Investigating the human locus coeruleus-norepinephrine system in vivo : discussions on the anatomy, involvement in cognition and clinical applications

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Acknowledgments

Acknowledgments

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About the author

Klodiana - Daphne Tona was born in 1985 in Kamenitsa, Albania. She completed her elementary school in Greece (Macedonia region), and her secondary school and high school in Athens in 2004. She received her Diploma in Psychology from the National and Kapodestrian University of Athens (4 years programme; summa cum laude). During her studies, she spent one semester at Utrecht University in the Netherlands as a recipient of the Erasmus scholarship grant. She also performed two clinical internships in mental health units in Athens and – at an extracurricular basis – an additional training as an assistant neuropsychologist in a unit with demented patients (Department of Neurology, Aeginition hospital, Athens). This is where she "fell in love with brains", and decided to move back to the Netherlands to acquire a research master's degree in Cognitive Neuroscience (at Radboud University, Nijmegen; graduated in 2012). Here she did her research internship in the lab of Prof. Guillén Fernández at Donders Center for Cognitive Neuroimaging. After that, she moved to Leiden to do her doctoral research under the supervision of Prof. Sander Nieuwenhuis and Prof. Birte Forstmann (Cognitive Psychology Unit, Leiden University). Here she applied an interdisciplinary approach combining the fields of cognitive & clinical neuroscience and methodologies such as pharmacology, psychophysiology, and ultra-high resolution 7T MRI. As part of this research, Daphne also visited the University of Amsterdam for MRI analysis of brainstem data (in close collaboration with dr. Max. Keuken) and for analysis of alpha-amylse and salivary cortisol data (at the lab of dr. Jos Bosch). The results of her doctoral work are outlined in this dissertation.

During her PhD project Daphne has been involved in the organization of several symposia & meetings and also served as board member of several initiatives. She served as the Social Events Officer for the Leiden PhD Association (Leids Promovendi Overleg; LEO). She also served as the local representative for the March for Science Event (2017), given that she believes in evidence-based, science-informed public policies. Finally, she joined powers with 10 PhD candidates from 5 Dutch Universities to do research that provide solutions to wicked societal challenges (i.e. enhance sustainability of the healthcare system) in collaboration with business experts (extracurricular initiative "SMO-Promovendi"). Currently she is one of the coordinators of the Stress and Emotion Hotspot at Leiden Institute for Brain and Cognition (LIBC).

Upon the completion of her doctorate research, Daphne started working as a researcher and lecturer at the Clinical Psychology Unit at Leiden University and as a post-doctoral researcher at Curium-LUMC, a mental health unit for children and adolescents. Here she uses her interdisciplinary knowledge to create a better future for the young generation.

Her passion is to combine cognitive and clinical neuroscience and to put scientific knowledge at the service of society in order to a) enhance resilience, b) promote healthcare, c) advance social justice, and d) contribute to a better society. She is enough of a realist to understand that this is not an easy enterprise, but she is more of a stubborn to die trying.

List of publications

Peer reviewed scientific articles:

Tona, K.D., Revers, H., Verkuil, B., & Nieuwenhuis, S. (in press). Noradrenergic regulation of cognitive flexibility: no effects of stress, transcutaneous vagus nerve stimulation and atomoxetine on task-switching.

Odintsova V.V., Roetman P.J, Ip H.F., Pool R., Van der Laan C.M., Tona K.D., Vermeiren R.R.J.M. & Boomsma D.I. (2019), Genomics of human aggression: current state of genome-wide studies and an automated systematic review tool., Psychiatric Genetics 29(5): 170–190.

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Books:
Berge J., Blok J., Maldonado C.G., Heckendorf E., Holst-Bernal S., Noten M., Silva C. da, Tona K.D., Truijens D. & Verlinden E. (2018), Riding the techwave in an era of change: The healthcare guide to the future. Rotterdam: Stichting Maatschappij en Onderneming.

Data & Brain Atlas:
https://www.nitrc.org/projects/prob_lc_3t

Data availability

All extracted data from the MRI sequences and code used to analyse the data

https://osf.io/83r9j/?view_only=a9e469fac61e4731a5e1cb7ade3ab9a2.

March for Science :
https://www.youtube.com/watch?time_continue=59&v=cwoUSG7Sd6o&feature=emb_logo