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Chapter 1 : List of neurological conditions and disorders - Wikipedia

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Received Dec 29; Accepted Jul The use, distribution or reproduction in other forums is permitted, provided the original author s or licensor are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms. Abstract A common view of consciousness is that our mind presents emotions, experiences, and images in an internal mental re- presentation space which in a state of wakefulness is triggered by the world outside. Consciousness can be defined as the observation of this inner mental space. The mental position of the observer can either be within the mental self intrapersonal space , in the mental outer world extrapersonal space or in an empathic connection, i. The focus of attention can be directed toward the self or toward the outside world. This mental space model can help us to understand the patterns of relationships and interactions with other persons as they occur in social life. To investigate the neurophysiological correlates and discriminability of the different mental states, we conducted an EEG experiment measuring the brain activity of 16 subjects via 64 electrodes while they engaged in different mental positions intrapersonal, extrapersonal, perspective taking with different attentional foci self, object. Compared to external mental locations, internal ones showed significantly increased alpha2 power, especially when the observer was focusing on an object. Alpha2 and beta2 were increased in the empathic condition compared to the extrapersonal perspective. This exploratory study demonstrates highly significant differences between various mental locations and foci, suggesting that the proposed categories of mental location and intra- and interpersonal attentional foci are not only helpful theoretical concepts but are also physiologically relevant and therefore may relate to basic brain processing mechanisms. Research on altered states of consciousness, meditation, sleep, and out-of-body experiences has become popular in the scientific community. However, there is still a lack of understanding the links between consciousness as a first-person experience and the variety of related psychophysiological results. One of the most challenging problems arises from the categorical incongruences between the concepts of subjective mental experience and the physiological description of the brain. Efforts to approach the problem have been made by Damasio and Metzinger , among others. Physiological measurements can also be used to justify psychological concepts if their physiological correlates discriminate those concepts. The aim of the present study was to contribute to a new mental model with electrophysiological data as correlates. This model was termed Boundary-Based Awareness Model BBAM; Blaser, , , and assumes a structure for the relationship between the observer and the observed mental re- presentation that distinguishes between various mental positions of the observer as follows: The model further distinguishes between the corresponding attentional foci. This was the focus of the study presented here. As a first step, this study is an exploratory approach that might generate hypotheses, but it was not designed to give clear evidence of the assumed underlying processes. It may be regarded as the system-immanent view of neuronal information processing. Early on, James distinguished between different kinds of self, such as the physical self, the mental self and the spiritual self. These distinctions seem to reappear in recent concepts of self as discussed in neuroscience Panksepp, ; Damasio, ; Gallagher, ; Churchland, ; Kelley et al. In modern neuroscience and neurophilosophy, a common view is that our mind represents emotions, experiences and images in an internal mental re- presentation space, which in a state of wakefulness is triggered by the outside world Damasio, ; Blaser, ; Metzinger, ; Hinterberger, The sensory system can be seen as the physical interface which enables us to come into contact with objects, events and even the emotional contents of other people apart from us. Sensory information becomes entangled with the current mind state, creating the present experience within an inner mental space. For example, the interaction

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of the mental self with the mental outside world plays a crucial role in the new understanding of schizophrenia Taylor, However, using this model for consciousness, it should be noted that being conscious is not just related to the existence of such an inner representation. Moreover, consciousness requires an observer and therefore can be defined as the observation of this inner mental space. The self can be thought of as part of the inner representation space, more or less separated from the world model that carries those observed objects which are assessed as being separate from our own body. In fact the concept of the self involves a number of different brain functions depending on whether we speak of a biographical self, the cognitive image of the self or the self as an embodied sensory perception. Thus, in analogy to the physical body in which the skin is the boundary that separates us from the outside world, a mental boundary can be attributed to the mental self. Psychotherapists already work with this model and often share a common understanding when speaking about thick and thin boundaries Tausk, Accordingly, a protective mental boundary would mean that our mental self is clearly separated from the mental outer world, while in individuals with a blurred boundary, the self and the outer world may overlap and sometimes cannot be clearly distinguished from each other. The outer world does not only contain more or less meaningful objects. Moreover, social life occurs in this realm, and therefore the mental world model is filled with representatives and concepts of other people one knows. This could explain why therapists often realize that people with thin boundaries sometimes have difficulties with the distinction between emotions, feelings and thoughts belonging to them and those of another person. The ability to read the mental states of a fellow human is called mentalizing Fonagy et al. The neural basis of mentalizing and how we distinguish between the self and the other has been studied by many authors Decety and Sommerville, ; Northoff and Bermpohl, ; Frith and Frith, a , b ; Uddin et al. Special ways of understanding others are represented by compassion Gusnard et al. They are, as will be described later on, expressions of different mental perspectives toward the self and the other. Those properties define the mental viewpoint or perspective. According to our model, there are at least three places in which the observer can be located: Accordingly, the focus of attention can be directed either toward the self, i. Both the mental position and focus of attention define the mental perspective of a conscious observation. To test the spatial attention model on another level, the authors developed a questionnaire, the IAMI. The validation of this new self-rating instrument confirms the concept of an intrapersonal space, an extrapersonal space and the extrapersonal mental space of a fellow human. The IAMI constitutes a tool for assessment of the ability to manage the various states in daily life Blaser et al. Table 1 Overview of mental localization, attentional focus, and processing modality according to the BBAM.

Chapter 2 : MacSphere: Neuropsychological and Neurophysiological Correlates of Psychiatric Disorders

This item: Neurophysiological Correlates of Mental Disorders: 5th International Symposium on Clinical Neurophysiological Aspects of Psychopathological (Advances in Biological Psychiatry, Vol. 15) (Advances in Biological Psychiatry, Vol. 15).

Jacobus Jansen Downloaded from jnnp. An uncontrollable hypnosis-like episode, is considered a severe and aberrant form of dissociation, The Netherlands characteristic of patients with functional neurological and has been related to emotional stress and traumatic experiences. This function of such dissociative episodes remains unclear. Functional connectivity analyses of the symptoms is an ongoing challenge. The Netherlands; Kruijss Kempenhaeghe. Centre, Maastricht, The Netherlands review aims to investigate what heart rate variability (HRV), EEG and functional MRI are basis could provide information about the underlying sensitive methods to detect physiological changes lying mechanisms and functions of dissociation. The aim of this narrative review, based on a systematic search strategy, is to summarise and part of normal functioning, allowing us to be able to discuss the results and future possibilities of these to complete two tasks at once, but extreme forms of dissociation eg, shock, fugue are considered disorders and the related FNSS. Titles of articles and abstracts selected to investigate EEG changes during hypnosis, and to identify from the search were reviewed for relevance, and when electrophysiological markers of dissociation and dissociative disorders were regarded as applicable, the full text article was retrieved. Case orders, frequency band analysis has been performed. Articles of EEG based research on physiological indicators of dissociation obtained via citation tracking were also included. For example, in RESULTS, Dumas reviewed the literature on EEG alpha (8-12 Hz) Heart rate variability indices of hypnotic susceptibility and concluded that there is no simple correlation in the overall population. Even in extreme cases such as in Perlini and Spados came to the same conclusion in their literature review. Often there is even denial of psychogenicity, which is the theta frequency range (4-8 Hz). This suggests a dissociative episode. Physiological parameters that change in that EEG theta activity is a characteristic of these individuals function on emotional arousal, and that are independent of sub- rather than an experimentally induced effect. Ray also reports that jective reports, could elucidate the role of emotional stress in the anterior-posterior differences in the theta frequency band to be development of symptoms. Examples are cardiovascular function related to hypnotic susceptibility, with relatively more theta activity, skin conductance and muscle tension. These results In particular, HRV is considered to be a clinically relevant indicator of altered frontal directed strategic control during exploration-physiological measure for emotional arousal. Time domain methods are based on the analysis of heart rate variability (HRV) relates of hypnosis and hypnotic susceptibility was written by analysis of beat to beat intervals, with outcome measures such as De Pascalis in Frequency domain methods analyse the frequency domain 40 Hz about 40 Hz band activity appear to discriminate high after Fourier transformation of the time domain, and use the and low hypnosis both in and outside hypnosis, which various spectral components of HRV, such as low frequency was seen as evidence of an alteration in attention. LF and high frequency HF components. For example, during hypnosis, heart rhythm. The classes of microstates may be related to decreased HRV. These results led to the conclusion that 2 J Neurol Neurosurg Psychiatry ;0: The changes in class A and C lum, and increased activation of the ACC, frontal gyrus and microstates during light hypnosis resemble electrophysiological insula during movement imitation in hypnotic paralysis. The investigation was conducted in patients with activation have been reported. Correlation analysis suggests that these synchronicity changes in subcortical regions, including the insula, during the measures are related to the frequency of the symptoms. The most accepted technique to regions. To imaging has demonstrated decreased

neuronal activity in the analyse MR images at a more detailed structural level, for right inferolateral prefrontal cortex. Corpus callosum size has been posi- frontal activity to conscious fear and enhanced activity in tively related to hypnotisability,³⁸ and the tendency to limbic regions to non-conscious fear processing. Structural brain abnormalities such as trauma survivors has also been reported. A recent study demon- postoperative defects, arachnoid cysts and atrophy were more strated a persisting effect of peritraumatic dissociation on brain common in patients with PNES than in the general popula- functioning: The brain regions mostly activated during hypnotic PET in the insula and decreased connectivity in the cuneus. Relative increases in PET PNES, increased resting state connectivity between the insula signal in the prefrontal cortex, thalamus and putamen during and precentral regions has been described. Although the available empirical tion and HRV. In contrast, those with gyrus, and higher activity in the limbic and cingulate regions. This apparent or disturbed higher order motor control, which would lead to discrepancy can be explained by the fact that dissociation reac- the perception that the functional motor symptoms are not tions in FNSS are a sign of negative overall emotional well self-generated. At times this underlying Functional connectivity analyses have revealed altered func- hypervigilance may need temporary relieve, resulting in tional networks in dissociation and FNSS. In such situations, adaptive top down processing connectivity in the insula and cuneus. Functional neurological is lost, probably resulting in dissociative episodes. Decreased in the form of mindfulness and meditation auto-hypnosis functional connectivity between the supplementary motor and techniques, which also promote a more adaptive and objective dorsolateral prefrontal cortices during voluntary action selec- manner of responding to emotional triggers, as neuroimaging tion has also been reported. In order to provide a meaningful suggests. We propose that the increased functional connectiv- within the brain. Microstate analyses indicate differences between between the supplementary motor and prefrontal areas may light and deep hypnosis, which may complicate research even provide evidence for hijacking of voluntary action selection. Structural neuroimaging demonstrates that functional neuro- logical symptoms may be associated with decreased frontal Future directions white matter density and atrophy within the basal ganglia and The search for possible biological substrates of dissociative con- motor cortex. Functional imaging during hypnosis and after ditions has provided somewhat more insight into their nature. Hypnotic paralysis activated similar brain areas, while simulated paralysis showed different activation patterns, suggesting different neural mechanisms to be involved in the processes of dissociation and malingering. Decreased neuronal activity in the prefrontal cortex was also found in patients with dissociative amnesia. Functional MRI analyses suggest that enhanced prefrontal activity is related to conscious fear process- ing, and enhanced activity in limbic networks is related to non- conscious fear processing. Figure 1 Schematic overview of a plausible pathological functional The latter assumption corresponds with the model proposed neurological mechanism involved in cognitiveâ€”emotional executive by Thayer et al,⁷⁴ who describe a possible integration of HRV control. Longitudinal ambulatory measurements of HRV Cardiac effects of momentary could assess the relationship between dissociative episodes and assessed worry episodes and stressful events. For example, dissociative epi- autonomic function and cortisol: Psychosom Med sodes and functional neurological symptoms could serve as an ; Reduced heart rate variability and vagal tone in anxiety: With longitudinal measurements, preferably in the ; Heart-rate variability as a quantitative measure assessed in more detail. Int J Clin Exp Hypn ; Cardiac autonomic regulation under bral networks in larger groups of highly dissociative persons or hypnosis assessed by heart rate variability: For select physiologic and psychological parameters. Autonomic nervous system in euthymic patients with bipolar affective disorder. Neuro Endocrinol Lett ; Neuro Endocrinol Lett of the amygdala on motor functioning or whether the effect is ; Trauma, stress, and preconscious threat networks could also be examined in more detail using graph processing in patients with psychogenic nonepileptic seizures. Heart rate variability measures as data are converted into schematic graphs, in which measures of biomarkers in patients with psychogenic nonepileptic seizures: Psychobiological characteristics of dissociative identity disorder: These techniques could also be addressed to evaluate ; Until such longitu- Int J Psychophysiol dinal study designs are used, the nature of altered networks as a ; EEG alpha methodologies

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and hypnotizability: Int J Psychophysiol ; EEG concomitants of hypnotic susceptibility. Int J Clin Exp Hypn underlying mechanism of dissociation in functional neurological ; Contributors Drafting the article and revising it critically for important intellectual Psychophysiological correlates of hypnosis and hypnotic content: Final approval of the susceptibility. Differential frontal-parietal phase synchrony during hypnosis as a function of hypnotic suggestibility. Int J Psychophysiol Competing interests None. Provenance and peer review Not commissioned; externally peer reviewed. Fractal analysis of EEG upon auditory stimulation during waking and hypnosis in healthy volunteers. Baghdadi G, Nasrabadi AM. EEG phase synchronization during hypnosis induction. Kirsch I, Lynn SJ. Dissociation theories of hypnosis. Fractal analysis of EEG in hypnosis and its 2. Imagination and dissociation in hypnotic responding. Int J Clin Exp relationship with hypnotizability. The neurophenomenology of neutral 3. Dissociative symptoms in relation to childhood physical and sexual hypnosis. Am J Psych ; Dissociation and posttraumatic stress Millisecond by millisecond, year by disorder in Vietnam combat veterans. Psychogenic non-epileptic seizuresâ€™ ; Classes of multichannel EEG microstates ; Dissociation in hysteria and hypnosis: Psychogenic seizures and frontal evidence from cognitive neuroscience. J Neurol Neurosurg Psychiatry disconnection: J Neurol Neurosurg Psychiatry ;

Chapter 3 : Neurophysiological correlates of dissociative symptoms | Jacobus Jansen - calendrierdelascien

Objective Dissociation is a mental process with psychological and somatoform manifestations, which is closely related to hypnotic suggestibility and essentially shows the ability to obtain distance from reality.

Chapter 4 : Psychiatria Danubina - Home

Neurophysiological correlates of dissociative Objective Dissociation is a mental process with related to dissociation and dissociative disorders such as.

Chapter 5 : Neurophysiological correlates of dissociative symptoms

Saletu B, Perris C, Kemali D (eds): Neurophysiological Correlates of Mental Disorders. 5th International Symposium on Clinical Neurophysiological Aspects of Psychopathological Conditions, Vienna, July

Chapter 6 : Neurophysiological correlates of various mental perspectives

Background. Suicide is a major public health concern, and a barrier to reducing the suicide rate is the lack of objective predictors of risk. The present study considers whether quantitative sleep electroencephalography (EEG) may be a neurobiological correlate of suicidal ideation.

Chapter 7 : Neurophysiological correlates of relatively enhanced local visual search in autistic adolescents

Neurophysiological Correlates of Musical Giftedness in Autism Spectrum Disorders. Mental Processes.