

# What causes depression? What we know, don't know and suspect

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When thinking about what causes depression it's important to remember some depression is a normal mood state. Credit: Benjamin Combs/Unsplash, CC BY-SA

The term and even diagnosis of "depression" can have different meanings and consequences. Depression can be a normal mood state, a clinical disorder, and even a disease.

If your favourite soccer team loses, you might feel emotionally

depressed for a few minutes. If you were a player on the team and you brought about the loss, your state of depression and self-criticism might last much longer. Both can be viewed as normal "depressed mood" states.

Such states are common, with [a study of university students finding](#) that 95 percent of individuals had periods of feeling depressed, being self-critical and feeling hopeless every 6-8 weeks. So we should accept that a "depressed mood" is a universal and common experience. For most, the depressed mood is transient because the person will come to terms with the cause, or its cause will cease to exist over time, or be neutralised in some way.

There's no precise boundary between "depressed mood" states and "clinical depression", but differences lie in impairment, symptoms and duration. Clinical depression is associated with distinct impairment (such as "absenteeism" with the individual unable to get to work, or "presenteeism" where the individual gets to work but the depression compromises their performance). Symptoms common in clinical depression include loss of appetite, sleep and libido changes, an inability to be cheered up, an inability to experience pleasure in life and a lack of energy. Clinical depression generally lasts months or years if untreated.

Current formal classification manuals tend to view [clinical depression](#) as a single condition simply varying by severity ([major depression](#) versus a set of minor depressions, regrettably including normal depressive moods). For the sake of discussing the causes of depression, I'll look at two distinct types of depression: melancholia and the situational depressions.

## **Biological and disease-like depression**

The key "biological" depressive disorder is melancholia. For some 2000

years, this was more viewed as a movement disorder rather than a mood disorder due to it showing "psychomotor disturbance". This means the individual is slow to move or speak, lacking energy and unable to be cheered up, or agitated - wringing their hands, pacing up and down and repetitively uttering phrases. In addition, those with melancholia lose the capacity to find pleasure in life or be cheered up. They also lack energy and experience appetite and sleep changes.

A small percentage of those with melancholic depression develop "psychotic depression". This is where an individual experiences delusions or hallucinations, often of derogatory voices telling them they're worthless and better off dead, or of pathological guilt. For those with a bipolar disorder, most depressed episodes are melancholic or psychotic depression in type.

Melancholia has a strong genetic contribution, [with a study quantifying](#) a three times greater history of depression in family members of those with melancholia. If one parent has melancholia, their child has a 10 percent chance of developing the same; if both parents have melancholia, the chance is approximately 40 percent.

Once termed "endogenous depression" as it seemed to come from "within" rather than being caused by external stressors, episodes are generally more severe and persistent than would be expected from depression caused by environmental stressors. It doesn't respond to counselling or psychotherapy and requires medication (most commonly an antidepressant drug but also perhaps other drug types). The psychotic form requires an antipsychotic drug in addition to an antidepressant.

There are a number of differing classes of antidepressants. The SSRIs (selective serotonin reuptake inhibitors) are viewed as [increasing levels of the neurotransmitter serotonin](#) in the brain and so correct the "chemical" disturbance underlying many depressive conditions.

However, in melancholia it's thought that there are also disturbances in other neurotransmitters such as noradrenaline and dopamine.

Melancholia is therefore more likely to respond to the broader action antidepressant drugs such as the serotonergic and noradrenergic reuptake inhibitors (SNRIs) and tricyclics (TCAs), with the latter targeting all three implicated neurotransmitters.

In recent years, studies have not only implicated dysregulation in brain chemicals ("neurotransmitters"), but also in brain network circuits in those with melancholia. Disruptions in the circuits linking the basal ganglia (situated at the base of the forebrain and associated with emotion) and the pre-frontal cortex (the brain region implicated in personality expression and social behaviour) [result in](#) depressed mood, impaired cognition and psychomotor disturbance. These are, in essence, the key features of melancholia.

[Brain imaging studies have also identified](#) disrupted function in circuits and networks linking the insula (a brain region associated with awareness of our emotions) to other regions in the frontal cortex. These indicative findings are being progressively advanced by highly technical brain imaging strategies, and so in future years should clarify the multiple functional and structural changes that occur in the brain for those with melancholia.

There's no "test" to diagnose biological depression, with [former methods falling out of fashion](#) due to inaccuracy, so diagnosis relies on the doctor identifying its characteristic features, excluding environmental factors and weighting a family history of depression.

## **Psychological and social depression**

Non-melancholic depression is generally induced by a social stressor. A diagnosis of "reactive depression" captures a clinical, non-melancholic

disorder caused by the individual experiencing a social stressor that impacts and compromises self-esteem. This could be a boyfriend or employer berating a young woman to the point where she feels worthless.

In many ways, such scenarios are similar to a "normal" [depressed mood](#) state, but more severe. Here we would expect the individual to come to terms with or neutralise the stressor, or even spontaneously improve across all clinical parameters after weeks. A chronic environmentally or socially driven non-melancholic depression generally reflects an ongoing stressor that the individual cannot escape. An example would be a wife who lives with a constantly abusive husband, but is unable to leave him due to having a number of young children and no money of her own.

Other non-melancholic disorders are principally driven by psychological or personality-based factors - with actual episodes generally triggered by social stressors. [Research has identified](#) a number of personality styles that put people at risk:

1. those with high levels of general anxiety who are at risk of depression because of their worrying, catastrophising propensities, and their tendency to take things too personally
2. "shy" people who are often this way due to having been bullied or humiliated in their early years. They often view social interactions with others as threatening in comparison to the safety of their own company
3. those who are "hypersensitive" to judgement by others. This could be praise or feeling (perhaps inappropriately) they are being rejected or abandoned. These people often respond by sleeping more and craving certain foods that may settle their emotional dysfunction
4. "self-focused" individuals who are hostile and volatile with others, blame others when things go wrong and prioritise their

- own needs. When depressed, they tend to show a "short fuse" and create collateral damage for those around them
5. those who were neglected or abused in their early years and who therefore have low basic self-worth. They often repeat such cycles of deprivation and abuse in their adult relationships, and so readily become depressed
  6. perfectionists who are prone to self-criticism and a loss of pride. They may also have a limited range of adaptive strategies to stress.

There are several brain regions implicated in these non-melancholic mood states and disorders. A key site is the amygdala (an almond-shaped region in the brain that processes emotional reactions) which shows a heightened response when an individual is depressed.

If there is "[chemical](#)" dysfunction in the non-melancholic disorders, [serotonin is the most likely neurotransmitter](#) implicated. We suspect serotonin has a role to play but we can't be sure yet and further studies are needed.

So, we should reject a "one size fits all" model for considering "depression" and instead favour a "horses for courses" model. There are multiple types of [depression](#) (normal and clinical), with the latter reflecting differing biological, psychological and social causes and therefore requiring treatments that address the primary causal factor.

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