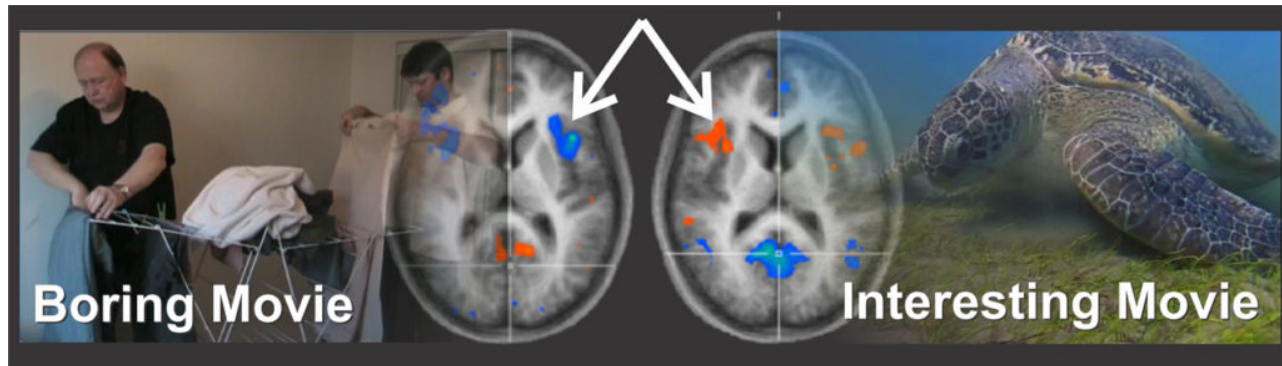


Failure to launch: Boredom in the brain

We've all been bored at one time or another. Nothing like the popular notion of the "couch potato", we define boredom as an inability to engage with one's environment despite the motivation to do so – a kind of failure to launch. Boredom is unpleasant and is strongly associated with other negative states including depression and aggression. Although boredom has been shown to be higher in neurological and psychiatric illnesses, we know far less about the brain states associated with being bored. We scanned the brains of healthy individuals under four conditions: a resting state, a sustained attention task and two video based mood inductions, one intended to make people bored and another we hoped would produce a state of interest. Results showed common networks of brain activity in the so-called 'default mode network' (DMN) of the brain across in our resting state, sustained attention and boredom induction scans.



Decreased activity in the anterior insular when watching a boring movie (left) contrasted with increased activity in the same region when watching an interesting movie (right).

The DMN is thought to be involved in "off-task" processing and has been seen in other states including mind-wandering. Our boredom mood induction showed one key difference from the resting state scan – reduction in brain activation in a region known as the anterior insula cortex. This same region that showed reduced activity when people were bored showed the opposite pattern of activity during our interesting movie scan. That is, when people watched an interesting movie (a BBC blue planet documentary) the activity in the anterior insular cortex increased. We interpret these findings to suggest that boredom represents a failure to engage executive control networks when faced with a monotonous, boring task. In other words, when the task demands some level of engagement (watch a movie of two guys hanging laundry and try to find some meaning in it!), but is so mundane that attempts at engagement fail, boredom likely ensues.

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Publication

[Boredom, sustained attention and the default mode network.](#)

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Exp Brain Res. 2016 Mar 15