

Press release

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Basic information

Name: Pauline Cantou Email: pauline-.cantou@clin.au.dk Phone: 31810859

Department of: Public Health

Main supervisor: Elvira Brattico

Title of dissertation: Self-regulation and musical training: neural evidence from early adolescents and adults

Date for defence: 08/07/2020 at (time of day): 16:30 - 19:00 Place: By Zoom

Press release (Danish)

Self-regulation and musical training: Neural evidence from early adolescents and adults

Nyt ph.d.-projekt fra Aarhus Universitet undersøger hvordan musikundervisning har indflydelse på selv-regulering og hjerneudvikling i unge teenagere. Projektet blev udført af Pauline Cantou, som forsvarede sin afhandling 8. juli 2020

Overgangen fra barndommen til teenageårene er en vigtig milepæl i livet. Dette afgørende skridt er forbundet med mange følelsesmæssige, sociale og kognitive udfordringer, som unge teenagere forsøger at overvinde ved at udvikle deres egne mestringsstrategier. Denne proces kan påvirkes af mange faktorer, såsom kvaliteten af skolen, den familiære situation og personlighedstræk, der spiller en afgørende rolle for, om det adfærdsmæssige udfald bliver positivt eller negativt. Denne kritiske periode bliver også ledsaget af en større omorganisering af kognitive og følelsesmæssige hjernesystemer, der fører til midlertidige selvreguleringsfærdigheder, der er "ude af balance". Disse ting taget i betragtning er det blevet foreslået, at fritidsaktiviteter måske kan være med til at facilitere hjernen modning og den adfærdsmæssige udvikling i løbet af denne tumultagtige tid. Især har musikundervisning vist sig at have en positiv indvirkning på børns inhibitoriske kontrol, der er et centralt element i selvregulering, selv om det neurale grundlag for denne sammenhæng fortsat er uklar og utilstrækkeligt undersøgt. Desuden er de fleste undersøgelser lavet på små børn, og der vides ikke meget om disse effekter på de unge teenagers udvikling, på trods af at der er et stort behov for at finde redskaber til selvregulering i denne population.

I dette ph.d.-projekt kombineres hjernescanning og adfærdstests for at undersøge om musikundervisning kan påvirke udvikling af selvregulering og ændre de unge teenagers hjerner. Resultaterne bidrager til en bedre forståelse af de unge teenagers hjernemodning og dens modulation gennem musikundervisning.

Forsvaret er offentligt og finder sted via Zoom (se link nedenfor). Titlen på projektet er "Self-regulation and musical training: Neural evidence from early adolescents and adults". Yderligere oplysninger: Ph.d.-studerende Pauline Cantou, email: pauline.cantou@clin.au.dk.

<https://aarhusuniversity.zoom.us/j/69699199495>

Meeting ID: 696 9919 9495

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Bedømmelsesudvalg:

Lektor Christine Parsons (committee chairman)
Interacting Minds Center, Department of Clinical Medicine, Aarhus University, Denmark

Assistant Professor Assal Habibi
The Brain and Creativity Institute, University of Southern California, USA.

Professor Robert Zatorre
Montreal Neurological Institute, McGill University, Canada

Press release (English)

Self-regulation and musical training: Neural evidence from early adolescents and adults

New PhD project from Aarhus University investigates how musical training impacts self-regulation and brain development in early adolescents. The project was carried out by Pauline Cantou who is defending her dissertation on 08/07/2020.

Leaving childhood to enter adolescence is a significant milestone in life. This crucial step is associated with many emotional, social and cognitive challenges that early adolescents attempt to overcome by developing their own strategies. This process can be influenced by various factors such as the quality of school, familial climates and personality traits that play a determinant role in the positive or negative behavioral outcomes. This critical period is also accompanied with a major reorganization of cognitive and emotional brain systems leading to temporary “out of balance” self-regulation skills. In consideration of these elements, out-of-school activities have been proposed to be possible mediators facilitating brain maturation and behavioral development during this tumultuous time. Notably, musical training has been shown to positively impact children’s inhibitory control, a key component of self-regulation, although the neural mechanisms underlying this transfer remains unclear and poorly studied. Furthermore, most studies focused on young children, and little is known about these effects on the delicate period when children enter adolescence despite the established need to find self-regulation supports in this population.

In this PhD project, neuroimaging and behavioral measures were combined to explore whether musical training impacts self-regulation development and reshapes the brain of early adolescents. The results contribute to a better understanding of the early adolescents’ brain maturation and its modulation by musical training.

The defence is public and will be conducted online by using the Zoom platform (see link below). The title of the project is "Self-regulation and musical training: Neural evidence from early adolescents and adults" For more information, please contact PhD student Pauline Cantou, email: pauline.cantou@clin.au.dk.

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Assessment committee:

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