The long-term effects of Deep Brain Stimulation (DBS) on mood and personality are quite different from the "immediate" shifts seen right after surgery. While the first few weeks are often defined by a "honeymoon phase" or transient mania, the long-term landscape (years later) is usually characterized by a process of psychological adaptation and potential shifts in emotional "drive."

Research indicates that roughly **80-90%** of patients do not experience permanent, negative personality changes, but for those who do, the effects usually follow these long-term patterns:

1. The "Long-Tail" of Apathy and Depression[1]

While early DBS can cause euphoria, the most common long-term psychiatric side effect is actually a gradual increase in **apathy** (loss of motivation).

- **The Cause:** This often happens as doctors successfully lower Parkinson's medications. Because those meds provide a "dopamine high," removing them—even if motor symptoms are controlled by the device—can leave the brain's reward system feeling "flat."
- **The Experience:** Patients may feel content but lose the desire to start new projects, engage in conversation, or maintain previous levels of ambition.

2. Shifts in Personality Traits

Long-term studies using the "Big Five" personality model have observed specific trends in DBS patients over several years:

- **Decreased Extraversion: Some men become more withdrawn or reserved over time.[2] This isn't necessarily sadness; it's a shift toward a more "quiet" personality.**

- **Increased Neuroticism: Family members sometimes report that patients become more emotionally reactive or sensitive to stress than they were before the illness or the surgery.[3]**

- **Reduced Conscientiousness: There can be a slight decline in self-discipline or organizational skills, sometimes linked to subtle changes in the brain's executive function circuits.**

3. The "Burden of Normality"

This is a documented psychological phenomenon where a patient has been "sick" for so long that being "healthy" again creates a crisis of identity.

- **Role Strain:** A man who has been cared for by his spouse for 10 years may suddenly find he is expected to take out the trash, drive, and lead the household again. This "sudden wellness" can lead to long-term marital strain, anxiety, and a feeling of being a "stranger

in one's own life."
- **Self-Estrangement:** Some patients describe a long-term feeling of being "cyborg-like" or "alienated," feeling as though their movements and moods are "dialed in" by a machine rather than being their own.

4. Impact of the Brain Target

The specific area of the brain being stimulated plays a massive role in the long-term outcome:[4]

- **STN (Subthalamic Nucleus):** More effective for reducing medication, but has a higher long-term risk of causing impulsivity, apathy, and depression.
- **GPi (Globus Pallidus Internus):** Generally considered "mood-neutral." It may not allow for the same massive reduction in meds, but it tends to be more stable for a patient's personality over 5+ years.

Summary Table: Long-Term Outlook

Category	Likely Long-Term Shift	Risk Factor
Mood	Shift from early "Highs" to later "Apathy/Flattening."	Rapid medication reduction.
Impulse Control	Usually improves over time as settings are refined.	Early stimulation of the STN.
Relationships	High stress due to "Burden of Normality."	Lack of family counseling.
Self-Identity	Integration of the device into "Self."	Initial feelings of estrangement.

> **The "Discrepancy" Fact:** One of the most consistent long-term findings is that **patients** often feel they haven't changed at all, while **family members** are the ones who notice the shifts in irritability or lack of drive.

Would you like me to find specific tips for how families can track these personality changes over time to share with their neurology team?