

What made the brain and immune system selfish; survival, reproduction or both?

Leo Pruijboom, Universit t Groningen

When observing the published science related to the selfish behavior of the brain and the immune system it is surprising to notice that survival mechanisms seem to have had the greatest evolutionary influence on the development of this selfish behavior. Nevertheless, in Darwin's words, what is survival without reproduction. It is therefore logical and necessary to discover possible reproductive evolutionary pressure factors behind the development of the selfish brain and immune system behavior. Recent research has shown that endogenous endocannabinoids play an essential role in the maintenance of fertility even when the body is faced with chronic stress. Endocannabinoids therefore influence both the behavior of the immune system and the brain in acute and chronic situations. I will use the physiology and pathology of these endogenous compounds as an example how evolution shaped the brain and the immune system of many animals through certain pathways which can be influenced by proximal medicine. The combination of proximal and evolutionary medicine could provide numerous solutions for multiple diseases which nowadays are treated at symptom level. The recovery of a symbiotic cooperation between the immune system, the brain and the metabolic system would probably prevent or even cure most if not all chronic diseases; the use of and/or the stimulation of the production of endogenous cannabinoids could serve as the first step towards a healthy person.