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Project: Inflammation, stress and microbiota as mediators between obesity and brain functioning during adolescence. PSI2017-86536-C2-1-R. Ministry of Economy and Competitiveness. State Program of R & D Oriented towards the Challenges of Society

Our group is seeking candidates to apply for upcoming calls for Doctoral Fellowships (FI and FPU).

Candidates:
- We are looking for highly motivated students interested in neuropsychology and neuroimaging.
- Very good academic records are required. The fellowships are competitive, and the academic qualifications are the evaluation item with a heaviest weight on the final score of the candidate. The final cut-off mark for obtaining a stipend has been around 8.5 in the last calls.

The PhD scholarships

Two programs exist from the Catalan and Spanish governments respectively, which award a stipend of circa 15,000 EUR/year to outstanding students to carry out their PhD studies. Applications must be backed up by the prospective PhD advisor. Each PI can support one application to each of these programs yearly. Detailed information on current and previous calls for each of these programs can be found here:

- FI program (Generalitat de Catalunya): The call for applications is usually in September
- FPU program (Spanish Ministry of Education, Culture and Sport – MECD): The call for applications is usually around January

Summary of the project.

Obesity is a health problem with a high prevalence in industrialized societies. Previous neuroimaging and behavioral studies suggest that participants with obesity exhibit lower cortical thickness in prefrontal regions along with lower outcomes in executive functions. These differences seem to be present in children and adolescents, highlighting the need to develop preventive measures targeting those ages. However, the exact physiopathological mechanisms that underlie the relationship between obesity and behavioral and brain changes remain largely elusive. The present project is aimed at characterizing the role of the gut microbiota in obesity and in the neurobehavioral differences associated with obesity and also seeks to clarify the possible mediating role that inflammatory processes and stress might play in the relationship between obesity and changes in brain function. We will recruit 75 participants with obesity and 75 normal-weight participants (12-19 years old, 50% females). We will collect clinical data, cognitive and personality variables and biological samples for the characterization of the microbiome profile, inflammatory-related values and physiological stress-related values. We will perform multiple mediator analyses to test whether gut microbiota, inflammation and stress can act as mediating factors in the relationship between obesity and neurobehavioral changes.