

School/Department:	Erasmus School of Social and Behavioural Sciences Department of Psychology, Education and Child Studies Clinical and Health Psychology
Project Title:	Neurophysiological correlates of defensive reactions in anxiety disorders – A transdiagnostic biomarker?
Abstract:	<p>Anxiety disorders are the most frequent mental disorders with an estimated lifetime-prevalence of 10-15%. The direct healthcare costs and indirect economic burdens of anxiety disorders due to lost productivity and early retirement are high. In order to develop effective treatments, a thorough understanding of the underlying neurocognitive processes of the disorder is essential. By applying experimental paradigms derived from animal and human models of defensive responding (threat imminence and defense cascade model), this project aims to identify different dynamic changes of defensive reactivity with increasing imminence of social threat in analogue samples as well as in patients diagnosed with SAD, using multiple psychophysiological (startle reflex, heart rate, skin conductance) and brain measures (steady-state visual evoked potentials, ssVEPs; event-related potentials, ERPs). Moreover, the modulatory role of social stress and stress mediators (noradrenaline and cortisol) on these defensive processes will be clarified. Furthermore, mechanisms of anxious memory formation will be studied which may be an important causal factor in the development and maintenance of anxiety. Overall, a more thorough understanding of the dynamics of defensive processes in response to social threat as a key feature of anxiety will be achieved. A better understanding of these dynamics may ultimately lead to better treatment options i.e. personalized treatment protocols.</p> <p>In short, the current project provides a unique opportunity to acquire a broad scientific basis by conducting research at the intersection of experimental psychology and clinical psychology</p>
Requirements of candidate:	<p>Background: Experimental Psychology, Biological Psychology, Cognitive Neuroscience. Good knowledge of programming (experimental software) is a plus (e.g., Presentation, E-Prime); Experience with EEG is helpful, but not necessary</p> <p>Master's degree: Yes</p> <p>EUR requirement: IELTS: 7.5 (min. 6.0 for all subs.) or TOEFL: 100 (internet; min. 20 for all subs.) or TOEFL: 600 (paper); GMAT-test: min. 680 or GRE-test: min. 85%</p>

<p>Supervisor information:</p>	<p>Supervisor: Prof. Dr. MJ Wieser. Email address: wieser@essb.eur.nl Personal website: https://www.eur.nl/en/essb/people/matthias-wieser</p> <p>Selection of recent peer-reviewed articles (total publications = 72; h-index = 34; >3415 citations; according GoogleScholar, see profile https://scholar.google.de/citations?user=v7CuUtUAAAAJ&hl=nl).</p> <p>Recent publication list (last 5 years):</p> <ol style="list-style-type: none"> 1. Andreatta, M., Genheimer, H., Wieser, M. J., & Pauli, P. (2020). Context-dependent generalization of conditioned responses to threat and safety signals. <i>International Journal of Psychophysiology</i>, 155, 140-151. 2. Haspert, V., Wieser, M. J., Pauli, P., & Reicherts, P. (2020). Acceptance-based emotion regulation reduces subjective and physiological pain responses. <i>Frontiers in Psychology</i>, 11, 1514. 3. Stegmann, Y., Ahrens, L., Pauli, P., Keil, A., & Wieser, M. J. (2020). Social aversive generalization learning sharpens the tuning of visuocortical neurons to facial identity cues. <i>Elife</i>, 9, e55204. 4. Wieser, M. J., & Keil, A. (2020). Attentional threat biases and their role in anxiety: A neurophysiological perspective. <i>International Journal of Psychophysiology</i>, 153, 148-158. 5. Andreatta, M., Neueder, D., Herzog, K., Genheimer, H., Schiele, M. A., Deckert, J., ... Wieser, M. J., & Pauli, P. (2020). Generalization of Conditioned Contextual Anxiety and the Modulatory Effects of Anxiety Sensitivity. <i>Neurotherapeutics</i>, 1-14. 6. Bernoster, I., De Groot, K., Wieser, M.J., Thurik, R., & Franken, I.H.A. (2019). Birds of a feather flock together: Evidence of prominent correlations within but not between self-report, behavioral, and electrophysiological measures of impulsivity. <i>Biological Psychology</i>, 145, 112-123. 7. Roberts, K. H., Manaligod, M. G., Ross, C. J., Müller, D. J., Wieser, M. J., & Todd, R. M. (2019). Affectively biased competition: sustained attention is tuned to rewarding expressions and is not modulated by norepinephrine receptor gene variant. <i>Collabra: Psychology</i>, 5(1). 8. Reutter, M., Hewig, J., Wieser, M. J., & Osinsky, R. (2019). Attentional bias modification in social anxiety: Effects on the N2pc component. <i>Behaviour Research and Therapy</i>, 120, 103404. 9. Stegmann, Y., Reicherts, P., Andreatta, M., Pauli, P., & Wieser, M. J. (2019). The effect of trait anxiety on attentional mechanisms in combined context and cue
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	<p>conditioning and extinction learning. <i>Scientific Reports</i>, 9(1), 1-12.</p> <p>10. Andreatta, M, Neueder, D, Genheimer, H, ..., Wieser, M.J., & Pauli, P. (2019). Human BDNF rs6265 polymorphism as a mediator for the generalization of contextual anxiety. <i>Journal of Neuroscience Research</i>, 97, 300– 312.</p> <p>11. Campagnoli, R.R., Wieser, M.J., Gruss, L.F., Boylan, M.R., McTeague, L.M., & Keil, A. (2019). How the visual brain detects emotional changes in facial expressions: Evidence from driven and intrinsic brain oscillations, <i>Cortex</i>, 111, 35-50.</p> <p>12. Talmi, D., Sharapova, M., & Wieser, M.J. (2019). Testing the Possibility of Model-based Pavlovian Control of Attention to Threat. <i>Journal of Cognitive Neuroscience</i>, 31, 36-48.</p> <p>13. Reicherts, P., Pauli, P., Möslers, C., & Wieser, M. J. (2019). Placebo manipulations reverse pain potentiation by unpleasant affective stimuli. <i>Frontiers in Psychiatry</i>, 10, 663.</p> <p>14. Kastner-Dorn, A.K., Andreatta, M., Pauli, P., & Wieser, M.J. (2018). Hypervigilance during anxiety and selective attention during fear: Using steady-state visual evoked potentials (ssVEPs) to disentangle attention mechanisms during predictable and unpredictable threat, <i>Cortex</i>, 106, 120-131.</p> <p>15. Wieser, M. J., Hambach, A., & Weymar, M. (2018). Neurophysiological correlates of attentional bias for emotional faces in socially anxious individuals – Evidence from a visual search task and N2pc. <i>Biological Psychology</i>, 132, 192-201.</p> <p>16. Reutter, M., Hewig, J., Wieser, M. J. and Osinsky, R. (2017), The N2pc component reliably captures attentional bias in social anxiety. <i>Psychophysiology</i>, 54, 519–527. doi:10.1111/psyp.12809</p> <p>17. Reicherts, P., Wiemer, J., Gerdes, A.B.M. Schulz, S.M., Pauli, P., & Wieser, M. J. (2017). Anxious anticipation and pain: the influence of instructed vs conditioned threat on pain, <i>Social Cognitive and Affective Neuroscience</i>, 12, 544–554, https://doi.org/10.1093/scan/nsw181</p> <p>18. Juravle, G., Reicherts, P., Riechmann-Weinstein, M., Wieser, M. J., & von Leupoldt, A. (2017). Neural responses to affective pictures while anticipating and perceiving respiratory threat. <i>Psychophysiology</i>, 54, 182–192. doi:10.1111/psyp.12776</p> <p>19. Ahrens, L.M., Pauli, P., Reif, A., Mühlberger, A., Langs, G., Aalderink, T., & Wieser, M. J. (2016). Fear conditioning and stimulus generalization in patients with social anxiety disorder. <i>Journal of Anxiety Disorders</i>, 44, 36-46, doi.org/10.1016/j.janxdis.2016.10.003.</p> <p>20. Wieser, M. J., Miskovic, V., & Keil, A. (2016). Steady-state</p>
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	<p>visual evoked potentials as a research tool in social affective neuroscience. <i>Psychophysiology</i>, 53, 1763–1775. doi:10.1111/psyp.12768</p> <p>21. Wieser, M. J., Reicherts, P., Juravle, G., & Von Leupoldt, A. (2016). Attention mechanisms during predictable and unpredictable threat – A steady-state visual evoked potential approach. <i>Neuroimage</i>, 139, 167-175. IF = 5.463</p> <p>22. Wieser, M. J., & Moscovitch, D.A. (2016). The Effect of Affective Context on Visuocortical Processing of Neutral Faces in Social Anxiety. <i>Frontiers in Psychology</i>, 6, 1824. IF = 2.463</p> <p>23. Reicherts, P., Gerdes, A. B. M., Pauli, P., & Wieser, M. J. (2016). Psychological placebo and nocebo effects on pain rely on both experience and expectation. <i>The Journal of Pain</i>, 17, 203-214. IF = 4.010</p> <p>24. Kastner, A., Flohr, E. L., Pauli, P., & Wieser, M. J. (2016). A Scent of Anxiety: Olfactory Context Conditioning and its Influence on Social Cues. <i>Chemical Senses</i>, 41(2), 143-153. IF = 3.157.</p> <p>25. Wu, L., Winkler, M. H., Wieser, M. J., Andreatta, M., Li, Y., Pauli, P. (2015). Emotion regulation in heavy smokers: experiential, expressive and physiological consequences of cognitive reappraisal. <i>Frontiers in Psychology</i>, doi: 10.3389/fpsyg.2015.01555. [OA].</p>
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