NUOVO

Why is it so hard to talk about neurodiversity? Are they diseases? Is it solely a psychological problem? Is it hardwired in the brain? If so, does that imply that some experiences will never truly be the same?

After all, human brains are physical objects in our skulls and the way we were told the brain works is sort of like a chest of drawers.

Divided in hemispheres and regions, each assigned a specific task, and interconnected with the others so to perform more complex tasks. Thus, damage of some region would inevitably result in some dysfunctioning, and externally verifiable, anomaly.

Well, that’s not actually the case.

In the image above us you can see the averages of the two types of brain that we’ve analyzed.  
Can you see any difference? We could not, not even in the DLPFC, the big red region which is known to be affected by schizophrenia.

The experiment from which we collected the data was specifically designed to uncover any difference in how people redirect their attention from one task to the other, which is indeed the main believed function of the DLPFC.

So, what gives? How does neurodiversity influence our experience of the world? What’s the difference? We hope you will come and find out.

DA ABSTRACT

One of the regions hindered by schizophrenia is the dorsolateral prefrontal cortex (DLPFC) which has been associated to the ability of task switching (TS), that is the realignment of perceptual, cognitive and motor goals in order to maximize process efficiency on the currently relevant task.

Nevertheless, literature suggests that people affected by schizophrenia (SCHZ) do not perform worse than a neuro-typical control population (CTRL). Apparently, SCHZ are simply slower in TS, but reach the same tasks’ performances as CTRL. The literature assumes that this latter fact is possibly due to some unknown compensation mechanism in the SCHZ’s brain. Literature also assumes that such compensation mechanisms reside in a specific, and localized, region of the brain centered around the DLPFC.

We challenge this belief…

The objective of our project was an exploration of the differences in brain activity between SCHZ and CTRL during TS. To this end we consider the results of 175 participants.