

- s1. Radley, J. J., Gosselink, K. L. & Sawchenko, P. E. A Discrete GABAergic Relay Mediates Medial Prefrontal Cortical Inhibition of the Neuroendocrine Stress Response. *The Journal of Neuroscience* **29**, 7330–7340 (2009).
- s2. Tchantchou, F. *et al.* Neuropathology and neurobehavioral alterations in a rat model of traumatic brain injury to occupants of vehicles targeted by underbody blasts. *Experimental neurology* **289**, 9–20 (2017).
- s3. Seamans, J. K., Lapish, C. C. & Durstewitz, D. Comparing the prefrontal cortex of rats and primates: insights from electrophysiology. *Neurotoxicity research* **14**, 249–262 (2008).
- s4. Rilling, J. K. *et al.* Neural correlates of maternal separation in rhesus monkeys. *Biological Psychiatry* **49**, 146–157 (2001).
- s5. Fox, N. A., Henderson, H. A., Marshall, P. J., Nichols, K. E. & Ghera, M. M. Behavioral inhibition: linking biology and behavior within a developmental framework. *Annu. Rev. Psychol.* **56**, 235–262 (2005).
- s6. Birn, R. M. *et al.* Evolutionarily conserved prefrontal-amygdalar dysfunction in early-life anxiety. *Molecular psychiatry* **19**, 915 (2014).
- s7. Grillon, C., Duncko, R., Covington, M. F., Kopperman, L. & Kling, M. A. Acute stress potentiates anxiety in humans. *Biol Psychiatry* **62**, 1183–1186 (2007).
- s8. Bailey, J. E., Dawson, G. R., Dourish, C. T. & Nutt, D. J. Validating the inhalation of 7.5% CO₂ in healthy volunteers as a human experimental medicine: a model of generalized anxiety disorder (GAD). *Journal of Psychopharmacology* **25**, 1192–1198 (2011).
- s9. Somerville, L., Whalen, P. & Kelley, W. Human bed nucleus of the stria terminalis indexes hypervigilant threat monitoring. *Biological Psychiatry* **68**, 416–424 (2010).
- s10. Grillon, C., Baas, J. M. P., Cornwell, B. R. & Johnson, L. Context conditioning and behavioral avoidance in a virtual reality environment: Effect of predictability. *Biol Psychiatry* **60**, 752–759 (2006).
- s11. Duits, P. *et al.* Updated Meta-Analysis of Fear Conditioning in the Anxiety Disorders. *Depression and Anxiety* **32**, 239–253 (2015).
- s12. Grillon, C. & Baas, J. M. A review of the modulation of the startle reflex by affective states and its application to psychiatry. *Clinical Neurophysiology* **114**, 1557–1579 (2003).
- s13. Grillon, C. *et al.* Increased anxiety during anticipation of unpredictable but not predictable aversive stimuli as a psychophysiological marker of panic disorder. *Am J Psychiatry* **165**, 898–904 (2008).
- s14. Grillon, C. *et al.* Distinct responses to predictable and unpredictable threat in anxiety pathologies: Effect of panic attack. *Biol Psychiatry: CNMI* **2**, 575–581 (2017).
- s15. Lieberman, L., Gorka, S. M., Shankman, S. A. & Phan, K. L. Impact of Panic on Psychophysiological and Neural Reactivity to Unpredictable Threat in Depression and Anxiety. *Clinical Psychological Science* **5**, 52–63 (2017).
- s16. Gorka, S. M., Nelson, B. D. & Shankman, S. A. Startle response to unpredictable threat in comorbid panic disorder and alcohol dependence. *Drug and Alcohol Dependence* **132**, 216–222 (2013).
- s17. Grillon, C. *et al.* Increased anxiety during anticipation of unpredictable aversive stimuli in posttraumatic stress disorder but not in generalized anxiety disorder. *Biol Psychiatry* **66**, 47–53 (2009).
- s18. Nelson, B. D. *et al.* Biomarkers of threat and reward sensitivity demonstrate unique associations with risk for psychopathology. *J Abn Psychol* **122**, 662–671 (2013).
- s19. Chin, B., Nelson, B. D., Jackson, F. & Hajcak, G. Intolerance of uncertainty and startle potentiation in relation to different threat reinforcement rates. *International Journal of Psychophysiology* **99**, 79–84 (2016).
- s20. LaBar, K. S., Gatenby, J. C., Gore, J. C., LeDoux, J. E. & Phelps, E. A. Human amygdala activation during conditioned fear acquisition and extinction: a mixed-trial fMRI study. *Neuron* **20**, 937–945 (1998).

- s21. Blair, K. *et al.* Neural response to self-and other referential praise and criticism in generalized social phobia. *Archives of general psychiatry* **65**, 1176–1184 (2008).
- s22. Stein, M. B., Goldin, P. R., Sareen, J., Zorrilla, L. T. E. & Brown, G. G. Increased amygdala activation to angry and contemptuous faces in generalized social phobia. *Archives of general psychiatry* **59**, 1027–1034 (2002).
- s23. Hamann, S. B., Ely, T. D., Hoffman, J. M. & Kilts, C. D. Ecstasy and agony: activation of the human amygdala in positive and negative emotion. *Psychological Science* **13**, 135–141 (2002).
- s24. Herrmann, M. J. *et al.* Phasic and sustained brain responses in the amygdala and the bed nucleus of the stria terminalis during threat anticipation. *Human Brain Mapping* **37**, 1091–1102 (2016).
- s25. McMenamin, B. W., Langeslag, S. J. E., Sirbu, M., Padmala, S. & Pessoa, L. Network organization unfolds over time during periods of anxious anticipation. *The Journal of Neuroscience* **34**, 11261–11273 (2014).
- s26. Adolphs, R. What does the amygdala contribute to social cognition? *Annals of the New York Academy of Sciences* **1191**, 42–61 (2010).
- s27. Kalisch, R. & Gerlicher, A. M. V. Making a mountain out of a molehill: On the role of the rostral dorsal anterior cingulate and dorsomedial prefrontal cortex in conscious threat appraisal, catastrophizing, and worrying. *Neuroscience & Biobehavioral Reviews* **42**, 1–8 (2014).
- s28. Mechias, M.-L., Etkin, A. & Kalisch, R. A meta-analysis of instructed fear studies: Implications for conscious appraisal of threat. *Neuroimage* **49**, 1760–1768 (2010).
- s29. Rothbaum, B. O. & Davis, M. Applying learning principles to the treatment of post-trauma reactions. *Annals of the New York Academy of Sciences* **1008**, 112–121 (2003).
- s30. Milad, M. R. *et al.* Neurobiological basis of failure to recall extinction memory in posttraumatic stress disorder. *Biological Psychiatry* **66**, 1075–1082 (2009).
- s31. Apps, M. A. Stimulating cingulate: distinct behaviours arise from discrete zones. *Brain* **141**, 2827–2830 (2018).
- s32. McTeague, L. M. *et al.* Identification of Common Neural Circuit Disruptions in Cognitive Control Across Psychiatric Disorders. *American journal of psychiatry* **174**, 676–685 (2017).
- s33. Erk, S., Abler, B. & Walter, H. Cognitive modulation of emotion anticipation. *European Journal of Neuroscience* **24**, 1227–1236 (2006).
- s34. Etkin, A., Egner, T. & Kalisch, R. Emotional processing in anterior cingulate and medial prefrontal cortex. *Trends in cognitive sciences* **15**, 85–93 (2011).
- s35. Vytal, K. E., Overstreet, C., Charney, D. R., Robinson, O. J. & Grillon, C. Sustained anxiety increases amygdala–dorsomedial prefrontal coupling: a mechanism for maintaining an anxious state in healthy adults. *Journal of Psychiatry & Neuroscience : JPN* **39**, 321–329 (2014).
- s36. Robinson, O. J., Charney, D. R., Overstreet, C., Vytal, K. & Grillon, C. The adaptive threat bias in anxiety: Amygdala–dorsomedial prefrontal cortex coupling and aversive amplification. *Neuroimage* **60**, 523–529 (2012).
- s37. Robinson, O. J. *et al.* Anxiety-potentiated amygdala-medial frontal coupling and attentional control. *Transl Psychiatry* **6**, e833 (2016).
- s38. Robinson, O. J. *et al.* The dorsal medial prefrontal (anterior cingulate) cortex–amygdala aversive amplification circuit in unmedicated generalised and social anxiety disorders: an observational study. *The Lancet Psychiatry* **1**, 294–302 (2014).
- s39. Phillips, R. G. & LeDoux, J. E. Differential contribution of amygdala and hippocampus to cued and contextual fear conditioning. *Behavioral Neuroscience* **106**, 274 (1992).
- s40. Mullally, S. L. & Maguire, E. A. Memory, imagination, and predicting the future: a common brain mechanism? *The Neuroscientist* **20**, 220–234 (2014).

- s41. O'Neil, E. B. *et al.* Examining the Role of the Human Hippocampus in Approach-Avoidance Decision Making Using a Novel Conflict Paradigm and Multivariate Functional Magnetic Resonance Imaging. *Journal of Neuroscience* **35**, 15039–15049 (2015).
- s42. Loh, E. *et al.* Parsing the Role of the Hippocampus in Approach–Avoidance Conflict. *Cerebral Cortex* (2016). doi:10.1093/cercor/bhw378
- s43. Fanselow, M. S. & Dong, H.-W. Are the dorsal and ventral hippocampus functionally distinct structures? *Neuron* **65**, 7–19 (2010).
- s44. Cornwell, B. R., Johnson, L. L., Holroyd, T., Carver, F. W. & Grillon, C. Human hippocampal and parahippocampal theta during goal-directed spatial navigation predicts performance on a virtual Morris water maze. *Journal of Neuroscience* **28**, 5983–5990 (2008).
- s45. Khemka, S., Barnes, G., Dolan, R. J. & Bach, D. R. Dissecting the function of hippocampal oscillations in a human anxiety model. *Journal of Neuroscience* 1834–16 (2017).
- s46. Huang, M.-X. *et al.* Voxel-wise resting-state MEG source magnitude imaging study reveals neurocircuitry abnormality in active-duty service members and veterans with PTSD. *NeuroImage: Clinical* **5**, 408–419 (2014).
- s47. Pitman, R. K. *et al.* Biological studies of post-traumatic stress disorder. *Nature Reviews Neuroscience* **13**, 769–787 (2012).
- s48. Robinson, O. J., Vytal, K., Cornwell, B. R. & Grillon, C. The impact of anxiety upon cognition: Perspectives from human threat of shock studies. *Front. Human Neurosci.* **7**, (2013).
- s49. Bolton, S. & Robinson, O. J. The impact of threat of shock-induced anxiety on memory encoding and retrieval. *Learning & Memory* **24**, 532–542 (2017).
- s50. Garfinkel, S. N. *et al.* Impaired contextual modulation of memories in PTSD: an fMRI and psychophysiological study of extinction retention and fear renewal. *Journal of Neuroscience* **34**, 13435–13443 (2014).
- s51. Clarke, H. F., Horst, N. K. & Roberts, A. C. Regional inactivations of primate ventral prefrontal cortex reveal two distinct mechanisms underlying negative bias in decision making. *Proceedings of the National Academy of Sciences* **112**, 4176–4181 (2015).
- s52. Amemori, K. & Graybiel, A. M. Localized microstimulation of primate pregenual cingulate cortex induces negative decision-making. *Nature Neuroscience* **15**, 776–785 (2012).
- s53. Cacace, S., Plescia, F., Barberi, I. & Cannizzaro, C. Acetaldehyde Oral Self-Administration: Evidence from the Operant-Conflict Paradigm. *Alcoholism: Clinical and Experimental Research* **36**, 1278–1287 (2012).
- s54. Guitart-Masip, M. *et al.* Go and no-go learning in reward and punishment: Interactions between affect and effect. *NeuroImage* **62**, 154–166 (2012).
- s55. Mkrтчian, A., Roiser, J. P. & Robinson, O. J. Threat of shock and aversive inhibition: Induced anxiety modulates Pavlovian-instrumental interactions. *Journal of Experimental Psychology: General* **146**, 1694 (2017).
- s56. Mkrтчian, A., Aylward, J., Dayan, P., Roiser, J. P. & Robinson, O. J. Modeling Avoidance in Mood and Anxiety Disorders Using Reinforcement Learning. *Biological Psychiatry* **82**, 532–539 (2017).
- s57. Paulus, M. P. & Stein, M. B. An insular view of anxiety. *Biological Psychiatry* **60**, 383–387 (2006).
- s58. (Bud) Craig, A. D. How do you feel — now? The anterior insula and human awareness. *Nature Reviews Neuroscience* **10**, 59–70 (2009).
- s59. Shankman, S. A. *et al.* Anterior insula responds to temporally unpredictable aversiveness: an fMRI study. *Neuroreport* **25**, 596 (2014).
- s60. Brinkmann, L. *et al.* Distinct phasic and sustained brain responses and connectivity of amygdala and bed nucleus of the stria terminalis during threat anticipation in panic disorder. *Psychological medicine* **47**, 2675–2688 (2017).

- s61. Yassa, M. A., Hazlett, R. L., Stark, C. E. & Hoehn-Saric, R. Functional MRI of the amygdala and bed nucleus of the stria terminalis during conditions of uncertainty in generalized anxiety disorder. *Journal of psychiatric research* **46**, 1045–1052 (2012).
- s62. Alvarez, R. P. *et al.* Increased anterior insula activity in anxious individuals is linked to diminished perceived control. *Translational psychiatry* **5**, e591 (2015).
- s63. Torrisi, S. *et al.* Extended amygdala connectivity changes during sustained shock anticipation. *Translational psychiatry* **8**, 33 (2018).
- s64. Torrisi, S. *et al.* Resting state connectivity of the bed nucleus of the stria terminalis at ultra-high field. *Human Brain Mapping* **36**, 4076–4088 (2015).
- s65. Somerville, L. H. *et al.* Interactions between transient and sustained neural signals support the generation and regulation of anxious emotion. *Cerebral Cortex* **23**, 49–60 (2012).
- s66. Brinkmann, L. *et al.* Dissociation between amygdala and bed nucleus of the stria terminalis during threat anticipation in female post-traumatic stress disorder patients. *Human Brain Mapping* **38**, 2190–2205 (2017).
- s67. Avery, S. N. *et al.* BNST neurocircuitry in humans. *NeuroImage* **91**, 311–323 (2014).
- s68. Bishop, S. J. Trait anxiety and impoverished prefrontal control of attention. *Nature neuroscience* **12**, 92 (2009).
- s69. Balderston, N. L., Liu, J., Roberson-Nay, R., Ernst, M. & Grillon, C. The relationship between dlPFC activity during unpredictable threat and CO₂-induced panic symptoms. *Translational psychiatry* **7**, 1266 (2017).
- s70. Braunstein, L. M., Gross, J. J. & Ochsner, K. N. Explicit and implicit emotion regulation: a multi-level framework. *Social cognitive and affective neuroscience* **12**, 1545–1557 (2017).
- s71. Vytal, K., Cornwell, B., Arkin, N. & Grillon, C. Describing the interplay between anxiety and cognition: from impaired performance under low cognitive load to reduced anxiety under high load. *Psychophysiology* **49**, 842–852 (2012).
- s72. Balderston, N. L. *et al.* Anxiety patients show reduced working memory related dlPFC activation during safety and threat. *Depression and anxiety* **34**, 25–36 (2017).
- s73. Seeley, W. W. *et al.* Dissociable Intrinsic Connectivity Networks for Salience Processing and Executive Control. *Journal of Neuroscience* **27**, 2349–2356 (2007).
- s74. Cornwell, B. R. *et al.* Neural responses to auditory stimulus deviance under threat of electric shock revealed by spatially-filtered magnetoencephalography. *NeuroImage* **37**, 282–289 (2007).
- s75. Cornwell, B. R., Garrido, M. I., Overstreet, C., Pine, D. S. & Grillon, C. The unpredictable brain under threat: A neurocomputational account of anxious hypervigilance. *Biological Psychiatry* **82**, 447–454 (2017).
- s76. Grillon, C., Chavis, C., Covington, M. S. & Pine, D. S. Two-week treatment with citalopram reduces contextual anxiety but not cued fear. *Neuropsychopharmacology* **34**, 964–971 (2009).
- s77. Grillon, C., Levenson, J. & Pine, D. S. A single dose of the selective serotonin reuptake inhibitor citalopram exacerbates anxiety in humans: a fear-potentiated startle study. *Neuropsychopharmacology* **32**, 225 (2007).
- s78. Gorman, J. M. *et al.* An open trial of fluoxetine in the treatment of panic attacks. *Journal of clinical psychopharmacology* **7**, 329–332 (1987).
- s79. Ravinder, S., Burghardt, N. S., Brodsky, R., Bauer, E. P. & Chattarji, S. A role for the extended amygdala in the fear-enhancing effects of acute selective serotonin reuptake inhibitor treatment. *Translational Psychiatry* **3**, e209–e209 (2013).
- s80. Robinson, O. J. *et al.* The role of serotonin in the neurocircuitry of negative affective bias: Serotonergic modulation of the dorsal medial prefrontal-amygdala ‘aversive amplification’ circuit. *NeuroImage* **78**, 217–223 (2013).

- s81. Whalen, P. J. *et al.* A functional magnetic resonance imaging predictor of treatment response to venlafaxine in generalized anxiety disorder. *Biological Psychiatry* **63**, 858–863 (2008).
- s82. Andreescu, C. *et al.* Emotion Reactivity and Regulation in Late-Life Generalized Anxiety Disorder: Functional Connectivity at Baseline and Post-Treatment. *The American Journal of Geriatric Psychiatry* **23**, 200–214 (2015).
- s83. Carlisi, C. O. & Robinson, O. J. The role of prefrontal–subcortical circuitry in negative bias in anxiety: Translational, developmental and treatment perspectives. *Brain and Neuroscience Advances* **2**, 2398212818774223 (2018).
- s84. Beck, A. T. & Clark, D. A. An information processing model of anxiety: Automatic and strategic processes. *Behaviour research and therapy* **35**, 49–58 (1997).
- s85. Klumpp, H. *et al.* Predicting cognitive behavioral therapy response in social anxiety disorder with anterior cingulate cortex and amygdala during emotion regulation. *NeuroImage: Clinical* **15**, 25–34 (2017).
- s86. Marwood, L., Wise, T., Perkins, A. M. & Cleare, A. J. Meta-analyses of the neural mechanisms and predictors of response to psychotherapy in depression and anxiety. *Neuroscience & Biobehavioral Reviews* (2018).
doi:<https://doi.org/10.1016/j.neubiorev.2018.09.022>
- s87. Ougrin, D. Efficacy of exposure versus cognitive therapy in anxiety disorders: systematic review and meta-analysis. *BMC Psychiatry* **11**, (2011).
- s88. Milad, M. R. & Quirk, G. J. Fear Extinction as a Model for Translational Neuroscience: Ten Years of Progress. *Annual Review of Psychology* **63**, 129–151 (2012).
- s89. Hauner, K. K., Mineka, S., Voss, J. L. & Paller, K. A. Exposure therapy triggers lasting reorganization of neural fear processing. *Proceedings of the National Academy of Sciences* **109**, 9203–9208 (2012).
- s90. Krueger, R. F. The structure of common mental disorders. *Archives of general psychiatry* **56**, 921–926 (1999).
- s91. Daniel, S. E. & Rainnie, D. G. Stress modulation of opposing circuits in the bed nucleus of the stria terminalis. *Neuropsychopharmacology* **41**, 103 (2016).
- s92. Grillon, C. *et al.* The CRH1 Antagonist GSK561679 Increases Human Fear But Not Anxiety as Assessed by Startle. *Neuropsychopharmacology* **40**, 1064–1071 (2015).
- s93. Koob, G. F. & Zorrilla, E. P. Update on corticotropin-releasing factor pharmacotherapy for psychiatric disorders: a revisionist view. *Neuropsychopharmacology* **37**, 308 (2012).
- s94. Luyten, L., Hendrickx, S., Raymaekers, S., Gabriëls, L. & Nuttin, B. Electrical stimulation in the bed nucleus of the stria terminalis alleviates severe obsessive-compulsive disorder. *Molecular psychiatry* **21**, 1272 (2016).
- s95. Dilkov, D., Hawken, E. R., Kaludiev, E. & Milev, R. Repetitive transcranial magnetic stimulation of the right dorsal lateral prefrontal cortex in the treatment of generalized anxiety disorder: a randomized, double-blind sham controlled clinical trial. *Progress in Neuro-Psychopharmacology and Biological Psychiatry* **78**, 61–65 (2017).
- s96. Schmitz, A. *et al.* Measuring anxious responses to predictable and unpredictable threat in children and adolescents. *Journal of Experimental Child Psychology* **110**, 159–170 (2011).
- s97. Britton, J. C. *et al.* Response to Learned Threat: An fMRI Study in Adolescent and Adult Anxiety. *American Journal of Psychiatry* **170**, 1195–1204 (2013).