patients with cardiovascular risk factors. Vitality emerged as the most potent additional predictor of MACCE. Among patients without known depression low vitality seems to be the strongest psychological predictor of cardiovascular events.

doi:10.1016/j.jpsychores.2020.110056

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Inefficient movement planning in functional dizziness – Toward a better understanding of functional disorders

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Objective: This study investigates the brain mechanisms underlying functional dizziness by looking at movement variability. Reducing variability has been found to be a physiologically highly relevant, evolutionary beneficial brain strategy for movement optimization, which is impaired in dizzy patients with structural lesions (bilateral vestibulopathy and cerebellar ataxia).

Methods: Eight functional dizziness patients and eleven age-matched healthy controls performed a motor control task (large gaze shifts towards visual targets) in the natural condition and in an experimental condition with 3.3-fold increased head moment of inertia. Variance of final gaze position over all gaze shifts (between-trial variability) as a marker for movement planning as well as variance of final gaze position within one gaze shift (fluctuation) reflecting sensory vestibular control were assessed.

Results: Patients with functional dizziness displayed higher gaze variability than healthy subjects ($F=5.46$, $p=.030$, partial eta squared $=.247$). There was no difference in gaze fluctuation ($F=.29$, $p=.59$) and no significant main effect of increasing the head moment of inertia for both parameters (variability: $F=1.9$, $p=.18$; fluctuation: $F=.82$, $p=.38$).

Conclusions: Functional dizziness patients show high between-trial variability demonstrating inefficient motor planning. In contrast, gaze fluctuations are not increased reflecting the intact organic peripheral vestibular system. Together with prior findings (Lehnen et al., 2019), this points towards central nervous motor planning deficits being a diagnostic hallmark in these patients and reflecting patients' suffering.

doi:10.1016/j.jpsychores.2020.110057

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Differential effect of panic on the methylation of the glucocorticoid receptor gene promoter 1F region in chronic subjective tinnitus

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Objective: Tinnitus can be regarded as a chronic stressor, leading to dysregulation of the hypothalamo-hypopituitary-adrenal (HPA) axis. There is an important comorbidity with anxiety in general and panic attacks in particular, potentially associated with differences in HPA-axis functioning and methylation patterns of HPA-axis-related candidate genes. The objective is to examine the differential effect of panic attacks on the methylation of the glucocorticoid receptor gene (NR3C1) promoter 1F region in adults suffering from chronic subjective tinnitus.

Methods: Methylation patterns of the CpG islands and mRNA expression of NR3C1 were assessed in well-characterized tinnitus patients with panic attacks ($n=9$), tinnitus patients without panic attacks ($n=10$) and unaffected controls ($n=27$). A linear mixed model was fitted to model the relation between the disease status and the methylation pattern.

Results: When considering all CpG islands together, the tinnitus group with panic attacks showed a systematically higher methylation value (across all CpGs) compared to both the tinnitus-only and the control group (linear mixed model + Tukey post hoc). Separate testing of the CpG islands revealed that the differences were significant for CpG7 only, with a trend towards significance for CpG5 and CpG6. Negative correlations were observed between methylation and mRNA expression, which were significant for CpG2 and CpG6.

Conclusion: Panic is associated with higher methylation of the NR3C1 promoter 1F region and with lower mRNA expression in patients with chronic subjective tinnitus. This is in accordance with the reduced negative feedback of the HPA axis and HPA axis hyperfunction observed in patients with anxiety.

doi:10.1016/j.jpsychores.2020.110058

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Emotions, personality, and psychopathology of cybersecurity breach victims

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The increasing adoption of IoT devices in households has the potential to make life easier and more convenient, but it also poses a greater challenge to system security since several IoT devices are not yet adequately protected against cybersecurity breaches. Understanding the psychological impact of cybersecurity breaches from the user's perspective is relevant to improve the users' safety and wellbeing when using devices connected to the Internet.

The current study, part of a larger research project on the emotional impact of threats to cybersecurity, aims to identify inter-individual differences in emotion processes that users experience in

scenarios of a cybersecurity breach and anomalous behaviour of IoT devices installed in their homes. A total of 1000 participants from the United Kingdom and the Netherlands reported their emotion processes as a reaction to the cybersecurity breach scenarios involving the smart security camera, by indicating their reactions on the Cybersecurity GRID questionnaire, which consists of 73 items describing emotion processes in cybersecurity breach situations on a 7-point response scale. Additionally, the participants filled in questionnaires about psychopathology, resilience and personality.

Principal component analysis applied on emotion process items revealed a three-component structure: GENERAL EMOTION INTENSITY, DO vs ATTACK/WITHDRAW and AFFECT VS APPRAISAL/ACTION TENDENCY. Results, interpretation and implications of inter-individual differences in emotional processes between ambiguous (unclear whether the IoT device malfunctioned or the third party took control) and unambiguous (evident that a third party took control) cybersecurity breach scenarios in relation to personality, depression, anxiety, aggression and resilience will be presented.

doi:10.1016/j.jpsychores.2020.110059

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Social determinants of health and transplant outcomes

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Aims: Social determinants of health (SDH) refer to the conditions in the places where people are born, grow up, live, and work. SDH impact various health outcomes, but their effects on transplant outcomes are largely unknown. This study aimed to address this gap in knowledge.

Methods: We used United Network for Organ Sharing data to identify adult liver and lung transplant recipients transplanted between January 2010 and June 2018. Patient-level transplant data were matched to County Health Ranking data using recipient zip code and nationwide County Health Rankings were created. Mixed effects Cox proportional hazards models were used to examine associations of County Health ranks and sub-ranks and graft and patient survival post-transplant. Models were adjusted for relevant patient, donor, and transplant-related characteristics.

Results: 46,120 liver transplants and 15,909 lung transplants were included. Unadjusted models showed statistically significant impact on patient mortality and graft survival. Subsequently models were adjusted for 32 unique variables for liver transplant cohort and 38 variables for lung transplants. Preliminary results suggest that the county health factors examined are not significantly associated with long-term liver and lung transplant outcomes, after adjustment for relevant variables.

Conclusions: Psychosocial assessment of transplant recipients is effective in listing patients who have adequate support and access to resources to mitigate impact of factors based on county of residence. However further research should assess disparities in access to transplantation, as well as the impact of SDH on transplant outcomes such as functional improvement, return to work and quality of life.

doi:10.1016/j.jpsychores.2020.110060

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eHealth for persistent symptoms

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This is the first presentation of a symposium including:

1. eASY: Behavioural change techniques for self-help interventions, a systematic review/Marianne Rosendal
2. eASY: User involvement in the development of internet-based symptom treatment/Lisbeth Frostholm
3. Results from a pilot study on Grip self-help/Judith Rosmalen
4. Web-based cognitive behaviour therapy implemented in routine care for chronic fatigue syndrome/Margreet Worm

eHealth and GP Assisted programme for persistent Symptoms (eASY) is a research programme developing internet based self-help treatment for patients with persistent physical symptom (PPS) in primary care. This presentation will focus on results of a systematic review on self-help interventions and how they contribute to our development of the eHealth programme in eASY.

Objective: to review behavioural change techniques in self-help interventions for PPS and apply these in our programme development.

Methods: A systematic literature search in PubMed, EMBASE, PsycINFO and CENTRAL identifying randomized controlled trials of self-help interventions in adults with PPS. Intervention components were coded using the Behaviour Change Technique (BCT) Taxonomy.

Results: Fifty-one studies were included. The BCTs used most frequently were related to cognitive-behavioural interventions. Specifically, many studies applied behavioural instruction, behavioural practice and social support. These results have contributed to our prioritizing of specific elements in the treatment programme and to the active implementation of BCTs in the majority of exercises included in the programme.

Conclusion: Behavioural change techniques used across a large number of self-help interventions are seen as important contributors to behavioural change in our development of a stand-alone eHealth intervention for primary care patients.

doi:10.1016/j.jpsychores.2020.110061

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Use of Guanfacine as an alternative to Dexmedetomidine for sedation and agitation management in the Intensive Care Unit

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Objective: Dexmedetomidine is an intravenous, selective alpha-2 agonist, with opioid-sparing and lower deliriogenic qualities, compared to traditional sedatives (i.e., opioids, benzodiazepines). Unfortunately, its use requires ICU level of care and careful monitoring and weaning. Given its high cost and need for ICU care monitoring, our institution has developed a protocol to cross-titrate off dexmedetomidine infusions to guanfacine (an oral, highly