Can't start your day without a cup of joe? Coffee's energizing effects may be a placebo

For many people, the day doesn't start until their coffee mug is empty. Coffee is often thought to make you feel more alert, so people drink it to wake themselves up and improve their efficiency. Portuguese scientists studied coffee-drinkers to understand whether that wakefulness effect is dependent on the properties of caffeine, or whether it's about the experience of drinking coffee.

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Because of the known neurochemical effects of drinking coffee, the scientists expected that the functional MRI scans would show that the people who drank coffee had higher integration of networks that are linked to the prefrontal cortex, associated with executive memory, and the default mode network, involved in introspection and self-reflection processes. They found that the connectivity of the default mode network was decreased both after drinking coffee and after taking caffeine, which indicates that consuming either caffeine or coffee made people more prepared to move from resting to working on tasks.

However, drinking coffee also increased the connectivity in the higher <u>visual network</u> and the right executive control network – parts of the brain which are involved in working memory, cognitive control, and goal-directed behavior. This didn't happen when participants only took caffeine. In other words, if you want to feel not just alert but ready to go, caffeine alone won't do – you need to experience that cup of coffee.

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