dx.doi.org/10.2217/cer-2016-0007>
- Henry, T. R. (2002). Therapeutic mechanisms of vagus nerve stimulation. *Neurology*, 59, S3–S14. https://dx.doi.org/10.1212/wnl.59.6_suppl_4.s3
- Heran, B. S., Chen, J. M., Ebrahim, S., Moxham, T., Oldridge, N., Rees, K., ... Taylor, R. S. (2011). Exercise-based cardiac rehabilitation for coronary heart disease. *Cochrane Database of Systematic Reviews*, 7: CD001800.
<https://dx.doi.org/10.1002/14651858.cd001800.pub2>
- Herbert, A. & Esparham, A. (2017). Mind–Body therapy for children with attention-deficit/hyperactivity disorder. *Children*, 4, 31.
<https://dx.doi.org/10.3390/children4050031>
- Hering, K. E. K. (1868). Die Selbststeuerung der Athmung durch den Nervus vagus. *Sitzungsberichte der kaiserlichen Akademie der Wissenschaften*, 57, 672–677.
- Heuninckx, S., Wenderoth, N., Debaere, F., Peeters, R., & Swinnen, S. P. (2005). Neural basis of aging: The penetration of cognition into action control. *Journal of Neuroscience*, 25, 6787–6796. <https://doi.org/10.1523/JNEUROSCI.1263-05.2005>
- Hill, L. K., Siebenbrock, A., Sollers III, J. J., & Thayer, J. F. (2009). All are measures created equal ? Heart rate variability and respiration. *Biomedical Sciences Instrumentation*, 45, 71–76.
- Hirsch, J. A. & Bishop, B. (1981). Respiratory sinus arrhythmia in humans: how breathing pattern modulates heart rate. *The American Journal of Physiology*, 241, H620–9.
<https://dx.doi.org/10.1152/ajpheart.1981.241.4.h620>
- Hofmann, S. G., Grossman, P. & Hinton, D. E. (2011). Loving-kindness and compassion meditation: Potential for psychological interventions. *Clinical Psychology Review*, 31, 1126–1132. <https://dx.doi.org/10.1016/j.cpr.2011.07.003>
- Holtzer, R., Verghese, J., Xue, X., & Lipton, R. B. (2006). Cognitive processes related to gait velocity: results from the Einstein Aging Study. *Neuropsychology*, 20, 215.
<https://doi.org/10.1037/0894-4105.20.2.215>
- Hölzel, B. K., Carmody, J., Evans, K. C., Hoge, E. A., Dusek, J. A., Morgan, L., Pitman, R. K., et al. (2010). Stress reduction correlates with structural changes in the amygdala. *Social Cognitive and Affective Neuroscience*, 5, 11–17.
<https://dx.doi.org/10.1037/0894-4105.20.2.215>
- Hölzel, B. K., Lazar, S. W., Gard, T., Schuman-Olivier, Z., Vago, D. R. & Ott, U. (2011a). How does mindfulness meditation work? Proposing mechanisms of action from a

- conceptual and neural perspective. *Perspectives on Psychological Science*, 6, 537–559. <https://dx.doi.org/10.1177/1745691611419671>
- Hölzel, B. K., Carmody, J., Vangel, M., Congleton, C., Yerramsetti, S. M., Gard, T. & Lazar, S. W. (2011b). Mindfulness practice leads to increases in regional brain gray matter density. *Psychiatry Research - Neuroimaging*, 191, 36–43. <https://doi.org/10.1016/j.pscychresns.2010.08.006>
- Hommel, B. (2011). Attention and spatial stimulus coding in the Simon task: A rejoinder to van der Lubbe and Abrahamse (2010). *Acta Psychologica*, 136, 265–268. <https://doi.org/10.1016/j.actpsy.2010.10.002>
- Hommel, B. (2015). Between persistence and flexibility: The Yin and Yang of action control. *Advances in Motivation Science*, 2, 33–67. <https://dx.doi.org/10.1016/bs.adms.2015.04.003>
- Hommel, B. & Colzato, L. S. (2017). Meditation and metacontrol. *Journal of Cognitive Enhancement*, 1, 115–121. <https://dx.doi.org/10.1007/s41465-017-0017-4>
- Hommel, B. & Wiers, R. W. (2017). Towards a unitary approach to human action control. *Trends in Cognitive Sciences*, 12, 940–949. <https://dx.doi.org/10.1016/j.tics.2017.09.009>
- Hotta, H., & Uchida, S. (2010). Aging of the autonomic nervous system and possible improvements in autonomic activity using somatic afferent stimulation. *Geriatrics & gerontology international*, 10, S127–S136. <https://dx.doi.org/10.1111/j.1447-0594.2010.00592.x>
- Hottenrott, K., Hoos, O., & Esperer, H. D. (2006). Heart rate variability and physical exercise. Current status. *Herz*, 31, 544–52.
- Hulsey, D. R., Riley, J. R., Loerwald, K. W., Rennaker II, R. L., Kilgard, M. P., & Hays, S. A. (2017). Parametric characterization of neural activity in the locus coeruleus in response to vagus nerve stimulation. *Experimental neurology*, 289, 21–30. <https://dx.doi.org/10.1016/j.expneurol.2016.12.005>
- Husain, S. F., Tang, T. B., Yu, R., Tam, W. W., Tran, B., Quek, T. T., Hwang, S.-H., Chang, C. W., Ho, C. S., & Ho, R. C. (2020). Cortical haemodynamic response measured by functional near infrared spectroscopy during a verbal fluency task in patients with major depression and borderline personality disorder. *EBioMedicine*, 51, 102586. <https://doi.org/10.1016/j.ebiom.2019.11.047>

J

- Jacobs, H. I., Riphagen, J. M., Razat, C. M., Wiese, S. & Sack, A. T. (2015). Transcutaneous vagus nerve stimulation boosts associative memory in older individuals. *Neurobiology of Aging*, 36, 1860–1867. <https://dx.doi.org/10.1016/j.neurobiolaging.2015.02.023>

- Jahnke, R., Larkey, L., Rogers, C., Etnier, J. & Lin, F. (2010). A comprehensive review of health benefits of Qigong and Tai Chi. *American Journal of Health Promotion*, 24, 1-37. <https://doi.org/10.4278/ajhp.081013-lit-248>
- James, W. (1890). *Principles of Psychology*. Henry Holt and Company.
- Jänig, W., Krauspe, R. & Wiedersatz, G. (1983). Reflex activation of postganglionic vasoconstrictor neurones supplying skeletal muscle by stimulation of arterial chemoreceptors via non-nicotinic synaptic mechanisms in sympathetic ganglia. *European Journal of Physiology*, 396, 95–100. <https://dx.doi.org/10.1007/BF00615511>
- Janssens, C., De Loof, E., Pourtois, G. & Verguts, T. (2016). The time course of cognitive control implementation. *Psychonomic Bulletin and Review*, 23, 1266–1272. <https://dx.doi.org/10.3758/s13423-015-0992-3>
- JASP Team (2021). JASP (Version 0.15.0) [Computer software].
- Jeffreys, H. (1961). *Theory of probability*. Oxford University Press.
- Jha, A. P., Krompinger, J. & Baime, M. J. (2007). Mindfulness training modifies subsystems of attention. *Cognitive, Affective & Behavioral Neuroscience*, 7, 109–119. <https://dx.doi.org/10.3758/CABN.7.2.109>
- Johnson, R. L., & Wilson, C. G. (2018). A review of vagus nerve stimulation as a therapeutic intervention. *Journal of Inflammation Research*, 11, 203-213. <https://dx.doi.org/10.2147/JIR.S163248>
- Juengst, E. (1998). The meaning of enhancement. In: Parens E, ed. *Enhancing Human Traits: Ethical and Social Implications* (pp. 29–47). Georgetown University Press.

K

- Kandel, E. R., Schwartz, J. H., & Jessell, T. M. (2000). *Principles of neural science*. Elsevier.
- Kemp, A. H. & Quintana, D. S. (2013). The relationship between mental and physical health: insights from the study of heart rate variability. *International Journal of Psychophysiology*, 89, 288–296. <https://dx.doi.org/10.1016/j.ijpsycho.2013.06.018>
- Keng, S. L., Smoski, M. J. & Robins, C. J. (2011). Effects of mindfulness on psychological health: A review of empirical studies. *Clinical Psychology Review*, 31, 1041-1056. <https://dx.doi.org/10.1016/j.cpr.2011.04.006>
- Kerr, C. E., Shaw, J. R., Wasserman, R. H., Chen, V. W., Kanojia, K., Bayer, T. & Kelley, J. M. (2008). Tactile acuity in experienced Tai Chi practitioners: evidence for use dependent plasticity as an effect of sensory-attentional training. *Experimental Brain Research*, 188, 317-322. <https://dx.doi.org/10.1007/s00221-008-1409-6>

- Kerr, C. E., Jones, S. R., Wan, Q., Pritchett, D. L., Wasserman, R. H., Wexler, A., Villanueva, J. J., et al. (2011). Effects of mindfulness meditation training on anticipatory alpha modulation in primary somatosensory cortex. *Brain Research Bulletin*, 85, 96-103. <https://dx.doi.org/10.1016/j.brainresbull.2011.03.026>
- Kerr, C. E., Sacchet, M. D., Lazar, S. W., Moore, C. I. & Jones, S. R (2013). Mindfulness starts with the body: somatosensory attention and top-down modulation of cortical alpha rhythms in mindfulness meditation. *Frontiers in Human Neuroscience*, 7: 12. <https://dx.doi.org/10.3389/fnhum.2013.00012>
- Kerr, C. E., Agrawal, U. & Nayak, S. (2016) The effects of Tai Chi practice on intermuscular beta coherence and the rubber hand illusion. *Frontiers in Human Neuroscience*, 10: 37. <https://dx.doi.org/10.3389/fnhum.2016.00037>
- Keshavan, M. S., Vinogradov, S., Rumsey, J., Sherrill, J. & Wagner, A. (2014). Cognitive training in mental disorders: update and future directions. *American Journal of Psychiatry*, 171, 510–522. <https://dx.doi.org/10.1176/appi.ajp.2013.13081075>
- Kessler, W., Diedrich, S., Menges, P. et al. (2012). The role of the Vagus Nerve: Modulation of the inflammatory reaction in murine polymicrobial sepsis. *Mediators of Inflammation*, 2012: 467620. <https://dx.doi.org/10.1155/2012/467620>
- Keyl, C., Schneider, A., Dambacher, M. & Bernardi, L. (2001). Time delay of vagally mediated cardiac baroreflex response varies with autonomic cardiovascular control. *Journal of Applied Physiology*, 91, 283–289. <https://dx.doi.org/10.1152/jappl.2001.91.1.283>
- Khalsa, S. S., Rudrauf, D., Davidson, R. J. & Tranel, D. (2015). The effect of meditation on regulation of internal body states. *Frontiers in Psychology*, 6, 1–15. <https://dx.doi.org/10.3389/fpsyg.2015.00924>
- Kim, S. H., Schneider, S. M., Kravitz, L., Mermier, C. & Burge, M. R. (2013). Mind-body practices for posttraumatic stress disorder. *Journal of Investigative Medicine*, 61, 827-834. <https://dx.doi.org/10.2310/JIM.0b013e3182906862>
- Kirk, U., Downar, J. & Montague, P. R. (2011). Interoception drives increased rational decision-making in meditators playing the ultimatum game. *Frontiers in Neuroscience*, 5: 49. <https://dx.doi.org/10.3389/fnins.2011.00049>
- Kirkwood, G., Rampes, H., Tuffrey, V., Richardson, J. & Pilkington, K. (2005). Yoga for anxiety: a systematic review of the research evidence. *British Journal of Sports Medicine*, 39, 884-891. <https://dx.doi.org/10.1136/bjsm.2005.018069>
- Klainin-Yobas, P., Cho, M. A. A. & Creedy, D. (2012). Efficacy of mindfulness-based interventions on depressive symptoms among people with mental disorders: A meta-analysis. *International Journal of Nursing Studies*, 49, 109-121. <https://dx.doi.org/10.1016/j.ijnurstu.2011.08.014>
- Klink, E. S., & Pruessner, J. C. (2023). Investigating the Interaction of Sympathetic and Parasympathetic Nervous System Under Stress and Relaxation Using Guided

- Imagery. *Psychological Research of Early Career Scientists*, 1(1), 1-30. <http://nbn-resolving.de/urn:nbn:de:bsz:352-2-1hajzkicqc1f97>
- Kochhann, R., Varela, J. S., de Macedo Lisboa, C. S., & Chaves, M. L. F. (2010). The Mini Mental State Examination: Review of cutoff points adjusted to schooling in a large Southern Brazilian sample. *Dementia & Neuropsychologia*, 4, 35–41. <https://doi.org/10.1590/S1980-57642010DN40100006>
- Koenig, J., Kemp, A. H., Beauchaine, T. P., Thayer, J. F. & Kaess, M. (2016). Depression and resting state heart rate variability in children and adolescents-A systematic review and meta-analysis. *Clinical Psychology Review*, 46, 136-150. <https://dx.doi.org/10.1016/j.cpr.2016.04.013>
- Koenig, J., & Thayer, J. F. (2016). Sex differences in healthy human heart rate variability: A meta-analysis. *Neuroscience & Biobehavioral Reviews*, 64, 288-310. <https://dx.doi.org/10.1016/j.neubiorev.2016.03.007>
- Kolář, P., Neuwirth, J., Šanda, J., Suchánek, V., Svatá, Z., Volejník, J. & Pivec, M. (2009). Analysis of diaphragm movement during tidal breathing and during its activation while breath holding using MRI synchronized with spirometry. *Physiological Research*, 58, 383-392. <https://dx.doi.org/10.33549/physiolres.931376>
- Kollai, M. & Mizsei, G. (1990). Respiratory sinus arrhythmia is a limited measure of cardiac parasympathetic control in man. *Journal of Physiology*, 424, 329–342. <https://dx.doi.org/10.1113/jphysiol.1990.sp018070>
- Koltyn, K. F., Brellenthin, A. G., Cook, D. B., Sehgal, N. & Hillard, C. (2014). Mechanisms of exercise-induced hypoalgesia. *Journal of Pain*, 15, 1294–1304. <https://dx.doi.org/10.1016/j.jpain.2014.09.006>
- Komori, T. (2018). The relaxation effect of prolonged expiratory breathing. *Mental Illness*, 10: 7669. <https://doi.org/10.4081/mi.2018.7669>
- Korsager Larsen, M. & Matchkov, V. V. (2016). Hypertension and physical exercise: The role of oxidative stress. *Medicina*, 52, 19–27. <https://dx.doi.org/10.1016/j.medici.2016.01.005>
- Kozasa, E. H., Sato, J. R., Lacerda, S. S., Barreiros, M. A. M., Radvany, J., Russell, T. A., Sanches, L. G., et al. (2012). Meditation training increases brain efficiency in an attention task. *NeuroImage*, 59, 745-749. <https://dx.doi.org/10.1016/j.neuroimage.2011.06.088>
- Kramer, A. F., Erickson, K. I., & Colcombe, S. J. (2006). Exercise, cognition, and the aging brain. *Journal of Applied Physiology*, 101, 1237–1242. <https://doi.org/10.1152/japplphysiol.00500.2006>
- Krisanaprakornkit, T., Witoonchart, C., Ngamjarus, C. & Piyavhatkul, N. (2010). Meditation therapies for attention deficit /hyperactivity disorder. *Cochrane Database of Systematic Reviews* 2010, 6: CD006507. <https://dx.doi.org/10.1002/14651858.cd006507.pub2>

- Kuiper, J. S., Zuidersma, M., Oude Voshaar, R. C., Zuidema, S. U., van den Heuvel, E. R., Stolk, R. P., & Smidt, N. (2015). Social relationships and risk of dementia: A systematic review and meta-analysis of longitudinal cohort studies. *Ageing Research Reviews*, 22, 39-57. <https://doi.org/10.1016/j.arr.2015.04.006>
- Kuyken, W., Hayes, R., Barrett, B., Byng, R., Dalgleish, T., Kessler, D., ... Byford, S. (2015). Effectiveness and cost-effectiveness of mindfulness-based cognitive therapy compared with maintenance antidepressant treatment in the prevention of depressive relapse or recurrence (PREVENT): A randomised controlled trial. *The Lancet*, 386, 63-73. [https://dx.doi.org/10.1016/S0140-6736\(14\)62222-4](https://dx.doi.org/10.1016/S0140-6736(14)62222-4)
- Kwan, H., Garzoni, L., Liu, H. L., Cao, M., Desrochers, A., Fecteau, G., ... Frasch, M. G. (2016). Vagus Nerve Stimulation for Treatment of Inflammation: Systematic Review of Animal Models and Clinical Studies. *Bioelectronic Medicine*, 3(1), 1-6. <https://doi.org/10.15424/bioelectronmed.2016.00005>

L

- Laborde, S., Mosley, E. & Thayer, J. F. (2017). Heart rate variability and cardiac vagal tone in psychophysiological research - Recommendations for experiment planning, data analysis, and data reporting. *Frontiers in Psychology*, 8: 213. <https://dx.doi.org/10.3389/fpsyg.2017.00213>
- Laborde, S., Lentes, T., Hosang, T. J., Borges, U., Mosley, E., & Dosseville, F. (2019). Influence of slow-paced breathing on inhibition after physical exertion. *Frontiers in Psychology*, 10: 1923. <https://doi.org/10.3389/fpsyg.2019.01923>
- Laborde, S., Allen, M. S., Borges, U., Iskra, M., Zammit, N., You, M., ... Dosseville, F. (2022). Psychophysiological effects of slow-paced breathing at six cycles per minute with or without heart rate variability biofeedback. *Psychophysiology*, 59: 13952. <https://doi.org/10.1111/psyp.13952>
- Laird, K. T., Paholpak, P., Roman, M., Rahi, B., & Lavretsky, H. (2018). Mind-Body Therapies for Late-Life Mental and Cognitive Health. *Current Psychiatry Reports*, 20: 2. <https://doi.org/10.1007/s11920-018-0864-4>
- Lakoff, G., & Johnson, M. (1999). *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought*. Basic Books.
- Lam, F. M., Huang, M. Z., Liao, L. R., Chung, R. C., Kwok, T. C., & Pang, M. Y. (2018). Physical exercise improves strength, balance, mobility, and endurance in people with cognitive impairment and dementia: a systematic review. *Journal of Physiotherapy*, 64, 4-15. <https://doi.org/10.1016/j.jphys.2017.12.001>
- Lampert, R., Bremner, J. D., Su, S., Miller, A., Lee, F., Cheema, F., ... Vaccarino, V. (2008). Decreased heart rate variability is associated with higher levels of inflammation in

- middle-aged men. *American Heart Journal*, 156: 759 e3.
<https://dx.doi.org/10.1016/j.ahj.2008.07.009>
- Lan, C., Chen, S.-Y., Wong, M.-K. & Lai, J. S. (2013). Tai Chi Chuan exercise for patients with cardiovascular disease. *Evidence-Based Complementary and Alternative Medicine*: e983208. <https://dx.doi.org/10.1155/2013/983208>
- Landman L.L. & van Steenbergen H. (2020). Emotion and conflict adaptation: the role of phasic arousal and self-relevance, *Cognition & Emotion* 34(6), 1083–1096.
<https://doi.org/10.1080/02699931.2020.1722615>
- Lane, R. D., Reiman, E. M., Ahern, G. L. & Thayer, J. F. (2001). 21. Activity in medial prefrontal cortex correlates with vagal component of heart rate variability during emotion. *Brain and Cognition*, 47, 97-100.
- Lane, R. D., McRae, K., Reiman, E. M., Chen, K., Ahern, G. L. & Thayer, J. F. (2009). Neural correlates of heart rate variability during emotion. *NeuroImage*, 44, 213-222.
<https://dx.doi.org/10.1016/j.neuroimage.2008.07.056>
- Langley, J. D. (1903). The autonomic nervous system. *Brain*, 26, 1–26.
- Lappin, J. S., & Eriksen, C. W. (1966). Use of a delayed signal to stop a visual reaction-time response. *Journal of Experimental Psychology*, 72, 805–811.
<https://doi.org/10.1037/h0021266>
- Larkey, L., Jahnke, R., Etnier, J. & Gonzalez, J. (2009). Meditative movement as a category of exercise: 27 implications for research. *Journal of Physical Activity & Health*, 6, 230–238. <https://doi.org/10.1123/jpah.6.2.230>
- Larsen, P. D., Tzeng, Y. C., Sin, P. Y. W. & Galletly, D. C. (2010). Respiratory sinus arrhythmia in conscious humans during spontaneous respiration. *Respiratory Physiology and Neurobiology*, 174, 111-118.
<https://dx.doi.org/10.1016/j.resp.2010.04.021>
- Laux, L., Glanzmann, P., & Spielberger, C. D. (1981). *State Trait Angstinventar (STAI)*. Weinheim: Beltz Testgesellschaft.
- Lazar, S. W., Kerr, C. E., Wasserman, R. H., Gray, J. R., Douglas, N., Treadway, M. T., ... Dusek, J. A. (2005). Meditation experience is associated with increased cortical thickness. *Neuroreport*, 16, 1893–1897.
<https://doi.org/10.1097/01.wnr.0000186598.66243.19>
- Lee, J. S., Lee, M. S., Lee, J. Y., Cornélissen, G., Otsuka, K. & Halberg, F. (2003). Effects of diaphragmatic breathing on ambulatory blood pressure and heart rate. *Biomedicine and Pharmacotherapy*, 57, 87s–91s.
<https://dx.doi.org/10.1016/j.biopha.2003.08.011>
- Lee, M. S. & Ernst, E. (2012). Systematic reviews of t'ai chi: an overview. *British Journal of Sports Medicine*, 46, 713-718. <https://doi.org/10.1136/bjsm.2010.080622>

- Lehrer, P. M., Vaschillo, E., Vaschillo, B., Lu, S.-E., Eckberg, D. L., Edelberg, R., ... Hamer, R. M. (2003). Heart rate variability biofeedback increases baroreflex gain and peak expiratory flow. *Psychosomatic Medicine*, 65, 796–805. <https://dx.doi.org/10.1097/01.PSY.0000089200.81962.19>
- Lehrer, P. M. & Gevirtz, R. (2014). Heart rate variability biofeedback: how and why does it work? *Frontiers in Psychology*, 5: 756. <https://dx.doi.org/10.3389/fpsyg.2014.00756>
- Levenson, R. W. (1994). Human emotion: A functional view. In: Ekman P, Davidson R, editors. *The nature of emotion: Fundamental questions* (pp. 123–126). New York: Oxford University Press.
- Li, S. C., Lindenberger, U., & Sikström, S. (2001). Aging cognition: From neuromodulation to representation. *Trends in Cognitive Sciences*, 5, 479–486. [https://doi.org/10.1016/S1364-6613\(00\)01769-1](https://doi.org/10.1016/S1364-6613(00)01769-1)
- Li, J. X., Xu, D. Q., & Hong, Y. (2009). Changes in muscle strength, endurance, and reaction of the lower extremities with Tai Chi intervention. *Journal of Biomechanics*, 42, 967–971. <https://doi.org/10.1016/j.jbiomech.2009.03.001>
- Lieberman, P. (1991). *Uniquely human: The evolution of speech, thought, and selfless behavior*. Harvard University Press.
- Lin, G., Xiang, Q., Fu, X., Wang, S., Wang, S., Chen, S., ... Wang, T. (2012). Heart rate variability biofeedback decreases blood pressure in prehypertensive subjects by improving autonomic function and baroreflex. *The Journal of Alternative and Complementary Medicine*, 18, 143–152. <https://dx.doi.org/10.1089/acm.2010.0607>
- Lippelt, D. P., Hommel, B. & Colzato, L. S. (2014). Focused attention, open monitoring and loving kindness meditation: Effects on attention, conflict monitoring, and creativity - A review. *Frontiers in Psychology*, 5: 1083. <https://dx.doi.org/10.3389/fpsyg.2014.01083>
- Lipsitz, L. A., & Novak, V. (2012). Aging and the autonomic nervous system. In *Primer on the autonomic nervous system* (pp. 271–273). Academic Press. <https://doi.org/10.1016/B978-0-12-386525-0.00056-1>
- Liu, J., Fang, J., Wang, Z., Rong, P., Hong, Y., Fan, Y., ... Kong, J. (2016). Transcutaneous vagus nerve stimulation modulates amygdala functional connectivity in patients with depression. *Journal of Affective Disorders*, 205, 319–326. <https://dx.doi.org/10.1016/j.jad.2016.08.003>
- Liu, K. Y., Elliott, T., Knowles, M., & Howard, R. (2022). Heart rate variability in relation to cognition and behavior in neurodegenerative diseases: A systematic review and meta-analysis. *Ageing Research Reviews*, 73: 101539. <https://doi.org/10.1016/j.arr.2021.101539>
- Logan, G. D., Cowan, W. B., & Davis, K. A. (1984). On the ability to inhibit simple and choice reaction time responses: A model and a method. *Journal of Experimental*

- Psychology: Human Perception and Performance*, 10, 276–291.
<https://doi.org/10.1037/0096-1523.10.2.276>
- Lu, W., Nystrom, M. M., Parikh, P. J., Fooshee, D. R., Hubenschmidt, J. P., Bradley, J.D., & Low, D. A. (2006). A semi-automatic method for peak and valley detection in free-breathing respiratory waveforms. *Medical Physics*, 33, 3634–3636.
- Lu, X., Hui-Chan, C. W., & Tsang, W. W. (2013). Tai Chi, arterial compliance, and muscle strength in older adults. *European Journal of Preventive Cardiology*, 20, 613–619.
<https://doi.org/10.1177/2047487311434233>
- Lu, X., Siu, K.-C., Fu, S. N., Hui-Chan, C. W. Y., & Tsang, W. W. N. (2013). Tai Chi practitioners have better postural control and selective attention in stepping down with and without a concurrent auditory response task. *European Journal of Applied Physiology*, 113, 1939–1945. <https://doi.org/10.1007/s00421-013-2624-9>
- Luders, E., Toga, A. W., Lepore, N. & Gaser, C. (2009). The underlying anatomical correlates of long-term meditation: Larger hippocampal and frontal volumes of gray matter. *NeuroImage*, 45, 672–678.
<https://dx.doi.org/10.1016/j.neuroimage.2008.12.061>
- Luders, E., Clark, K., Narr, K. L. & Toga, A. W. (2011). Enhanced brain connectivity in long-term meditation practitioners. *NeuroImage*, 57, 1308–1316.
<https://dx.doi.org/10.1016/j.neuroimage.2011.05.075>
- Luders, E., Phillips, O. R., Clark, K., Kurth, F., Toga, A. W., & Narr, K. L. (2012a). Bridging the hemispheres in meditation: Thicker callosal regions and enhanced fractional anisotropy (FA) in long-term practitioners. *NeuroImage*, 61, 181–187.
<https://dx.doi.org/10.1016/j.neuroimage.2012.02.026>
- Luders, E., Kurth, F., Mayer, E. a, Toga, A. W., Narr, K. L. & Gaser, C. (2012b). The unique brain anatomy of meditation practitioners: Alterations in cortical gyrification. *Frontiers in Human Neuroscience*, 6, 1–9.
<https://dx.doi.org/10.3389/fnhum.2012.00034>
- Luders, E., Thompson, P. M., Kurth, F., Hong, J. Y., Phillips, O. R., Wang, Y., Gutman, B. A., et al. (2013). Global and regional alterations of hippocampal anatomy in long-term meditation practitioners. *Human Brain Mapping*, 34, 3369–3375.
<https://dx.doi.org/10.1002/hbm.22153>
- Luders, E., Cherbuin, N. & Kurth, F. (2014). Forever young(er): potential age-defying effects of long-term meditation on gray matter atrophy. *Frontiers in Psychology*, 5: 155. <https://dx.doi.org/10.3389/fpsyg.2014.01551>
- Lutz, A., Slagter, H. A., Dunne, J. D. & Davidson, R. J. (2008). Attention regulation and monitoring in meditation. *Trends in Cognitive Sciences*, 12, 163–169.
<https://dx.doi.org/10.1016/j.tics.2008.01.005>
- Lutz, A., Slagter, H. A., Rawlings, N. B., Francis, A. D., Greischar, L. L. & Davidson, R. J. (2009). Mental training enhances attentional stability: neural and behavioral

- evidence. *Journal of Neuroscience*, 29, 13418–13427.
<https://dx.doi.org/10.1523/JNEUROSCI.1614-09.2009>
- Lutz, A., Jha, A. P., Dunne, J. D. & Saron, C. D. (2015). Investigating the phenomenological matrix of mindfulness-related practices from a neurocognitive perspective. *American Psychologist*, 70, 632–658. <https://dx.doi.org/10.1037/a0039585>
- Luu, K. & Hall, P. A. (2016). Hatha Yoga and executive function: A systematic review. *Journal of alternative and complementary medicine*, 22, 125–133.
<https://dx.doi.org/10.1089/acm.2014.0091>

M

- Magnon, V., Vallet, G. T., Benson, A., Mermillod, M., Chausse, P., Lacroix, A., ... & Dutheil, F. (2022). Does heart rate variability predict better executive functioning? A systematic review and meta-analysis. *Cortex*, 155, 218–236.
<https://dx.doi.org/10.1016/j.cortex.2022.07.008>
- Malik, M., John Camm, A., Thomas Bigger, J., Breithardt, G., Cerutti, S., Cohen, R. J., ... Singer, D. H. (1996). Heart rate variability: Standards of measurement, physiological interpretation, and clinical use. *Circulation*, 93, 1043–1065.
<https://doi.org/10.1161/01.cir.93.5.1043>
- Manser, P., Thalmann, M., Adcock, M., Knols, R. H., & de Bruin, E. D. (2021). Can reactivity of heart rate variability be a potential biomarker and monitoring tool to promote healthy aging? A systematic review with meta-analyses. *Frontiers in Physiology*, 12: 686129. <https://dx.doi.org/10.3389/fphys.2021.686129>
- Manzanegue, J. M., Vera, F. M., Maldonado, E. F., Carranque, G., Cubero, V. M., Morell, M. & Blanca, M. J. (2004). Assessment of immunological parameters following a qigong training program. *Medical science monitor*, 10, 264–270.
- Markil, N., Whitehurst, M., Jacobs, P. L. & Zoeller, R. F. (2012). Yoga Nidra relaxation increases heart rate variability and is unaffected by a prior bout of Hatha Yoga. *Journal of Alternative and Complementary Medicine*, 18, 953–958.
<https://dx.doi.org/10.1089/acm.2011.0331>
- Marois, A., & Lafond, D. (2022). Augmenting cognitive work: a review of cognitive enhancement methods and applications for operational domains. *Cognition, Technology & Work*, 24(4), 589–608. <https://dx.doi.org/10.1007/s10111-022-00715-1>
- Martarelli, D., Cocchioni, M., Scuri, S. & Pompei, P. (2011). Diaphragmatic breathing reduces postprandial oxidative stress. *Journal of Alternative and Complementary Medicine*, 17, 623–628. <https://dx.doi.org/10.1089/acm.2010.0666>

- Martelli, D., McKinley, M. J., & McAllen, R. M. (2014a). The cholinergic anti-inflammatory pathway: A critical review. *Autonomic Neuroscience: Basic and Clinical*, 182, 65–69. <https://dx.doi.org/10.1016/j.autneu.2013.12.007>
- Martelli, D., Yao, S. T., McKinley, M. J., & McAllen, R. M. (2014b). Reflex control of inflammation by sympathetic nerves, not the vagus. *Journal of Physiology*, 592, 1677–1686. <https://dx.doi.org/10.1113/jphysiol.2013.268573>
- Martelli, D., Silvani, A., McAllen, R. M., May, C. N., & Ramchandra, R. (2014c). The low frequency power of heart rate variability is neither a measure of cardiac sympathetic tone nor of baroreflex sensitivity. *American Journal of Physiology. Heart and Circulatory Physiology*, 307, H1005-12. <https://dx.doi.org/10.1152/ajpheart.00361.2014>
- Martelli, D., Farmer, D. G. S., & Yao, S. T. (2016). The splanchnic anti-inflammatory pathway: could it be the efferent arm of the inflammatory reflex? *Experimental Physiology*, 101, 1245–1252. <https://dx.doi.org/10.1113/EP085559>
- Mathias, S., Nayak, U. S. L., & Isaacs, B. (1986). Balance in elderly patients: The “get-up and go” test. *Archives of Physical Medicine and Rehabilitation*, 67, 387–389.
- Matko, K., & Sedlmeier, P. (2019). What is meditation? Proposing an empirically derived classification system. *Frontiers in psychology*, 10: 2276. <https://dx.doi.org/10.3389/fpsyg.2019.02276>
- McArdle, R., Morris, R., Wilson, J., Galna, B., Thomas, A. J., & Rochester, L. (2017). What Can Quantitative Gait Analysis Tell Us about Dementia and Its Subtypes? A Structured Review. *Journal of Alzheimer's Disease*, 60, 1295-1312. <https://doi.org/10.3233/JAD-170541>
- McCorry, L. M. (2007). Physiology of the autonomic nervous system. *American Journal of Pharmaceutical Education*, 71: 78. <https://dx.doi.org/10.5688/aj710478>
- McEwen, B. S., Eiland, L., Hunter, R. G. & Miller, M. M. (2012). Stress and anxiety: Structural plasticity and epigenetic regulation as a consequence of stress. *Neuropharmacology*, 62, 3–12. <https://dx.doi.org/10.1016/j.neuropharm.2011.07.014>
- McEwen, B. & Morrison, J. (2013). The brain on stress: Vulnerability and plasticity of the prefrontal cortex over the life course. *Neuron*, 79, 16–29. <https://dx.doi.org/10.1016/j.neuron.2013.06.028>
- Mead, G. E., Morley, W., Campbell, P., Greig, C. A., McMurdo, M. E. T., & Lawlor, D. A. (2009). Exercise for depression. *Mental Health and Physical Activity*, 2(2), 95–96. <https://doi.org/10.1016/j.mhpa.2009.06.001>
- Meerlo, P., Sgoifo, A., & Suchecki, D. (2008). Restricted and disrupted sleep: Effects on autonomic function, neuroendocrine stress systems and stress responsivity. *Sleep Medicine Reviews*, 12(3), 197-210. <https://doi.org/10.1016/j.smrv.2007.07.007>

- Melby-Lervåg, M. & Hulme, C. (2013). Is working memory training effective? A meta-analytic review. *Developmental Psychology*, 49, 270–291. <https://dx.doi.org/10.1037/a0028228>
- Melnychuk, M. C., Dockree, P. M., O'Connell, R. G., Murphy, P. R., Balsters, J. H., & Robertson, I. H. (2018). Coupling of respiration and attention via the locus coeruleus: Effects of meditation and pranayama. *Psychophysiology*, 55(9), e13091. <https://dx.doi.org/10.1111/psyp.13091>
- Melville, G. W., Chang, D., Colagiuri, B., Marshall, P. W. & Cheema, B. S. (2012). Fifteen minutes of chair-based yoga postures or guided meditation performed in the office can elicit a relaxation response. *Evidence-Based Complementary and Alternative Medicine*, 2012: 501986. <https://dx.doi.org/10.1155/2012/501986>
- Ménard, C., Pfau, M. L., Hodes, G. E. & Russo, S. J. (2017). Immune and neuroendocrine mechanisms of stress vulnerability and resilience. *Neuropsychopharmacology*, 42, 62– 80. <https://dx.doi.org/10.1038/npp.2016.90>
- Michela, A., van Peer, J. M., Brammer, J. C., Nies, A., van Rooij, M. M. J. W., Oostenveld, R., ... Granic, I. (2022). Deep-Breathing Biofeedback Trainability in a Virtual-Reality Action Game: A Single-Case Design Study With Police Trainers. *Frontiers in Psychology*, 13: 806163. <https://doi.org/10.3389/fpsyg.2022.806163>
- Miller, E. K. (2000). The prefrontal cortex and cognitive control. *Nature reviews neuroscience*, 1(1), 59-65. <https://dx.doi.org/10.1038/35036228>
- Miller, A. H., Maletic, V. & Raison, C. L. (2009). Inflammation and its discontents: The role of cytokines in the pathophysiology of major depression. *Biological Psychiatry*, 65, 732-741. <https://dx.doi.org/10.1016/j.biopsych.2008.11.029>
- Miller, E. B. & Goss, C. F. (2014). An exploration of physiological responses to the Native American flute. *ArXiv*:1401.6004.
- Mitchell, J. T., Zylowska, L. & Kollins, S. H. (2015). Mindfulness meditation training for attention-deficit/hyperactivity disorder in adulthood: Current empirical support, treatment overview, and future directions. *Cognitive and Behavioral Practice*, 22, 172–191. <https://dx.doi.org/10.1016/j.cbpra.2014.10.002>
- Miyake, A., Friedman, N. P., Emerson, M. J., Witzki, A. H., Howerter, A., & Wager, T. D. (2000). The unity and diversity of executive functions and their contributions to complex “Frontal Lobe” tasks: a latent variable analysis. *Cognitive Psychology*, 41, 49–100. <https://doi.org/10.1006/cogp.1999.0734>
- Miyake, A., & Friedman, N. P. (2012). The Nature and Organization of Individual Differences in Executive Functions: Four General Conclusions. *Current Directions in Psychological Science*, 21, 8–14. <https://doi.org/10.1177/0963721411429458>
- Monsell, S. (1996). Control of mental processes. In V. Bruce (Ed.), *Unsolved mysteries of the mind: Tutorial essays in cognition* (pp. 93–148). Erlbaum.

- Montero-Odasso, M., Oteng-Amoako, A., Speechley, M., Gopaul, K., Beauchet, O., Annweiler, C., & Muir-Hunter, S. W. (2014). The motor signature of mild cognitive impairment: Results from the gait and brain study. *Journals of Gerontology - Series A Biological Sciences and Medical Sciences*, 69, 1415–1421. <https://doi.org/10.1093/gerona/glu155>
- Montero-Odasso, M. M., Sarquis-Adamson, Y., Speechley, M., Borrie, M. J., Hachinski, V. C., Wells, J., ... Muir-Hunter, S. (2017). Association of dual-task gait with incident dementia in mild cognitive impairment: Results from the gait and brain study. *JAMA Neurology*, 74, 857–865. <https://doi.org/10.1001/jamaneurol.2017.0643>
- Montgomery, G. T. (1994). Slowed respiration training. *Biofeedback and Self-Regulation*, 19, 211–225. <https://dx.doi.org/10.1007/BF01721068>
- Morgan, N., Irwin, M. R., Chung, M. & Wang, C. (2014). The effects of mind-body therapies on the immune system: Meta-analysis. *PLoS ONE*, 9: e100903. <https://dx.doi.org/10.1371/journal.pone.0100903>
- Mortola, J., Marghescu, D. & Siegrist-Johnstone, R. (2015). Respiratory sinus arrhythmia in young men and women at different chest wall configurations. *Clinical Science*, 128, 507–516. <https://dx.doi.org/10.1042/CS20140543>
- Müller, H. H. O., Moeller, S., Lücke, C., Lam, A. P., Braun, N., & Philipsen, A. (2018). Vagus nerve stimulation (VNS) and other augmentation strategies for therapy-resistant depression (TRD): Review of the evidence and clinical advice for use. *Frontiers in Neuroscience*, 12: 239. <https://dx.doi.org/10.3389/fnins.2018.00239>
- Murray, A. R., Atkinson, L., Mahadi, M. K., Deuchars, S. A. & Deuchars, J. (2016). The strange case of the ear and the heart: The auricular vagus nerve and its influence on cardiac control. *Autonomic Neuroscience: Basic and Clinical*, 199, 48–53. <https://dx.doi.org/10.1016/j.autneu.2016.06.004>
- Murray, C. J. L., Barber, R. M., Foreman, K. J., Ozgoren, A. A., Abd-Allah, F., Abera, S. F., ... Vos, T. (2015). Global, regional, and national disability-adjusted life years (DALYs) for 306 diseases and injuries and healthy life expectancy (HALE) for 188 countries, 1990–2013: Quantifying the epidemiological transition. *The Lancet*, 386, 2145–2191. [https://doi.org/10.1016/S0140-6736\(15\)61340-X](https://doi.org/10.1016/S0140-6736(15)61340-X)

N

- Nagai, Y., Critchley, H. D., Featherstone, E., Trimble, M. R. & Dolan, R. J. (2004). Activity in ventromedial prefrontal cortex covaries with sympathetic skin conductance level: A physiological account of a “default mode” of brain function. *NeuroImage*, 22, 243–251. <https://dx.doi.org/10.1016/j.neuroimage.2004.01.019>
- Nesvold, A., Fagerland, M. W., Davanger, S., Ellingsen, Ø., Solberg, E. E., Holen, A., ... Atar, D. (2012). Increased heart rate variability during nondirective meditation.

- European Journal of Preventive Cardiology*, 19, 773–780.
<https://dx.doi.org/10.1177/1741826711414625>
- Newlin, D. B., & Levenson, R. W. (1979). Pre-ejection Period: Measuring Beta-adrenergic Influences Upon the Heart. *Psychophysiology*, 16, 546–552.
<https://doi.org/10.1111/j.1469-8986.1979.tb01519.x>
- Ng, T. K. S., Ho, C. S. H., Tam, W. W. S., Kua, E. H., & Ho, R. C. M. (2019). Decreased serum brain-derived neurotrophic factor (BDNF) levels in patients with Alzheimer’s disease (AD): A systematic review and meta-analysis. *International Journal of Molecular Sciences*, 20, 257. <https://doi.org/10.3390/ijms20020257>
- Nijijima, A. (1992). Electrophysiological study on the vagal innervation of the adrenal gland in the rat. *Journal of the Autonomic Nervous System*, 41, 87-92.
[https://dx.doi.org/10.1016/0165-1838\(92\)90130-9](https://dx.doi.org/10.1016/0165-1838(92)90130-9)
- Nizamie, Sh., Katshu, M. U. H., & Uvais, N. (2013). Sufism and mental health. *Indian Journal of Psychiatry*, 55, s215-s223. <https://dx.doi.org/10.4103/0019-5545.105535>
- Noble, D. J., & Hochman, S. (2019). Hypothesis: Pulmonary Afferent Activity Patterns During Slow, Deep Breathing Contribute to the Neural Induction of Physiological Relaxation. *Frontiers in Physiology*, 10: 1176.
<https://doi.org/10.3389/fphys.2019.01176>
- Northey, J. M., Cherbuin, N., Pumpa, K. L., Smee, D. J., & Rattray, B. (2018). Exercise interventions for cognitive function in adults older than 50: A systematic review with meta-Analysis. *British Journal of Sports Medicine*, 52, 154–160.
<https://doi.org/10.1136/bjsports-2016-096587>

O

- Obrist, P. A. (1981). *Cardiovascular psychophysiology: a perspective*. New York: Plenum Press.
- O’Caoimh, R., Timmons, S., & Molloy, D. W. (2016). Screening for mild cognitive impairment: Comparison of “MCI Specific” screening instruments. *Journal of Alzheimer’s Disease*, 51, 619–629. <https://doi.org/10.3233/JAD-150881>
- Ochsner, K. N., Knierim, K., Ludlow, D. H., Hanelin, J., Ramachandran, T., Glover, G. & Mackey, S. C. (2004). Reflecting upon feelings: An fMRI study of neural systems supporting the attribution of emotion to self and other. *Journal of Cognitive Neuroscience*, 16, 1746–1772. <https://dx.doi.org/10.1162/0898929042947829>
- Oliveira, R. S., Barker, A. R., Wilkinson, K. M., Abbott, R. A. & Williams, C. A. (2017). Is cardiac autonomic function associated with cardiorespiratory fitness and physical activity in children and adolescents? A systematic review of cross-sectional studies. *International Journal of Cardiology*, 236, 113–122.
<https://dx.doi.org/10.1016/j.ijcard.2017.02.022>

- Olshansky, B., Sabbah, H. N., Hauptman, P. J. & Colucci, W. S. (2008). Parasympathetic nervous system and heart failure pathophysiology and potential implications for therapy. *Circulation*, 118, 863-871.
<https://dx.doi.org/10.1161/CIRCULATIONAHA.107.760405>
- Orosz, A., Federspiel, A., Haisch, S., Seeher, C., Dierks, T. & Cattapan, K. (2017). A biological perspective on differences and similarities between burnout and depression. *Neuroscience & Biobehavioral Reviews*, 73, 112-122.
<https://dx.doi.org/10.1016/j.neubiorev.2016.12.005>
- Ospina, M. B., Bond, K., Karkhaneh, M., Tjosvold, L., Vandermeer, B., Liang, Y., Bialy, L., et al. (2007). Meditation practices for health: state of the research. *Evidence report/technology assessment*, 155, 1-263.
- Ottaviani, C., Thayer, J. F., Verkuil, B., Lonigro, A., Medea, B., Couyoumdjian, A. & Brosschot, J. F. (2016). Physiological concomitants of perseverative cognition: A systematic review and meta-analysis. *Psychological Bulletin*, 142, 231–259.
<https://dx.doi.org/10.1037/bul0000036>

P

- Paap, K. R., Anders-Jefferson, R., Zimiga, B., Mason, L., & Mikulinsky, R. (2020). Interference scores have inadequate concurrent and convergent validity: Should we stop using the flanker, Simon, and spatial Stroop tasks?. *Cognitive research: principles and implications*, 5(1), 1-27. <https://dx.doi.org/10.1186/s41235-020-0207-y>
- Pal, G. K., Velkumary, S. & Madanmohan, A. (2004). Effect of short-term practice of breathing exercises on autonomic functions in normal human volunteers. *Indian Journal of Medical Research*, 120, 115–121.
- Panneton, W. M., Allen, L., Howard, G., Smith, J., McCubbin, J., Weaver, R., ... Feldon, J. (2013). The mammalian diving response: an enigmatic reflex to preserve life? *Physiology*, 28, 284–97. <https://dx.doi.org/10.1152/physiol.00020.2013>
- Park, G., Van Bavel, J. J., Vasey, M. W. & Thayer, J. F. (2012). Cardiac vagal tone predicts inhibited attention to fearful faces. *Emotion*, 12, 1292–1302.
<https://dx.doi.org/10.1037/a0028528>
- Park, G., Van Bavel, J. J., Vasey, M. W. & Thayer, J. F. (2013). Cardiac vagal tone predicts attentional engagement to and disengagement from fearful faces. *Emotion*, 13, 645–656. <https://dx.doi.org/10.1037/a0032971>
- Pascoe, M. C., Thompson, D. R., Jenkins, Z. M., & Ski, C. F. (2017). Mindfulness mediates the physiological markers of stress: Systematic review and meta-analysis. *Journal of Psychiatric Research*, 95, 156–178.
<https://dx.doi.org/10.1016/j.jpsychires.2017.08.004>

- Paton, J. F. R., Boscan, P., Pickering, A. E. & Nalivaiko, E. (2005). The yin and yang of cardiac autonomic control: Vago-sympathetic interactions revisited. *Brain Research Reviews*, 49, 555-565. <https://dx.doi.org/10.1016/j.brainresrev.2005.02.005>
- Pavlov, V. A. & Tracey, K. J. (2015). Neural circuitry and immunity. *Immunologic Research*, 63, 38-57. <https://dx.doi.org/10.1007/s12026-015-8718-1>
- Peng, C. K., Henry, I. C., Mietus, J. E., Hausdorff, J. M., Khalsa, G., Benson, H. & Goldberger, A. L. (2004). Heart rate dynamics during three forms of meditation. *International Journal of Cardiology*, 95, 19-27. <https://dx.doi.org/10.1016/j.ijcard.2003.02.006>
- Penttilä, J., Helminen, A., Jartti, T., Kuusela, T., Huikuri, H. V., Tulppo, M. P., ... Scheinin, H. (2001). Time domain, geometrical and frequency domain analysis of cardiac vagal outflow: Effects of various respiratory patterns. *Clinical Physiology*, 21, 365-376.
- Perciavalle, V., Blandini, M., Fecarotta, P., Buscemi, A., Di Corrado, D., Bertolo, L., ... Coco, M. (2017). The role of deep breathing on stress. *Neurological Sciences*, 38, 451-458. <https://dx.doi.org/10.1046/j.1365-2281.2001.00337.x>
- Peretz, C., Korczyn, A. D., Shatil, E., Aharonson, V., Birnboim, S., & Giladi, N. (2011). Computer-based, personalized cognitive training versus classical computer games: A randomized double-blind prospective trial of cognitive stimulation. *Neuroepidemiology*, 36, 91-99. <https://doi.org/10.1159/000323950>
- Pflughaupt, M., Koch, T., & Hübner, M. (2006). Veränderungen des vegetativen Nervensystems im Laufe des Lebens. *Anästhesiologie Intensivmedizin*, 47, 330-342.
- Pham, T., Lau, Z. J., Chen, S. A., & Makowski, D. (2021). Heart rate variability in psychology: a review of HRV indices and an analysis tutorial. *Sensors*, 21(12), 3998. <https://dx.doi.org/10.3390/s21123998>
- Phongsuphap, S., Pongsupap, Y., Chandanamatttha, P. & Lursinsap, C. (2008). Changes in heart rate variability during concentration meditation. *International Journal of Cardiology*, 130, 481-484. <https://dx.doi.org/10.1016/j.ijcard.2007.06.103>
- Popov, S. V., Afanasiev, S. A., Kurlov, I. O. & Pisklova, A. V. (2013). Drug-free correction of the tone of the autonomic nervous system in the management of cardiac arrhythmia in coronary artery disease. *International Journal of BioMedicine*, 3, 74-77.
- Popper, K. R. (1959). *The logic of scientific discovery*. Basic Books.
- Porges, S. W. (1992). Vagal tone - a physiological marker of stress vulnerability. *Pediatrics*, 90, 498-504.
- Porges, S. W. (1995). Cardiac vagal tone: A physiological index of stress. *Neuroscience and Biobehavioral Reviews*, 19, 225-233. [https://dx.doi.org/10.1016/0149-7634\(94\)00066-A](https://dx.doi.org/10.1016/0149-7634(94)00066-A)

- Porges, S. W. (2001). The polyvagal theory: Phylogenetic substrates of a social nervous system. *International Journal of Psychophysiology*, 42, 123-146.
[https://dx.doi.org/10.1016/S0167-8760\(01\)00162-3](https://dx.doi.org/10.1016/S0167-8760(01)00162-3)
- Porges, S. W. (2007). The polyvagal perspective. *Biological Psychology*, 74, 116-143.
<https://dx.doi.org/10.1016/j.biopsycho.2006.06.009>
- Posadzki, P., Cramer, H., Kuzdzal, A., Lee, M. S. & Ernst, E. (2014). Yoga for hypertension: A systematic review of randomized clinical trials. *Complementary Therapies in Medicine*, 22, 511-522. <https://dx.doi.org/10.1016/j.ctim.2014.03.009>
- Posner, M. I. & Petersen, S. E. (1990). The attention system of the human brain. *Annual Review of Neuroscience*, 13, 25–42.
<https://dx.doi.org/10.1146/annurev.ne.13.030190.000325>
- Pramanik, T., Sharma, H. O., Mishra, S., Mishra, A., Prajapati, R. & Singh, S. (2009). Immediate effect of slow pace Bhastrika Pranayama on blood pressure and heart rate. *Journal of alternative and complementary medicine*, 15, 293–295.
<https://dx.doi.org/10.1089/acm.2008.0440>
- Putnam, H. (1967). The “innateness hypothesis” and explanatory models in linguistics. *Synthese*, 17(1), 12–22. <https://doi.org/10.1007/BF00485014>
- Putnam, H. (1975). *Mind, Language and Reality*. *Philosophical Papers*, vol. 2. Cambridge University Press.

R

- Radley, J., Morilak, D., Viau, V. & Campeau, S. (2015). Chronic stress and brain plasticity: Mechanisms underlying adaptive and maladaptive changes and implications for stress-related CNS disorders. *Neuroscience and Biobehavioral Reviews*, 58, 79-91.
<https://dx.doi.org/10.1016/j.neubiorev.2015.06.018>
- Ramírez, E., Ortega, A. R. & Reyes Del Paso, G. A. (2015). Anxiety, attention, and decision making: The moderating role of heart rate variability. *International Journal of Psychophysiology*, 98, 490–496. <https://dx.doi.org/10.1016/j.ijpsycho.2015.10.007>
- Reese, C. L. (2017). *Breath in Motion: Breath Awareness Design Research Study* (Doctoral dissertation). Kent State University.
- Reitan, R. M., & Wolfson, D. (1985). *Neuroanatomy and neuropathology*. Tucson, AZ: Neuropsychology Press.
- Ridderinkhof, K. R., Band, G. P. H., & Logan, G. D. (1999). A study of adaptive behavior: Effects of age and irrelevant information on the ability to inhibit one's actions. *Acta Psychologica*, 101, 315–337. [https://doi.org/10.1016/S0001-6918\(99\)00010-4](https://doi.org/10.1016/S0001-6918(99)00010-4)
- Roig, M., Nordbrandt, S., Geertsens, S. S., & Nielsen, J. B. (2013). The effects of cardiovascular exercise on human memory: A review with meta-analysis.

- Neuroscience and Biobehavioral Reviews*, 37, 1645-1666.
<https://doi.org/10.1016/j.neubiorev.2013.06.012>
- Rogers, C. E., Larkey, L. K., & Keller, C. (2009). A review of clinical trials of tai chi and qigong in older adults. *Western Journal of Nursing Research*, 31, 245-279.
<https://doi.org/10.1177/0193945908327529>
- Rogers, R. D., & Monsell, S. (1995). Costs of a predictable switch between simple cognitive tasks. *Journal of Experimental Psychology: General*, 124, 207-231.
<https://doi.org/10.1037/0096-3445.124.2.207>
- Rowell, L. B. (1993). *Human cardiovascular control*. Oxford University Press.
- Rozanski, A., Blumenthal, J. A. & Kaplan, J. (1999). Impact of psychological factors on the pathogenesis of cardiovascular disease and implications for therapy. *Circulation*, 99, 2192-2217. <https://dx.doi.org/10.1161/01.CIR.99.16.2192>
- Rubia, K. (2009). The neurobiology of Meditation and its clinical effectiveness in psychiatric disorders. *Biological Psychology*, 82, 1-11.
<https://dx.doi.org/10.1016/j.biopsycho.2009.04.003>
- Russell, J. A., Weiss, A., & Mendelsohn, G. A. (1989). Affect Grid: a single-item scale of pleasure and arousal. *Journal of Personality and Social Psychology*, 57, 493-502.
<https://doi.org/10.1037/0022-3514.57.3.493>
- Russo, M. A., Santarelli, D. M., & O'Rourke, D. (2017). The physiological effects of slow breathing in the healthy human. *Breathe*, 13(4), 298-309.
<https://dx.doi.org/10.1183/20734735.009817>

S

- Salmon, P. (2001). Effects of physical exercise on anxiety, depression, and sensitivity to stress. *Clinical Psychology Review*, 21, 33-61. [https://dx.doi.org/10.1016/S0272-7358\(99\)00032-X](https://dx.doi.org/10.1016/S0272-7358(99)00032-X)
- Salthouse, T. A. (1996). The Processing-Speed Theory of Adult Age Differences in Cognition. *Psychological Review*, 103, 403-428. <https://doi.org/10.1037/0033-295X.103.3.403>
- Salthouse, T. A. (2000). Aging and measures of processing speed. *Biological Psychology*, 54, 35-54. [https://doi.org/10.1016/S0301-0511\(00\)00052-1](https://doi.org/10.1016/S0301-0511(00)00052-1)
- Salthouse, T. A. (2009). When does age-related cognitive decline begin? *Neurobiology of Aging*, 30, 507-514. <https://doi.org/10.1016/j.neurobiolaging.2008.09.023>
- Sapolsky, R. M. (1994). Individual differences and the stress response. *Seminars in the Neurosciences*, 6(4), 261-269. <https://doi.org/10.1006/smns.1994.1033>

- Sapolsky, R. M., Romero, L. M. & Munck, A. U. (2000). How do glucocorticoids influence stress responses? Integrating Permissive, Suppressive, Stimulatory, and Preparative Actions. *Endocrine Reviews*, 21, 55–89. <https://dx.doi.org/10.1210/er.21.1.55>
- Sakaki, M., Yoo, H. J., Nga, L., Lee, T.-H., Thayer, J. F. & Mather, M. (2016). Heart rate variability is associated with amygdala functional connectivity with MPFC across younger and older adults. *NeuroImage*, 139, 44–52. <https://dx.doi.org/10.1016/j.neuroimage.2016.05.076>
- Sasaki, K. & Maruyama, R. (2014). Consciously controlled breathing decreases the high-frequency component of heart rate variability by inhibiting cardiac parasympathetic nerve activity. *The Tohoku Journal of Experimental Medicine*, 233, 155–163. <https://dx.doi.org/10.1620/tjem.233.155>
- Schel, M. A., Windhorst, D. A., Van Der Molen, M. W. & Crone, E. A. (2013). Developmental change in intentional action and inhibition: A heart rate analysis. *Psychophysiology*, 50, 812–819. <https://dx.doi.org/10.1111/psyp.12065>
- Schlechta Portella, C. F., Ghelman, R., Abdala, V., Schweitzer, M. C., & Afonso, R. F. (2021). Meditation: Evidence Map of Systematic Reviews. *Frontiers in Public Health*, 9: 742715. <https://doi.org/10.3389/fpubh.2021.742715>
- Schmalzl, L., Powers, C. & Henje Blom, E. (2015). Neurophysiological and neurocognitive mechanisms underlying the effects of yoga-based practices: towards a comprehensive theoretical framework. *Frontiers in Human Neuroscience*, 9: 235. <https://dx.doi.org/10.3389/fnhum.2015.00235>
- Schroeder, E. B., Liao, D., Chambless, L. E., Prineas, R. J., Evans, G. W. & Heiss, G. (2003). Hypertension, blood pressure, and heart rate variability. *Hypertension*, 42, 1106–1111. <https://dx.doi.org/10.1161/01.hyp.0000100444.71069.73>
- Schuurmans, A. A., Nijhof, K. S., Cima, M., Scholte, R., Popma, A., & Otten, R. (2021). Alterations of autonomic nervous system and HPA axis basal activity and reactivity to acute stress: a comparison of traumatized adolescents and healthy controls. *Stress*, 24(6), 876–887. <https://dx.doi.org/10.1080/10253890.2021.1900108>
- Schwerdtfeger, A. R., Schwarz, G., Pfurtscheller, K., Thayer, J. F., Jarczok, M. N., & Pfurtscheller, G. (2020). Heart rate variability (HRV): From brain death to resonance breathing at 6 breaths per minute. *Clinical Neurophysiology*, 131(3), 676–693. <https://dx.doi.org/10.1016/j.clinph.2019.11.013>
- Secher, N. H. & Amann, M. (2012). Human investigations into the exercise pressor reflex. *Experimental Physiology*, 97, 59–69. <https://dx.doi.org/10.1113/expphysiol.2011.057679>
- Seidler, R. D., Bernard, J. A., Burutolu, T. B., Fling, B. W., Gordon, M. T., Gwin, J. T., ... & Lipps, D. B. (2010). Motor control and aging: links to age-related brain structural, functional, and biochemical effects. *Neuroscience & Biobehavioral Reviews*, 34, 721–733. <https://doi.org/10.1016/j.neubiorev.2009.10.005>

- Seitz, A. & Watanabe, T. (2005). A unified model for perceptual learning. *Trends in Cognitive Sciences*, 9, 329–34. <https://dx.doi.org/10.1016/j.tics.2005.05.010>
- Sevcencu, C., Nielsen, T. N., Kjærgaard, B., & Struijk, J. J. (2018). A Respiratory Marker Derived From Left Vagus Nerve Signals Recorded With Implantable Cuff Electrodes. *Neuromodulation*, 21, 269–275. <https://dx.doi.org/10.1111/ner.12630>
- Sgoifo, A., Carnevali, L., Pico Alfonso, M. L. & Amore, M. (2015). Autonomic dysfunction and heart rate variability in depression. *Stress*, 18, 343–352. <https://dx.doi.org/10.3109/10253890.2015.1045868>
- Shapiro, S. L., Walsh, R. & Britton, W.B. (2003). An analysis of recent meditation research and suggestions for future directions. *The Humanistic Psychologist*, 31, 86–114. <https://dx.doi.org/10.1080/08873267.2003.9986927>
- Shapiro, L. A. (2021). *Embodied cognition*. Routledge.
- Sheng, J. A., Bales, N. J., Myers, S. A., Bautista, A. I., Roueifar, M., Hale, T. M., & Handa, R. J. (2021). The hypothalamic-pituitary-adrenal axis: development, programming actions of hormones, and maternal-fetal interactions. *Frontiers in behavioral neuroscience*, 14: 601939. <https://dx.doi.org/10.3389/fnbeh.2020.601939>
- Sherwood, A., Allen, M. T., Fahrenberg, J., Kelsey, R. M., Lovallo, W. R., & van Doornen, L. J. P. (1990). Methodological Guidelines for Impedance Cardiography. *Psychophysiology*, 27, 1–23. <https://doi.org/10.1111/j.1469-8986.1990.tb02171.x>
- Shiozawa, P., Silva, M. E., Carvalho, T. C., Cordeiro, Q., Brunoni, A. R. & Fregni, F. (2014). Transcutaneous vagus and trigeminal nerve stimulation for neuropsychiatric disorders: a systematic review. *Arquivos de Neuro-Psiquiatria*, 72, 542–547. <https://dx.doi.org/10.1590/0004-282X20140061>
- Simon, J. R. (1969). Reactions towards the source of stimulation. *Journal of experimental psychology*, 81, 174–176. <https://doi.org/10.1037/h0027448>
- Simons, D. J., Boot, W. R., Charness, N., Gathercole, S. E., Chabris, C. F., Hambrick, D. Z., & Stine-Morrow, E. A. L. (2016). Do “Brain-Training” Programs Work? *Psychological Science in the Public Interest, Supplement*, 17, 103–186. <https://dx.doi.org/10.1177/1529100616661983>
- Singh, N., Moneghetti, K. J., Christle, J. W., Hadley, D., Plews, D., & Froelicher, V. (2018). Heart rate variability: An old metric with new meaning in the era of using mhealth technologies for health and exercise training guidance. Part one: Physiology and methods. *Arrhythmia and Electrophysiology Review*, 7(3), 193–8. <https://doi.org/10.15420/aer.2018.27.2>
- Sjak-Shie, E. E. (2021). PhysioData Toolbox (Version 0.5.0) [Computer software]. Retrieved from <https://PhysioDataToolbox.leidenuniv.nl>

- Slagter, H. A., Davidson, R. J. & Lutz, A. (2011). Mental training as a tool in the neuroscientific study of brain and cognitive plasticity. *Frontiers in Human Neuroscience*, 5: 17. <https://dx.doi.org/10.3389/fnhum.2011.00017>
- Smart, C. M., Ali, J. I., Viczko, J., & Silveira, K. (2022). Systematic Review of the Efficacy of Mindfulness-Based Interventions as a Form of Neuropsychological Rehabilitation. *Mindfulness*, 13, 301–317. <https://doi.org/10.1007/s12671-021-01779-2>
- Smith, P. J., Blumenthal, J. A., Hoffman, B. M., Strauman, T. A., Welsh-bohmer, K., Jeffrey, N. & Sherwood, A. (2010). Aerobic exercise and neurocognitive performance: a meta-analytic review of randomized controlled trials. *Psychosomatic Medicine*, 72, 239–252. <https://dx.doi.org/10.1097/PSY.0b013e3181d14633>
- Smith, R., Thayer, J. F., Khalsa, S. S. & Lane, R. D. (2017). The hierarchical basis of neurovisceral integration. *Neuroscience and Biobehavioral Reviews*, 75, 274-296. <https://dx.doi.org/10.1016/j.neubiorev.2017.02.003>
- Smith, S. M., & Vale, W. W. (2022). The role of the hypothalamic-pituitary-adrenal axis in neuroendocrine responses to stress. *Dialogues in clinical neuroscience*. <https://dx.doi.org/10.31887/dcns.2006.8.4/ssmith>
- Song, H. S. & Lehrer, P. M. (2003). The effects of specific respiratory rates on heart rate and heart rate variability. *Applied Psychophysiology and Biofeedback*, 28, 13–23. <https://dx.doi.org/10.1023/A:1022312815649>
- Song, R., Grabowska, W., Park, M., Osypiuk, K., Vergara-Diaz, G. P., Bonato, P., ... Wayne, P. M. (2017). The impact of Tai Chi and Qigong mind-body exercises on motor and non-motor function and quality of life in Parkinson's disease: A systematic review and meta-analysis. *Parkinsonism and Related Disorders*, 41, 3-13. <https://doi.org/10.1016/j.parkreldis.2017.05.019>
- Soni, R., & Muniyandi, M. (2019). Breath rate variability: A novel measure to study the meditation effects. *International Journal of Yoga*, 12, 45. https://doi.org/10.4103/ijoy.ijoy_27_17
- Spangler, D. P., Gamble, K. R., McGinley, J. J., Thayer, J. F., & Brooks, J. R. (2018). Intra-individual variability in vagal control is associated with response inhibition under stress. *Frontiers in Human Neuroscience*, 12: 475. <https://doi.org/10.3389/fnhum.2018.00475>
- Sperduti, M., Martinelli, P. & Piolino, P. (2012). A neurocognitive model of meditation based on activation likelihood estimation (ALE) meta-analysis. *Consciousness and Cognition*, 21, 269–276. <https://dx.doi.org/10.1016/j.concog.2011.09.019>
- Spielberger, C. D., Gorsuch, R. L., Lushene, R., Vagg, P. R., & Jacobs, G. A. (1983). *Manual for the State-Trait Anxiety Inventory*. Palo Alto, CA: Consulting Psychologists Press.

- Spiro, A., & Brady, C. B. (2011). Integrating health into cognitive aging: toward a preventive cognitive neuroscience of aging. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, 66, S1. <https://doi.org/10.1093/geronb/gbr018>
- Steenbergen, L., Sellaro, R., Stock, A. K., Verkuil, B., Beste, C. & Colzato, L. S. (2015). Transcutaneous vagus nerve stimulation (tvNS) enhances response selection during action cascading processes. *European Neuropsychopharmacology*, 25, 773–778. <https://dx.doi.org/10.3389/fpsyg.2018.01159>
- Strack, F., Martin, L. L., & Stepper, S. (1988). Inhibiting and facilitating conditions of the human smile: A nonobtrusive test of the facial feedback hypothesis. *Journal of Personality and Social Psychology*, 54(5), 768–777. <https://doi.org/10.1037/0022-3514.54.5.768>
- Studzinski, R. (2009). *Reading To Live: The Evolving Practice of Lectio Divina*. Collegeville: Liturgical Press.
- Subramanian, H. H., Balnave, R. J., & Holstege, G. (2008). The midbrain periaqueductal gray control of respiration. *Journal of Neuroscience*, 28(47), 12274–12283. <https://doi.org/10.1523/JNEUROSCI.4168-08.2008>
- Sun, J., Kanagawa, K., Sasaki, J., Ooki, S., Xu, H., & Wang, L. (2015). Tai chi improves cognitive and physical function in the elderly: A randomized controlled trial. *Journal of Physical Therapy Science*, 27, 1467–1471. <https://doi.org/10.1589/jpts.27.1467>

T

- Taha, B. H., Simon, P. M., Dempsey, J. A., Skatrud, J. B. & Iber, C. (1995). Respiratory sinus arrhythmia in humans: An obligatory role for vagal feedback from the lungs. *Journal of Applied Physiology*, 78, 638–645. <https://dx.doi.org/10.1152/jappl.1995.78.2.638>
- Tamosiunas, A., Sapranaviciute-Zabazlajeva, L., Luksiene, D., Virviciute, D., & Peasey, A. (2019). Psychological well-being and mortality: longitudinal findings from Lithuanian middle-aged and older adults study. *Social psychiatry and psychiatric epidemiology*, 54, 803-811. <https://dx.doi.org/10.1007/s00127-019-01657-2>
- Tanaka, M., Nakashima, R., Hiromitsu, K., & Imamizu, H. (2021). Individual Differences in the Change of Attentional Functions With Brief One-Time Focused Attention and Open Monitoring Meditations. *Frontiers in Psychology*, 12: 716138. <https://doi.org/10.3389/fpsyg.2021.716138>
- Tang, P-F., & Woollacott, M. (1996). Balance Control in Older Adults: Training Effects on Balance Control and the Integration of Balance Control into Walking. *Advances in Psychology*, 114, 339-367. [https://dx.doi.org/10.1016/S0166-4115\(96\)80015-X](https://dx.doi.org/10.1016/S0166-4115(96)80015-X)

- Tang, Y.-Y., Ma, Y., Fan, Y., Feng, H., Wang, J., Feng, S., Lu, Q., et al. (2009). Central and autonomic nervous system interaction is altered by short-term meditation. *Proceedings of the National Academy of Sciences of the United States of America*, 106, 8865-70. <https://dx.doi.org/10.1073/pnas.0904031106>
- Tang, Y. Y., Lu, Q., Geng, X., Stein, E. A., Yang, Y. & Posner, M. I. (2010). Short-term meditation induces white matter changes in the anterior cingulate. *Proceedings of the National Academy of Sciences of the United States of America*, 107, 15649-15652. <https://dx.doi.org/10.1073/pnas.1011043107>
- Tang, Y., Hölzel, B. K. & Posner, M. I. (2015). The neuroscience of mindfulness meditation. *Nature Reviews Neuroscience*, 16, 312-312. <https://dx.doi.org/10.1038/nrn3916>
- Task Force of the European Society of Cardiology and the North American Society of Pacing and Electrophysiology (1996). Heart rate variability: Standards of measurement, physiological interpretation and clinical use. *European Heart Journal*, 17, 354–381. <https://dx.doi.org/10.1093/oxfordjournals.eurheartj.a014868>
- Tavares, B. S., De Paula Vidigal, G., Garner, D. M., Raimundo, R. D., De Abreu, L. C. & Valenti, V. E. (2017). Effects of guided breath exercise on complex behaviour of heart rate dynamics. *Clinical Physiology and Functional Imaging*, 37, 622–629. <https://dx.doi.org/10.1111/cpf.12347>
- Taylor, J. A., Myers, C. W., Halliwill, J. R., Seidel, H. & Eckberg, D. L. (2001). Sympathetic restraint of respiratory sinus arrhythmia: implications for vagal-cardiac tone assessment in humans. *American Journal of Physiology-Heart and Circulatory Physiology*, 280, H2804–H2814. <https://dx.doi.org/10.1152/ajpheart.2001.280.6.h2804>
- Taylor-Piliae, R. E. & Froelicher, E. S. (2004). The effectiveness of Tai Chi exercise in improving aerobic capacity: a meta-analysis. *Journal of Cardiovascular Nursing*, 19, 48-57. <https://doi.org/10.1097/00004650-200409000-00008>
- Telles, S., Raghavendra, B. R., Naveen, K. V., Manjunath, N. K., Kumar, S. & Subramanya, P. (2013). Changes in autonomic variables following two meditative states described in yoga texts. *Journal of Alternative and Complementary Medicine*, 19, 35–42. <https://dx.doi.org/10.1089/acm.2011.0282>
- Ter Horst, G. J. & Postema, F. (1997). Forebrain parasympathetic control of heart activity: retrograde transneuronal viral labeling in rats. *The American Journal of Physiology*, 273, H2926-30. <https://dx.doi.org/10.1152/ajpheart.1997.273.6.h2926>
- Thayer, J. F. & Lane, R. D. (2000). A model of neurovisceral integration in emotion regulation and dysregulation. *Journal of Affective Disorders*, 61, 201-216. [https://dx.doi.org/10.1016/S0165-0327\(00\)00338-4](https://dx.doi.org/10.1016/S0165-0327(00)00338-4)
- Thayer, J. F. (2007). What the heart says to the brain (and vice versa) and why we should listen. *Psychological Topics*, 16, 241-250.
- Thayer, J. F. & Fischer, J. E. (2009). Heart rate variability, overnight urinary norepinephrine and C-reactive protein: Evidence for the cholinergic anti-inflammatory pathway in

- healthy human adults. *Journal of Internal Medicine*, 265, 439-447.
<https://dx.doi.org/10.1111/j.1365-2796.2008.02023.x>
- Thayer, J. F., Hansen, A. L., Saus-Rose, E. & Johnsen, B. H. (2009). Heart rate variability, prefrontal neural function, and cognitive performance: The neurovisceral integration perspective on self-regulation, adaptation, and health. *Annals of Behavioral Medicine*, 37, 141-153. <https://dx.doi.org/10.1007/s12160-009-9101-z>
- Thayer, J. F. & Sternberg, E. M. (2010). Neural aspects of immunomodulation: Focus on the vagus nerve. *Brain, Behavior, and Immunity*, 24, 1223-1228.
<https://dx.doi.org/10.1016/j.bbi.2010.07.247>
- Thayer, J. F., Yamamoto, S. S. & Brosschot, J. F. (2010). The relationship of autonomic imbalance, heart rate variability and cardiovascular disease risk factors. *International Journal of Cardiology*, 141, 122-131.
<https://dx.doi.org/10.1016/j.ijcard.2009.09.543>
- Thayer, J. F., Loerbroks, A. & Sternberg, E. M. (2011). Inflammation and cardiorespiratory control: The role of the vagus nerve. *Respiratory Physiology and Neurobiology*, 178, 387-394. <https://dx.doi.org/10.1016/j.resp.2011.05.016>
- Thayer, J. F., Ahs, F., Fredrikson, M., Sollers III, J. J. & Wager, T. D. (2012). A meta-analysis of heart rate variability and neuroimaging studies: Implications for heart rate variability as a marker of stress and health. *Neuroscience and Biobehavioral Reviews*, 36, 747-756. <https://dx.doi.org/10.1016/j.neubiorev.2011.11.009>
- Tracey, K. J. (2002). The inflammatory reflex. *Nature*, 420, 853-859.
<https://dx.doi.org/10.1038/nature01321>
- Tracey, K. J. (2007). Physiology and immunology of the cholinergic antiinflammatory pathway. *Journal of Clinical Investigation*, 117, 289-296.
<https://dx.doi.org/10.1172/JCI30555>
- Tsai, C. L., Pan, C. Y., Chen, F. C., & Tseng, Y. T. (2017). Open- and closed-skill exercise interventions produce different neurocognitive effects on executive functions in the elderly: A 6-Month randomized, controlled trial. *Frontiers in Aging Neuroscience*, 9: 294. <https://doi.org/10.3389/fnagi.2017.00294>
- Tsang, W. W., Kwok, J. C., & Hui-Chan, C. W. (2013). Effects of aging and tai chi on a finger-pointing task with a choice paradigm. *Evidence-Based Complementary and Alternative Medicine*, 2013: 653437. <https://doi.org/10.1155/2013/653437>
- Tse, A. C. Y., Wong, T. W. L., & Lee, P. H. (2015). Effect of Low-intensity Exercise on Physical and Cognitive Health in Older Adults: a Systematic Review. *Sports Medicine – Open*, 1: 37. <https://doi.org/10.1186/s40798-015-0034-8>
- Tucker, A. M., Whitney, P., Belenky, G., Hinson, J. M., & Van Dongen, H. P. A. (2010). Effects of sleep deprivation on dissociated components of executive functioning. *Sleep*, 33(1), 47–57. <https://doi.org/10.1093/sleep/33.1.47>

- Tully, P. J., Cosh, S. M. & Baune, B. T. (2013). A review of the affects of worry and generalized anxiety disorder upon cardiovascular health and coronary heart disease. *Psychology, Health & Medicine*, 18, 627–644.
<https://dx.doi.org/10.1080/13548506.2012.749355>
- Tutunji, R., Kogias, N., Kapteijns, B., Krentz, M., Krause, F., Vassena, E., & Hermans, E. (2021). Using wearable biosensors and ecological momentary assessments for the detection of prolonged stress in real life. *BioRxiv* (preprint).
<https://www.biorxiv.org/content/early/2021/07/14/2021.06.29.450360>
- Tzeng, Y. C., Sin, P. Y. W., Lucas, S. J. E. & Ainslie, P. N. (2009). Respiratory modulation of cardiovascular baroreflex sensitivity. *Journal of Applied Physiology*, 107, 718–724.
<https://dx.doi.org/10.1152/japplphysiol.00548.2009>

U

- Umetani K., Singer D. H., McCraty R., Atkinson M. (1998). Twenty-four hour time domain heart rate variability and heart rate: relations to age and gender over nine decades. *Journal of the American College of Cardiology*, 31, 593–601.
[https://dx.doi.org/10.1016/S0735-1097\(97\)00554-8](https://dx.doi.org/10.1016/S0735-1097(97)00554-8)
- Undem, B. J. & Carr, M. J. (2001). Pharmacology of airway afferent nerve activity. *Respiratory Research*, 2, 234–244. <https://dx.doi.org/10.1186/rr62>

V

- Vago, D. R. & Silbersweig, D. A. (2012). Self-awareness, self-regulation, and self-transcendence (S-ART): a framework for understanding the neurobiological mechanisms of mindfulness. *Frontiers in Human Neuroscience*, 6: 296.
<https://dx.doi.org/10.3389/fnhum.2012.00296>
- Van der Molen, M. W. (2000). Developmental changes in inhibitory processing: Evidence from psychophysiological measures. *Biological Psychology*, 54, 207–239.
[https://dx.doi.org/10.1016/S0301-0511\(00\)00057-0](https://dx.doi.org/10.1016/S0301-0511(00)00057-0)
- Van Diest, I., Verstappen, K., Aubert, A. E., Widjaja, D., Vansteenwegen, D. & Vlemincx, E. (2014). Inhalation/exhalation ratio modulates the effect of slow breathing on heart rate variability and relaxation. *Applied Psychophysiology Biofeedback*, 39, 171–180. <https://dx.doi.org/10.1007/s10484-014-9253-x>
- Van Vugt, M. K. & Slagter, H. A. (2014). Control over experience? Magnitude of the attentional blink depends on meditative state. *Consciousness and Cognition*, 23, 32–39. <https://dx.doi.org/10.1016/j.concog.2013.11.001>
- Varela, F. J., Thompson, E., & Rosch, E. (1991). *The embodied mind: Cognitive science and human experience*. MIT Press.

- Vaschillo, E., Lehrer, P., Rishé, N. & Konstantinov, M. (2002). Heart rate variability biofeedback as a method for assessing baroreflex function: A preliminary study of resonance in the cardiovascular system. *Applied Psychophysiology Biofeedback*, 27, 1–27. <https://dx.doi.org/10.1023/A:1014587304314>
- Verbruggen, F., & Logan, G. D. (2008). Response inhibition in the stop-signal paradigm. *Trends in Cognitive Sciences*, 12, 418-424. <https://doi.org/10.1016/j.tics.2008.07.005>
- Verbruggen, F., Aron, A. R., Band, G. P. H., Beste, C., Bissett, P. G., Brockett, A. T., ... Boehler, C. N. (2019). A consensus guide to capturing the ability to inhibit actions and impulsive behaviors in the stop-signal task. *ELife*, 8: e46323. <https://doi.org/10.7554/eLife.46323>
- Verhaeghen, P. (2021). Mindfulness as Attention Training: Meta-Analyses on the Links Between Attention Performance and Mindfulness Interventions, Long-Term Meditation Practice, and Trait Mindfulness. *Mindfulness*, 12: 564–581. <https://doi.org/10.1007/s12671-020-01532-1>
- Voelcker-Rehage, C., Godde, B., & Staudinger, U. M. (2010). Physical and motor fitness are both related to cognition in old age. *The European Journal of Neuroscience*, 31, 167–176. <https://doi.org/10.1111/j.1460-9568.2009.07014.x>
- Voelcker-Rehage, C., Godde, B., & Staudinger, U. M. (2011). Cardiovascular and coordination training differentially improve cognitive performance and neural processing in older adults. *Frontiers in human Neuroscience*, 5, 26. <https://doi.org/10.3389/fnhum.2011.00026>
- Voelcker-Rehage, C., & Niemann, C. (2013). Structural and functional brain changes related to different types of physical activity across the life span. *Neuroscience and Biobehavioral Reviews*, 37, 2268-2295. <https://doi.org/10.1016/j.neubiorev.2013.01.028>
- Vonck, K., Raedt, R., Naulaerts, J., De Vogelaere, F., Thiery, E., Van Roost, D., ... Boon, P. (2014). Vagus nerve stimulation. . .25 years later! What do we know about the effects on cognition? *Neuroscience and Biobehavioral Reviews*, 45, 63-71. <https://dx.doi.org/10.1016/j.neubiorev.2014.05.005>
- Vonderwalde, I., & Kovacs-Litman, A. (2018). Aerobic exercise promotes hippocampal neurogenesis through skeletal myofiber-derived vascular endothelial growth factor. *Journal of Physiology*, 596, 761–763. <https://doi.org/10.1113/JP275582>
- Voss, M. W., Vivar, C., Kramer, A. F. & van Praag, H. (2013). Bridging animal and human models of exercise-induced brain plasticity. *Trends in Cognitive Sciences*, 17, 525-544. <https://doi.org/10.1016/j.tics.2013.08.00>
- Voukelatos, A., Cumming, R. G., Lord, S. R. & Rissel, C. (2007). A Randomized, Controlled Trial of tai chi for the Prevention of Falls: The Central Sydney tai chi

Trial. *Journal of the American Geriatrics Society*, 55, 1185-1191.
<https://doi.org/10.1111/j.1532-5415.2007.01244.x>

W

- Wachholtz, A. B., & Pargament, K. I. (2005). Is spirituality a critical ingredient of meditation? Comparing the effects of spiritual meditation, secular meditation, and relaxation on spiritual, psychological, cardiac, and pain outcomes. *Journal of Behavioral Medicine*, 28, 369–384. <https://doi.org/10.1007/s10865-005-9008-5>
- Wagenmakers, E. J., Beek, T., Dijkhoff, L., Gronau, Q. F., Acosta, A., Adams Jr, R. B., ... & Zwaan, R. A. (2016). Registered replication report: strack, martin, & stepper (1988). *Perspectives on Psychological Science*, 11(6), 917-928.
<https://dx.doi.org/10.1177/1745691616674458>
- Wagenmakers, E.-J., Marsman, M., Jamil, T., Ly, A., Verhagen, A. J., Love, J., Selker, R., Gronau, Q. F., Šmíra, M., Epskamp, S., Matzke, D., Rouder, J. N., Morey, R. D. (2018). Bayesian inference for psychology. Part I: Theoretical advantages and practical ramifications. *Psychonomic Bulletin & Review*, 25, 35-57.
<https://doi.org/10.3758/s13423-017-1343-3>
- Wager, T. D., Waugh, C. E., Lindquist, M., Noll, D. C., Fredrickson, B. L. & Taylor, S. F. (2009a). Brain mediators of cardiovascular responses to social threat. Part I: Reciprocal dorsal and ventral sub-regions of the medial prefrontal cortex and heart-rate reactivity. *NeuroImage*, 47, 821–835.
<https://dx.doi.org/10.1016/j.neuroimage.2009.05.043>
- Wager, T. D., Van Ast, V. A., Hughes, B. L., Davidson, M. L., Lindquist, M. A. & Ochsner, K. N. (2009b). Brain mediators of cardiovascular responses to social threat, Part II: Prefrontal-subcortical pathways and relationship with anxiety. *NeuroImage*, 47, 836–851. <https://dx.doi.org/10.1016/j.neuroimage.2009.05.044>
- Wahbeh, H., Elsas, S. M. & Oken, B. S. (2008). Mind-body interventions: Applications in neurology. *Neurology*, 70, 2321-2328.
<https://dx.doi.org/10.1212/01.wnl.0000314667.16386.5e>
- Wahbeh, H., & Oken, B. S. (2013a). Peak high-frequency HRV and peak alpha frequency higher in PTSD. *Applied psychophysiology and biofeedback*, 38, 57-69.
<https://dx.doi.org/10.1007/s10484-012-9208-z>
- Wahbeh, H., & Oken, B. S. (2013b). Salivary cortisol lower in posttraumatic stress disorder. *Journal of traumatic stress*, 26(2), 241-248.
<https://dx.doi.org/10.1002/jts.21798>
- Walker, M. (2017). *Why we sleep: Unlocking the power of sleep and dreams*. Simon and Schuster.

- Walton, K. G., Schneider, R. H. & Nidich, S. (2004). Review of controlled research on the transcendental meditation program and cardiovascular disease. Risk factors, morbidity, and mortality. *Cardiology in review*, 12, 262-266.
<https://dx.doi.org/10.1097/01.crd.0000113021.96119.78>
- Wang, C., Bannuru, R., Ramel, J., Kupelnick, B., Scott, T. & Schmid, C. H. (2010). Tai Chi on psychological well-being: systematic review and meta-analysis. *BMC complementary and alternative medicine*, 10: 23. <https://dx.doi.org/10.1186/1472-6882-10-23>
- Wang, F., Lee, E. K., Wu, T., Benson, H., Fricchione, G., F., Wang, W. & Yeung, A. S. (2013). The effects of tai chi on depression, anxiety, and psychological well-being: a systematic review and meta-analysis. *International journal of behavioral medicine*, 21, 605-617.
- Wang, Z., Yu, L., Wang, S., Huang, B., Liao, K., Saren, G., ... Jiang, H. (2014). Chronic intermittent low-level transcutaneous electrical stimulation of auricular branch of vagus nerve improves left ventricular remodeling in conscious dogs with healed myocardial infarction. *Circulation: Heart Failure*, 7, 1014–1021.
<https://dx.doi.org/10.1161/CIRCHEARTFAILURE.114.001564>
- Wang, Z., Yu, L., Huang, B., Wang, S., Liao, K., Saren, G., ... Jiang, H. (2015). Low-level transcutaneous electrical stimulation of the auricular branch of vagus nerve ameliorates left ventricular remodeling and dysfunction by downregulation of matrix metalloproteinase 9 and transforming growth factor β 1. *Journal of Cardiovascular Pharmacology*, 65, 342–348.
<https://dx.doi.org/10.1097/FJC.0000000000000201>
- Wayne, P. M. & Kaptchuk, T. J. (2008). Challenges inherent to t'ai chi research: part I--t'ai chi as a complex multicomponent intervention. *Journal of Alternative and Complementary Medicine*, 14, 95–102. <https://dx.doi.org/10.1089/acm.2007.7170A>
- Wayne, P. M., Walsh, J. N., Taylor-Piliae, R. E., Wells, R. E., Papp, K. V., Donovan, N. J., & Yeh, G. Y. (2014). Effect of Tai Chi on Cognitive Performance in Older Adults: Systematic Review and Meta-Analysis. *Journal of the American Geriatrics Society*, 62, 25-39. <https://doi.org/10.1111/jgs.12611>
- Weber, C. S., Thayer, J. F., Rudat, M., Wirtz, P. H., Zimmermann-Viehoff, F., Thomas, A., Perschel, F. H., et al. (2010). Low vagal tone is associated with impaired post stress recovery of cardiovascular, endocrine, and immune markers. *European Journal of Applied Physiology*, 109, 201-211. <https://dx.doi.org/10.1007/s00421-009-1341-x>
- Wei, G. X., Xu, T., Fan, F. M., Dong, H. M., Jiang, L. L., Li, H. J., Yang, Z., et al. (2013). Can Taichi reshape the brain? A brain morphometry study. *PLoS ONE*, 8: e1038.
<https://dx.doi.org/10.1371/journal.pone.0061038>
- Weissman, D. G., & Mendes, W. B. (2021). Correlation of sympathetic and parasympathetic nervous system activity during rest and acute stress tasks. *International Journal of Psychophysiology*, 162, 60-68. <https://dx.doi.org/10.1016/j.ijpsycho.2021.01.015>

- Wendt, J., Neubert, J., Koenig, J., Thayer, J. F. & Hamm, A. O. (2015). Resting heart rate variability is associated with inhibition of conditioned fear. *Psychophysiology*, 52, 1161-1166. <https://dx.doi.org/10.1111/psyp.12456>
- Wetzels, R., Matzke, D., Lee, M. D., Rouder, J. N., Iverson, G. J., & Wagenmakers, E. J. (2011). Statistical evidence in experimental psychology: An empirical comparison using 855 t tests. *Perspectives on Psychological Science*, 6(3), 291-298. <https://dx.doi.org/10.1177/1745691611406923>
- Wilkinson, D. J., Thompson, J. M., Lambert, G. W., Jennings, G. L., Schwarz, R. G., Jefferys, D., ... & Esler, M. D. (1998). Sympathetic activity in patients with panic disorder at rest, under laboratory mental stress, and during panic attacks. *Archives of General Psychiatry*, 55(6), 511-520. <https://dx.doi.org/10.1001/archpsyc.55.6.511>
- Williams, C. L., & McGaugh, J. L. (1992). Reversible inactivation of the nucleus of the solitary tract impairs retention performance in an inhibitory avoidance task. *Behavioral and neural biology*, 58(3), 204-210. [https://dx.doi.org/10.1016/0163-1047\(92\)90482-J](https://dx.doi.org/10.1016/0163-1047(92)90482-J)
- Williams, C. L., & McGaugh, J. L. (1993). Reversible lesions of the nucleus of the solitary tract attenuate the memory-modulating effects of posttraining epinephrine. *Behavioral neuroscience*, 107(6), 955. <https://dx.doi.org/10.1037/0735-7044.107.6.955>
- Williams, D. P., Thayer, J. F. & Koenig, J. (2016). Resting cardiac vagal tone predicts intraindividual reaction time variability during an attention task in a sample of young and healthy adults. *Psychophysiology*, 53, 1843–1851. <https://dx.doi.org/10.1111/psyp.12739>
- Wong, A. M., Chou, S. W., Huang, S. C., Lan, C., Chen, H. C., Hong, W. H., ... & Pei, Y. C. (2011). Does different exercise have the same effect of health promotion for the elderly? Comparison of training-specific effect of Tai Chi and swimming on motor control. *Archives of gerontology and geriatrics*, 53, e133-e137. <https://doi.org/10.1016/j.archger.2010.07.009>
- Wong, A. M., Lin, Y. C., Chou, S. W., Tang, F. T., & Wong, P. Y. (2001). Coordination exercise and postural stability in elderly people: effect of Tai Chi Chuan. *Archives of physical medicine and rehabilitation*, 82, 608-612. <https://doi.org/10.1053/apmr.2001.22615>
- Wong, C. N., Chaddock-Heyman, L., Voss, M. W., Burzynska, A. Z., Basak, C., Erickson, K. I., ... Kramer, A. F. (2015). Brain activation during dual-task processing is associated with cardiorespiratory fitness and performance in older adults. *Frontiers in Aging Neuroscience*, 7: 154. <https://dx.doi.org/10.3389/fnagi.2015.00154>
- Wöstmann, N. M., Aichert, D. S., Costa, A., Rubia, K., Möller, H. J., & Ettinger, U. (2013). Reliability and plasticity of response inhibition and interference control. *Brain and Cognition*, 81, 82–94. <https://doi.org/10.1016/j.bandc.2012.09.010>

- Wu, S.-D. & Lo, P.-C. (2008). Inward-attention meditation increases parasympathetic activity: A study based on heart rate variability. *Biomedical Research*, 29, 245–250. <https://dx.doi.org/10.2220/biomedres.29.245>
- Wu, Y., Wang, Y., Burgess, E. O. & Wu, J. (2013). The effects of Tai Chi exercise on cognitive function in older adults: A meta-analysis. *Journal of Sport and Health Science*, 2, 193–203. <https://doi.org/10.1016/j.jshs.2013.09.001>

X-Y

- Xue, S., Tang, Y.-Y. & Posner, M. I. (2011). Short-term meditation increases network efficiency of the anterior cingulate cortex. *Neuroreport*, 22, 570-574. <https://dx.doi.org/10.1097/WNR.0b013e328348c750>
- Yeh, S.H., Chuang, H., Lin, L. W., Hsiao, C. Y. & Eng, H. L. (2006). Regular tai chi chuan exercise enhances functional mobility and CD4CD25 regulatory T cells. *British Journal of Sports Medicine*, 40, 239-243. <https://doi.org/10.1136/bjsm.2005.022095>
- Yerkes R. M. & Dodson J. D. (1908). The relation of strength of stimulus to rapidity of habit-formation. *Journal of Comparative Neurology and Psychology*, 18, 459–482. <https://dx.doi.org/10.1002/cne.920180503>
- Yin, S., Zhu, X., Li, R., Niu, Y., Wang, B., Zheng, Z., Huang, X., et al. (2014). Intervention-induced enhancement in intrinsic brain activity in healthy older adults. *Scientific reports*, 4: 7309. <https://dx.doi.org/10.1038/srep07309>
- Yogev-Seligmann, G., Hausdorff, J. M., & Giladi, N. (2008). The role of executive function and attention in gait. *Movement Disorders*, 23, 329 –342. <https://doi.org/10.1002/mds.21720>
- You, M., Laborde, S., Zammit, N., Iskra, M., Borges, U., & Dosseville, F. (2021). Single slow-paced breathing session at six cycles per minute: Investigation of dose-response relationship on cardiac vagal activity. *International Journal of Environmental Research and Public Health*, 18: 12478. <https://doi.org/10.3390/ijerph182312478>
- Yuan, H. & Silberstein, S. D. (2016a). Vagus nerve and vagus nerve stimulation, a comprehensive review: Part I. *Headache*, 56, 71-78. <https://dx.doi.org/10.1111/head.12647>
- Yuan, H. & Silberstein, S. D. (2016b). Vagus nerve and vagus nerve stimulation, a comprehensive review: Part II. *Headache*, 56, 259-266. <https://dx.doi.org/10.1111/head.12650>

Yuan, H. & Silberstein, S. D. (2016c). Vagus nerve and vagus nerve stimulation, a comprehensive review: Part III. *Headache*, 56, 479-490.
<https://dx.doi.org/10.1111/head.12649>

Z

Zaccaro, A., Piarulli, A., Laurino, M., Garbella, E., Menicucci, D., Neri, B., & Gemignani, A. (2018). How Breath-Control Can Change Your Life: A Systematic Review on Psycho-Physiological Correlates of Slow Breathing. *Frontiers in Human Neuroscience*, 12: 353. <https://doi.org/10.3389/fnhum.2018.00353>

Zahn, D., Adams, J., Krohn, J., Wenzel, M., Mann, C. G., Gomille, L. K., Jacobi-Scherbening, V., et al. (2016). Heart rate variability and self-control-A meta-analysis. *Biological Psychology*, 115, 9-26.
<https://dx.doi.org/10.1016/j.biopsycho.2015.12.007>

Zeidan, F., Johnson, S. K., Diamond, B. J., David, Z., & Goolkasian, P. (2010). Mindfulness meditation improves cognition: Evidence of brief mental training. *Consciousness and cognition*, 19, 597-605. <https://doi.org/10.1016/j.concog.2010.03.014>

Zelazo, P. D., Craik, F. I. M. & Booth, L. (2004). Executive function across the life span. *Acta Psychologica*, 115, 167–183. <https://dx.doi.org/10.1016/j.actpsy.2003.12.005>

Zhang, J., Li, L. W., & McLaughlin, S. J. (2022). Psychological Well-Being and Cognitive Function among Older Adults in China: A Population-Based Longitudinal Study. *Journal of Aging and Health*, 34(2), 173–183.
<https://doi.org/10.1177/08982643211036226>

Zhang, S., Hu, S., Chao, H. H., Ide, J. S., Luo, X., Farr, O. M. & Li, C. S. R. (2014). Ventromedial prefrontal cortex and the regulation of physiological arousal. *Social Cognitive and Affective Neuroscience*, 9, 900–908.
<https://dx.doi.org/10.1093/scan/nst064>

Zheng, G., Liu, F., Li, S., Huang, M., Tao, J. & Chen, L. (2015). Tai Chi and the protection of cognitive ability: A systematic review of prospective studies in healthy adults. *American Journal of Preventive Medicine*, 49, 89-97.
<https://dx.doi.org/10.1016/j.amepre.2015.01.002>

Zhou, H., Liu, H., & Deng, Y. (2020). Effects of short-term mindfulness-based training on executive function: Divergent but promising. *Clinical Psychology and Psychotherapy*, 27: 672–685. <https://doi.org/10.1002/cpp.2453>

Zhou, X., Zhou, L., Wang, S., Yu, L., Wang, Z., Huang, B., ... Jiang, H. (2016). The use of noninvasive vagal nerve stimulation to inhibit sympathetically induced sinus node acceleration: A potential therapeutic approach for inappropriate sinus tachycardia.

Journal of Cardiovascular Electrophysiology, 27, 217–223.
<https://dx.doi.org/10.1111/jce.12859>

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Curriculum Vitae

Roderik Jan Sebastiaan Gerritsen was born on 14 June 1979 in Utrecht, the Netherlands. He finished VWO (pre-university) at the Werkplaats Kindergemeenschap, located in Bilthoven, in 1997. The candidate then proceeded to study psychology at Leiden University during the same year. He did his internship at the psychopharmacology department of Utrecht University in 2001. Roderik obtained the degree of Doctorandus in Experimental & Theoretical Psychology in 2004. In 2006 and 2007 he lived in Taiwan and worked as a research assistant at the electrophysiology lab of National Chung Cheng University. From 2008 till 2017 the candidate worked in the cultural sector: in public libraries. In 2013 he was admitted as an external PhD candidate to the graduate school of the Faculty of Social Sciences, department of Cognitive Psychology, at Leiden University. Since 2014 he has also been working at Leiden University as a (tenured) lecturer in cognitive and general psychology.