On the Role of Nutrition on Galanin Functioning during Stress

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Abstract (300 word limit)

Deficient dopamine in the mesocorticolimbic pathways has been associated with a range of anxiety and trauma-related disorders, including PTSD, OCD, major depression and generalized anxiety disorder. Elevated locus coeruleus activity has been associated with most of these disorders, while galanin, derived from this brain region significantly downregulates dopamine in the limbic and cortical regions, thus inhibiting fear extinction and perpetuating locus coeruleus hyperfunction. Galanin has, in addition, been associated with increased food-intake, as long as this does not require any instrumental behaviour, insulin suppression, and addiction. Although it is unclear how galanin reacts to nutritional intake, there is evidence that it stimulates a preference for carbohydrates and high choleric foods. In this paper, we aim to establish a basic theoretical framework for nutritional manipulation of the galanin system. We, therefore, hypothesise that: 1. Given its preference for high choleric foods, a low-choleric diet can decrease impact galanin sensitivity, and 2. Foods which stimulate b-endorphin (which, with regard to the stress response, opposes galanin function) modulate the behavioural response to stress (active coping, and higher pro-social activity) even though they do not necessarily downregulate galanin secretion. As such, this paper could provide a novel avenue for the study of nutrition in both anxiety and trauma-related disorders, and proactive and effective behaviour and leadership in high-risk / high-stress professions, such as the military, first responders and the police.

Recent Publications (minimum 5)

Mac Gillavry D. W. and Ullrich D. A novel theory on the predictive value of variation in the β -endorphin system on the risk and severity of PTSD the risk and severity of PTSD. Military Psychology 2020, 32(3), 274.

Mac Gillavry D. W. Rethinking Secrecy in Religion: Cognition and the Intimacy of Secrecy. Method and Theory in the Study of Religion 2018, 30 (4-5), 301.



Biography (150 word limit)

David Mac Gillavry has completed his PhD at Masaryk University (Czech Republic) and is currently enroled in a second PhD program at the University of Defence (Czech Republic). He has published on the social psychology of secret keeping and sharing in religions, and the molecular underpinnings of post-traumatic stress disorder.

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Notes/Comments:

I am aware of the fact that the abstract guidelines call for, at minimum, 5 publications in the field. I unfortunately have not yet to publish extensively in this field. However, I am currently leading a project that is directly aimed at nutrition and traumatic stress and am part of another, which looks at the nexus of nutrition, logistics and mental health in the armed forces. Given the current direction of my research, your conference would provide a unique opportunity and I, therefore, urge you to consider my contribution despite the lack of field specific publications.