

money given out which is associated with the measures of empathic concern and cognitive empathy. The ACC and insula are involved in salience network and pain matrix with the I_g as an afferent, and their activity is modulated by empathy towards others. Thus, we claim that altruism depends on empathic motivation, which is associated with FC between these regions.

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EPP1020

Fight or flight mechanism and sports activities: psychophysiological aspects

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Introduction: Specialists in biology, medicine, and psychology need to pay special attention to theoretical and practical research on the implementation of the fight or flight mechanism in humans in conditions of war and hostilities. Adaptation mechanism of fight or flight is related to individual and social forms of behavior among people and animals, and is aimed at the homeostasis preservation in difficult living conditions. The evolutionary fight or flight mechanism in the functional connection with stress as a general adaptation syndrome and stress reactivity has individual features due to the strengthening of the functions of certain body systems. The systemic mechanism of fight or flight is accompanied by the corresponding functional and clinical symptoms and significantly influences physical and mental health of a person in various conditions of activity.

Objectives: In this regard, the main goal of this work was to determine the relationship between the behavioral strategy of fighting or escaping under stress and during sports activities.

Methods: The following research methods were used to realize the goal of the work: theoretical analysis and generalization of literary sources and Internet data.

Results: In our opinion, possible versions of Walter Cannon's concept of the fight-or-flight mechanism are: 1) attack-or-flight mechanism; 2) defense or escape mechanism; 3) pursuit or escape mechanism. At the same time, it is advisable to consider aggression as a struggle, and escape as a struggle. In addition, in line with the concept of Walter Cannon and Hans Selye, it is possible to distinguish the stress of struggle and the stress of flight. Any intense muscle activity is accompanied by changes in the hormonal and nervous regulation of metabolism, as a result of which the body adapts to a certain physical load. In the athlete, these functional changes are observed even before the start of physical exercises, in particular, in the conditions of the pre-start and start state. The nature and reaction of neuro-endocrine mechanisms in the pre-start state depend on the nature of the load, as well as on the individual characteristics of the athlete (age, gender, type of nervous system, temperament, character, training, sports experience, etc.). It is important that the pre-start changes in metabolism contribute to the mobilization of the athlete's functional potential even before the start of the corresponding physical activity. Moderate activation

of the neuro-endocrine mechanisms of the athlete's body ("combat readiness" state) is optimal. Functionally, it is less beneficial for the athlete's body to have a sharp strengthening of neuro-endocrine mechanisms ("pre-start fever" state) or their paradoxical inhibition ("pre-start apathy" state).

Conclusions: Thus, in humans, sports activities include a behavioral mechanism of fight or flight in combination with physiological and psychological stress.

Disclosure of Interest: None Declared

Psychopathology

EPP1021

How can key findings from patients with Urbach-Wiethe Disease (UWD) support the role of amygdala in socio-emotional-cognitive functioning? The case of a young adult with genetically proven UWD without amygdala calcifications

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Introduction: Urbach-Wiethe disease (UWD; also named *Lipoid proteinosis* or *Hyalinosis cutis et mucosae*) was first described in 1929 by the Austrian scientists Erich Urbach and Camillo Wiethe and constitutes an autosomal recessive disorder which is characterized by several changes of body and brain. Most patients – and especially older ones – show symmetrical calcifications in the medial temporal lobes, especially the amygdala and the periamygdaloid region (Siebert *et al.*, Brain 2003, 126, 2627-2637).

Patients with UWD with bilateral amygdala calcifications show several changes, from impairments in interpreting of odors to more complex changes in socio-cognitive and emotional domains (Markowitsch & Staniloiu, *Neuropsychologia*, 2011, 49, 718-733).

Objectives: Here, we describe the rarer case of a 19-year-old man with genetically proven UWD, who – up to now – lacks significant brain calcification.

Methods: The patient was investigated medically, psychiatrically and with neuropsychological and neuroimaging methods.

Results: Findings of CT (see Figure 1) and MRI scans yielded no evidence of significant brain calcifications. Our patient AC manifested only a subset of changes encountered in patients with UWD with bilateral amygdala calcifications, namely in emotional processing (such as in more complex subsets of the Florida Affect Battery and Recall of Emotional/Neutral photographs), social cognition (Reading the Mind in the Eyes) and personality dimensions (suggestions for obsessive tendencies). The impairments in emotion-related task performance were similar in extent to those of the three UWD patients with bilateral amygdala calcifications of Brand *et al.* *Neuropsychologia* 2007, 45, 1305-1317., indicating a probable sub-normal amygdalar functioning, in the absence of evidence of macrostructural amygdalar changes on imaging.

In the Game-of-Dice Task 17 out of 18 trials were so-called safe trials. His intelligence quotient (IQ) was 124 (33 points; MWWT-

B), likely being a prerequisite for managing the requirements of the Game-of-Dice Task, enabling him to suppress impulsive acts.

Conclusions: Calcifications in Urbach-Wiethe disease take place progressively- possibly underpinned by genetic and gender variables; this can subsequently allow psychosocial-social factors (such as education and socialization) and biological factors (compensatory neuroplasticity) to retard and diminish the development of socio-emotional and cognitive deteriorations,

Given that select lesions to the human amygdala are exceedingly rare, longitudinal studies of patients with the UWD provide key evidence about how slowly progressive, developmental changes of the amygdala modulate vulnerability to socio-cognitive-emotional impairments and psychopathology.

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EPP1022

The pathogenesis of formal thought disorder – towards an integrative view

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Introduction: Formal Thought Disorder (FTD) is a cluster of symptoms and signs, and can be summarized as a multidimensional construct, reflecting idiosyncrasies in thought, language, and communication in general. The inquiry into its etiology is complicated by the ambiguity of the construct itself, and many theories regarding its pathogenesis have been put forward. Two main neurocognitive models, however, have been garnering attention in mainstream FTD research: the “dyssemantic” and the “dysexecutive” hypotheses. These concepts have been classically pitted out against each other as mutually exclusive, but recent studies have proposed a more integrative view.

Objectives: In this presentation, we aim to explore the two main models for explaining FTD pathogenesis, and to show how an integrative model which accounts for both the dyssemantic and dysexecutive deficits seen in patients with FTD might be better at explaining its etiology.

Methods: We conducted a systematic review of the available literature according the PRISMA 2020 statement. We began by researching the Pubmed and Cochrane databases using the following search string: ((“Formal thought disorder*”[Title/Abstract]) AND (dysexecutive[Title/Abstract])) OR ((“Formal thought disorder*”[Title/Abstract]) AND (dyssemantic[Title/Abstract])) OR ((“Formal thought disorder*”[Title/Abstract]) AND (pathogenesis[Title/Abstract])) OR ((“Formal thought disorder*”[Title/Abstract]) AND (etiology[Title/Abstract])). 20 articles were retrieved, along with 2 ongoing trials. We screen for a total of 12 included articles. We also included 17 articles from citation searching, resulting in a final count of 29 included articles. We then summarized the main findings.

Results: Two influential hypotheses explaining the neurocognitive pathogenesis of different FTD symptom are the “dyssemantic” and “dysexecutive” hypotheses. The “dyssemantic” model emphasizes

abnormalities in language-processing related brain regions and functional networks. Some studies suggest that the dysfunctions might involve higher-order semantics and the syntactic component. The “dysexecutive” hypothesis suggests that impaired planning and monitoring might lead to poorly formulated or prone-to-error speech. Recent studies, however, have suggested that FTD might be related to a combination of both executive dysfunction and impaired semantic processing, which would then combine in different proportions and yield the different FTD manifestations.

Conclusions: While disfunctions in both semantic and executive cognitive faculties have been independently explored as potential explanations for the pathogenesis of FTD, a more integrative picture has surfaced in recent research. It proposes that FTD might actually be the reflections of a combination of different proportions of disfunctions in the executive and/or linguistic processes. More research is needed, with better defined FTD dimensions, in order to further explore this model.

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EPP1023

The mediating role of the boredom and loneliness dimensions in the development of Problematic Internet Use

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Introduction: During the last decade, a growing digitalization allowed to implement technologies in daily life activities. Conversely, the increased use of technologies in general population, particularly in youths, facilitated the emergence of new web-based psychopathologies, including Pathological Internet use (PIU).

Objectives: Our study aims at investigating the relationship between PIU and boredom as well as loneliness dimensions in youths, by also focusing on the association with the main psychopathological symptomatology (i.e., depression, anxiety and stress). **Methods:** A nationwide population-based cross-sectional case-control study was conducted by recruiting a sample of Italian young adults (aged 18-24), using a snowball sampling strategy. After data cleaning, only 1,643 participants were selected for analysis based on age and classified according to the presence/absence of PIU/non-PIU. Linear regression analyses as well as Pearson correlation analyses were conducted to check for possible associations and correlations between PIU and stress/anxiety/depression. Subsequently, mediation analyses regarding boredom and loneliness were conducted on these relationships.

Results: Participants were predominantly females (68.7%; n = 1,129). The mean age was 21.8 years (SD = 1.7), particularly ranging 20-24 years-old (88.5%; n = 1454). Around 41.7% (n = 685) of the sample declared previous psychological issues without a history of professional support (psychological and/or psychiatric), while 32.7% (n = 538) stated that they had an overt mental disorder and were currently receiving professional support. Mediation analysis demonstrated that both boredom and loneliness act as mediators in the association between PIU and depression.