



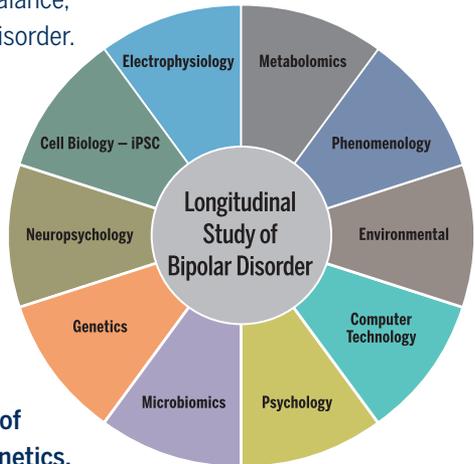
Longitudinal Study of Bipolar Disorder yields New Seven-Factor Framework

Nearly six million Americans have bipolar disorder, and most have probably wondered why. **After more than a decade of studying over 1,200 research participants in-depth, the Prechter Program has an answer — or rather, seven answers.**

No one genetic change, or chemical imbalance, or life event, lies at the heart of bipolar disorder. Rather, every patient's experience with the disorder varies from that of others with the condition. **But all of their experiences include features that fall into seven classes of phenotypes, or characteristics that can be observed,** as the Prechter research team reported in a 2018 paper in the *International Journal of Epidemiology*.

Our team collected and analyzed tens of thousands of data points about the genetics, emotions, life experiences, medical histories, motivations, diets, temperaments, sleep patterns and thought patterns of our research volunteers. Using those findings, we developed a framework for researchers studying the condition, clinical teams treating it, and patients experiencing it. This framework provides a common structure to use during studies, treatment decisions and more.

Our research finds that bipolar disorder has many causes. Although bipolar disorder tends to run in families, no one gene causes or explains it. Everyone's



This figure represents the disciplines within the Prechter Program that are generating data to the individual classes.



experience with bipolar disorder is unique. **But all experiences include features that fall into the following seven classes of observable characteristics, or phenotypes:**

- 1. DISEASE>** Changes in how certain chemicals function in the brain and affect bipolar disorder.
- 2. NEUROCOGNITIVE>** Changes in thinking, reasoning, and emotion processing.
- 3. TEMPERAMENT AND PERSONALITY>** People with bipolar disorder are frequently more reactive and “temperamental” compared to the average person.
- 4. MOTIVATED BEHAVIORS>** People with bipolar disorder frequently experience substance use disorders and other behavioral patterns.
- 5. LIFE STORY>** Trauma and abuse in childhood, unfortunate life experiences and other challenges contribute to bipolar disorder in complex ways.
- 6. SLEEP AND CIRCADIAN PATTERNS>** Patterns of sleep and circadian rhythms are often different among bipolar patients, causing disruptions in daily patterns and routines.
- 7. OUTCOMES AND COURSE OF ILLNESS>** Measures of how someone’s symptoms change over time and respond to treatment.

“There are many routes to this disease, and many routes through it. We have found that there are many biological mechanisms which drive bipolar disorder, and many interactive external influences on it. All of these elements combine to affect the disease as patients experience it.”

Melvin McInnis, M.D.
Prechter Program Research Director

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