MedicalXpress

The relationship between human self-domestication and brain evolution

May 21 2019

Credit: Ontogenia/Emiliano Bruner

Emiliano Bruner, a paleoneurologist at the Centro Nacional de Investigación sobre la Evolución Humana (CENIEH) has just published an opinion paper about self-domestication and visuospatial cognition in the humans, which speculates on whether the two traits might have had reciprocal influences or shared mechanisms.

On the one hand, the hypothesis of self-domestication proposes that the human being has undergone a process of juvenilization over the course of evolution to limit aggressiveness between individuals and promote cooperation in large social groups.

On the other hand, our species presents an anatomical evolution in the parietal regions of the brain, implicated in visuospatial integration, visual imagination and integration between body and environment.

Both aspects, in fact, are involved in technological ability and social complexity, they depend on the patterns of our life stages (adolescence, longevity, etc.), and are related with changes in the levels of cerebral plasticity.

Domesticated bodies

Reduced aggressiveness in a species is often obtained by retaining juvenile traits, and these "domesticated bodies" then have a juvenile appearance; individuals are more highly social and evince greater plasticity at the level of behavior (exploration, curiosity, creativity).

"The development of the parietal cortex influences the capacity to connect the body with technology, and increases the number of individuals with whom we can interact in the social group. It is to be expected, then, that these two aspects will have interacted over the course of the evolution of the human genus, and above all in our species, *Homo sapiens*," explains Bruner.

The paper has been published in the journal *Frontiers in Psychology* in a volume dedicated to self-domestication and human evolution.

More information: Emiliano Bruner et al. Body Cognition and Self-Domestication in Human Evolution, *Frontiers in Psychology* (2019).

DOI: 10.3389/fpsyg.2019.01111