

The brains pleasure centers research paper

[Sociology](#), [Community](#)



As humans, we enjoy experiencing pleasure. Pleasure, in itself, is reinforcing since we will repeat an action that resulted in pleasure over and over again for as long as it continues to bring us that positive reward. Sometimes the things that we enjoy most are always pleasurable such as being with family or our favorite meal. Other times what gives us pleasure may lose its saliency so we may try to find something to replace this source of pleasure or do something to increase the intensity or the overall effect of cause such as when we need to use more of a drug that we now tolerate to experience the original pleasurable sensation. In addition to seeking pleasure, our brains work to avoid pain or suffering. This is the other mechanism that works together with the reward system of the brain to make the experience of pleasure, and the loss of this experience so salient to us. It's not just the lack of pleasure we are responding to for example, when we try to stop taking a substance that has been part of our lives for a long time. When we stop using something that caused us to experience pleasure, messages are sent in our brain making us feel a bigger craving for what we have lost due to our brains drive to help us avoid pain. Therefore, the pleasure centers of the brain cannot be examined without also examining the centers which help us avoid pain (The Brain from Top Down).

- The Pleasure Center in the Prefrontal Cortex

Recently conducted research examining the various structures and methods of communication in the brain have resulted in interesting findings leading to new insights and important implications. In particular, in regards to the pleasure centers, new information has been discovered about how pleasure, motivation and learning interact. These new studies have supported the

location of a pleasure center in the middle of the forebrain also called the Medial Prefrontal Cortex. Research has also shown that this area of the brain is strongly involved in processing new information, learning from information we find interesting and encode and how these processes contribute to our desire to explore. (Bozarth, 5-14).

As humans, we like challenges, new information and feeling as if we are always learning new things. Our ability to learn from new experiences and gaining enjoyment from new discoveries is facilitated by gamma waves. These high frequency waves interact with the pleasure center located in the prefrontal cortex heightening or memory of pleasant events, experiences and interactions. This new line of research has contributed to the area of positive psychology which seeks to understand what leads to experiences of pleasure and happiness in life (Leknes & Tracey).

While the focus on pleasure centers in the brain surrounds the prefrontal cortex, it appears that there are “hedonic hotspots” which are scattered throughout the area. In addition to the role of gamma waves in stimulating the pleasure areas that make up the center, there are neurotransmitters that stimulate different hotspots to enhance the experiences of pleasure. Opioid, endocannabinoid or other hedonic neurochemicals bind to specialize receptors and the completion of these circuits stimulate hotspots which respond by producing increased pleasurable perceptions of sensory pleasure produced by the taste of sweetness, sounds that are pleasurable such as bells pealing or smells that are associate with pleasurable and comforting reactions such as vanilla (Mahler, Smith, & Berridge). This is why drugs lead to pleasurable experiences. They are recognized by the brain as the

corresponding naturally produced chemicals and are able to bind with the appropriate receptor sites and the brain's pleasure center responds to them as if they are the naturally produced substances (Kelley & Berridge, 3306-3301).

- Preference for Intense Pleasure and Mutual Exclusivity

While it is obvious that if given a choice, we would prefer to experience pleasure over the alternative. We know that the experience of pleasure, especially when prolonged makes everything in our life seem better. It is difficult to experience pleasure while also experiencing negative emotions. No one truly enjoys feeling miserable, depressed, unhappy or as if what was once pleasurable is not any longer. One reason is that when we are in one of these states it is impossible to also experience pleasure, the state we much prefer. Sometimes however, it is difficult to reverse a negative mood state by deciding we would prefer to experience pleasure. This is because the pleasure centers in our brain need some type of stimulus to cause high frequency gamma waves to be generated so the pleasure center in our prefrontal cortex will be stimulated resulting in the subjective experience of pleasure (Cowan & Starman).

- The Importance of Pleasure in Health and Well-Being

In one study, Burton and King (2004), examined the effects of recording happy experiences on feelings of pleasure in 90 undergraduates. Subjects in the experimental group were instructed to record intensely positive experiences in a journal for 30 minutes on three consecutive days. Subjects in the control group recorded neutral experiences. While mood measured before the three days of writing did not differ between the two groups, mood

as measure after the three days of writing was significantly better in the experimental subjects who also reported experiencing significant pleasure over the three days and afterwards. An unexpected finding showed that those in the experimental group reported significantly fewer visits to health care professionals and facilities for health related illnesses over the next three months following the experiment. This suggests that the brains pleasure center effects not just our mood but influences our physical health as well.

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