

# Review of: "Network Neuroscience and Translational Medicine for Understanding Mental Health: The example of Post-traumatic Stress Disorder"

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Potential competing interests: No potential competing interests to declare.

Despite the brevity of the paper it's clear that Dr Weems has clear ideas and an high competence to the argument.

It's very interesting the idea to go beyond the comparison between healthy people and sick people for a better understanding of mental illness for the develop of scientific research. In effect, currently the real differentiation seems to be between people who know to have psychic difficulties and people who don't know it. This said, there are several aspect of his point of view that need to consider in critic way:

1 the most used brain visualization techniques (FMRI, PET) allow to observ the most exposed parts of the brain, principally the newcortex and part of limbic system while part of the inner cerebral functioning remain obscure. Surely Network Neuroscience allowed for an important step forward clarifying that mental disorders active multiple regions of the brain, often far from each other. At the same time I think that neuroscientists risk to make the mistake of explaining everything based on the part of the brain they can see. An example for all: we know that the Thalamus has an important role in the deep emotional life. Further we know that internally the Thalamus has many functional nuclei with filter and modulation functions but we still don't know as well as they work. Often Neuroscience speaks about all emotional life while doesn't still know the functioning of important part of it.

2 I think that the limit of brain visualization is that it cannot observe the processes but only the functioning in the moment of the visualization. Often a mental disorder needs several year to structure itself in terms of neurostructures and neurocircuits. Basing your understanding of a process on image visualizations alone could lead to incomplete conclusions.

3 A personal comment about the network salience: I studied it about the psychotic disorders. My personal opinion is that it explain very well what happens in the brain of a psychotic patients. The problemi s that, in my opinion, it distinguishes between right ideas and wrong ideas of the human functioning. My studies took me to think that in acute psychosis is the symbolic meaning whatreally is important for the the psychotherapeutic treatment. Paradoxally, to convince a petient thathis ideas are wrong can create a dissociated condition between consciousness and deep psyche.

In conclusion, sure the work of dr. Weems moves in the direction of the current scientific necessity. In the other hand the Network Neuroscience and the Translational Medicine have not yet solved the problem of the interpretation of scientific data. PTSD is a condition that allows you to work very well through Network Neuroscience and the Translational Medicine

but others diagnostic areas, for example psychosis or personality disorders would create much more problems

Furthermore, the most problem to solve is the economic possibilities of clinic treatment: probably, the proposal to make a diagnosis through Network Neuroscience and the Translational Medicine would have too high costs in western psychiatric community services.