[Template:Other uses](/wiki/Template:Other_uses" \o "Template:Other uses) [Template:Infobox medical condition](/wiki/Template:Infobox_medical_condition) **Anhedonia** ([Template:IPAc-en](/wiki/Template:IPAc-en) [Template:Respell](/wiki/Template:Respell); [Greek](/wiki/Greek_language): ἀν- *an*-, "without" and ἡδονή *hēdonē*, "pleasure") is the inability to experience pleasure from activities usually found enjoyable, e.g. exercise, hobbies, music, sexual activities or social interactions. While earlier definitions of anhedonia emphasized pleasurable experience, more recent models have highlighted the need to consider different aspects of enjoyable behavior, such as motivation or desire to engage in activities (**motivational anhedonia**), as compared to the level of enjoyment of the activity itself ("consummatory anhedonia").[[1]](#cite_note-1) According to [William James](/wiki/William_James), the term was coined by [Théodule-Armand Ribot](/wiki/Théodule-Armand_Ribot).

One can distinguish many kinds of pathological depression. Sometimes it is mere passive joylessness and dreariness, discouragement, dejection, lack of taste and zest and spring. Professor Ribot proposed the name anhedonia to designate this condition. "The state of anhedonia, if I may coin a new word to pair off with [analgesia](/wiki/Congenital_analgesia)," he writes, "has been very little studied, but it exists."[[2]](#cite_note-2)

Anhedonia can be a characteristic of [mental disorders](/wiki/Mental_disorder), including [mood disorders](/wiki/Mood_disorder), [schizoaffective disorder](/wiki/Schizoaffective_disorder), [borderline personality disorder](/wiki/Borderline_personality_disorder), [schizoid personality disorder](/wiki/Schizoid_personality_disorder) and [schizophrenia](/wiki/Schizophrenia). For example, the 7th DSM-IV criterion for Borderline Personality Disorder: "chronic feelings of emptiness." Results indicate that emptiness is negligibly related to boredom, is closely related to feeling hopeless, pathologically lonely, and isolated, and is a robust predictor of depression and suicidal ideation (but not anxiety or suicide attempts). Findings are consistent with DSM-IV revisions regarding the 7th criterion for Borderline Personality Disorder. In addition, findings suggest the emptiness reflects pathologically low positive affect and significant psychiatric distress.[[3]](#cite_note-3) People affected with schizophrenia often describe themselves as feeling emotionally empty.[[4]](#cite_note-4) Mood disturbances are commonly observed in many psychiatric disorders such as [major depressive disorder](/wiki/Major_depressive_disorder). Disturbing mood changes may occur resultant to stressful life events and they are not uncommon during times of physical illness.[[5]](#cite_note-5) While anhedonia can be a feature of such mood changes, they are not mutually inclusive.

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## Causes[[edit](/index.php?title=(none)&action=edit&section=1)]

Researchers theorize that anhedonia may result from the breakdown in the [brain's reward system](/wiki/Reward_system), involving the [neurotransmitter](/wiki/Neurotransmitter) [dopamine](/wiki/Dopamine). Studies by Paul Keedwell, MD, then of [King's College](/wiki/King's_College_London), found that the brains of participants who were [clinically depressed](/wiki/Major_depressive_disorder) had to work harder to process rewarding experiences.[[6]](#cite_note-6)[[7]](#cite_note-7) While earlier research believed dopamine to be primarily involved in the subjective experience of pleasure, the last 20 years has seen a conceptual shift, such that dopamine is now believed to underlie various aspects of reward anticipation, learning, and motivation.[[8]](#cite_note-8)[[9]](#cite_note-9)[[10]](#cite_note-10) Anhedonia can be characterised as "impaired ability to pursue, experience and/or learn about pleasure, which is often, but not always accessible to conscious awareness".[[11]](#cite_note-11) Anhedonia is also a relatively common [side effect](/wiki/Side_effect) of antidopaminergic neuroleptics or [antipsychotic](/wiki/Antipsychotic) drugs. It can also be a side effect of withdrawal from stimulants such as phenethylamines, or amphetamines and [opioids](/wiki/Opioids) such as heroin and morphine.

## Significance in depression[[edit](/index.php?title=(none)&action=edit&section=2)]

As a clinical symptom in depression, anhedonia rates highly in making a diagnosis of this disorder. Some people describe the feeling as being "strung out". The Diagnostic and Statistical Manual of Mental Disorders (DSM) describes a "lack of interest or pleasure", but these can be difficult to discern given that people tend to become less interested in things which do not give them pleasure. The DSM criterion of weight loss is probably related, and many individuals with this symptom describe a lack of enjoyment of food. People suffering from anhedonia in association with depression generally feel suicidal in the morning and better in the evenings as sleep seems the only escape resembling death and can portray any of the non-psychotic symptoms and signs of depression.[[12]](#cite_note-12)

## Sexual anhedonia[[edit](/index.php?title=(none)&action=edit&section=3)]

[Template:Main article](/wiki/Template:Main_article) Sexual anhedonia in males is also known as 'ejaculatory anhedonia'. This condition means that the person will [ejaculate](/wiki/Ejaculate) with no accompanying sense of pleasure.

The condition is most frequently found in males, but women can suffer from lack of pleasure when the body goes through the [orgasm](/wiki/Orgasm) process as well.

Sexual anhedonia may be caused by:

* [Hyperprolactinaemia](/wiki/Hyperprolactinaemia)
* Hypoactive sexual desire disorder (HSDD), also called [inhibited sexual desire](/wiki/Inhibited_sexual_desire)
* Low levels of the hormone [testosterone](/wiki/Testosterone)
* Spinal cord injury
* [Multiple sclerosis](/wiki/Multiple_sclerosis)
* Use of [SSRI](/wiki/SSRI) antidepressants[[13]](#cite_note-13)\* Use (or previous use) of antidopaminergic neuroleptics (anti-psychotics)[[14]](#cite_note-14)[[15]](#cite_note-15)\* Fatigue
* Physical illness

It is very uncommon that a neurological examination and blood tests can determine the cause of a specific case of sexual anhedonia.

Patients may be prescribed sustained-release [bupropion](/wiki/Bupropion) to aid in treatment, which has been shown to relieve sexual dysfunction even in patients without depression.[[16]](#cite_note-16)

## Social anhedonia[[edit](/index.php?title=(none)&action=edit&section=4)]

[Template:See also](/wiki/Template:See_also)

### Definition[[edit](/index.php?title=(none)&action=edit&section=5)]

*Social anhedonia* is defined as a trait-like disinterest in social contact and is characterized by social withdrawal and decreased pleasure in social situations. This characteristic typically manifests as an indifference to other people.[[17]](#cite_note-17) In contrast to [introversion](/wiki/Extroversion_and_introversion), a nonpathological dimension of human personality, social anhedonia represents a deficit in the ability to experience [pleasure](/wiki/Pleasure).<ref name=Silvia2011>[Template:Cite journal](/wiki/Template:Cite_journal)</ref> Additionally, social anhedonia differs from [social anxiety](/wiki/Social_anxiety) in that social anhedonia is predominantly typified by diminished positive affect, while social anxiety is distinguished by both decreased [positive affect](/wiki/Affect_theory) and exaggerated [negative affect](/wiki/Affect_theory).[[18]](#cite_note-18) This trait is currently seen as a central characteristic to, as well as a predictor of, [schizophrenia-spectrum disorders](/wiki/Schizophrenia),<ref name=Kwapil1998>[Template:Cite journal](/wiki/Template:Cite_journal)</ref> as it is seen as a potential evolution of most personality disorders, if the patient is above age 24, when [prodromal schizophrenia](/wiki/Prodrome#In_schizophrenia) may be excluded.[[19]](#cite_note-19)

### Signs/symptoms[[edit](/index.php?title=(none)&action=edit&section=6)]

* Decreased ability to experience interpersonal pleasure
* Social withdrawal/isolation
* Decreased need for social contact
* Lack of close friends and intimate relationships, and decreased quality of those relationships
* Poor social adjustment
* Decreased positive affect
* [Flat affect](/wiki/Blunted_affect)
* [Depressed mood](/wiki/Depression_(mood))
* State-related anxiety<ref name=Kwapil1998/>[[20]](#cite_note-20)

Social anhedonia is trait-related, meaning it remains stable throughout life, independent of diagnosis, treatment, or symptom remission.<ref name=Blanchard1998>[Template:Cite journal](/wiki/Template:Cite_journal)</ref>

### Background and early clinical observation[[edit](/index.php?title=(none)&action=edit&section=7)]

The term *anhedonia* is derived from the Greek *an-*, "without" and *hēdonē*, "pleasure".[[21]](#cite_note-21) Interest in the nature of pleasure and its absence dates back to ancient Greek philosophers such as [Epicurus](/wiki/Epicurus).[[22]](#cite_note-22) The symptoms of anhedonia were introduced to the realm of psychopathology in 1809 by [John Haslam](/wiki/John_Haslam_(physician)), who characterized a patient suffering from schizophrenia as indifferent to “those objects and pursuits which formerly proved sources of delight and instruction.”.[[23]](#cite_note-23) The concept was formally coined by [Théodule-Armand Ribot](/wiki/Théodule-Armand_Ribot) and later used by psychiatrists [Paul Eugen Bleuler](/wiki/Paul_Eugen_Bleuler) and [Emil Kraepelin](/wiki/Emil_Kraepelin) to describe a core symptom of schizophrenia.[[22]](#cite_note-22) Theorists Sándor Radó and [Paul Meehl](/wiki/Paul_Meehl) posited that anhedonia represents an underlying genetic vulnerability to schizophrenia-spectrum disorders.<ref name=Horan2006>[Template:Cite journal](/wiki/Template:Cite_journal)</ref> In particular, Rado postulated that schizotypes, or individuals with the schizophrenic phenotype, have two key genetic deficits, one related to the ability to feel pleasure (anhedonia) and one related to [proprioception](/wiki/Proprioception). In 1962 Meehl furthered Rado's theory through the introduction of the concept of schizotaxia, a genetically-driven neural integrative defect thought to give rise to the personality type of [schizotypy](/wiki/Schizotypy).[[24]](#cite_note-24) Loren and Jean Chapman further distinguished between two types of anhedonia: physical anhedonia, or a deficit in the ability to experience physical pleasure, and social, or a deficit in the ability to experience interpersonal pleasure.[[25]](#cite_note-25) Recent research suggests that social anhedonia may represent a [prodrome](/wiki/Prodrome) of psychotic disorders.[[17]](#cite_note-17)<ref name=Silvia2011/>[[26]](#cite_note-26) First-degree relatives of individuals with schizophrenia show elevated levels of social anhedonia,[[27]](#cite_note-27) higher baseline scores of social anhedonia are associated with later development of schizophrenia.<ref name=Gooding2005>[Template:Cite journal](/wiki/Template:Cite_journal)</ref> These findings provide support for the conjecture that it represents a genetic risk marker for schizophrenia-spectrum disorders.

Additionally, elevated levels of social anhedonia in patients with schizophrenia have been linked to poorer social functioning.<ref name=Blanchard1998/>[[28]](#cite_note-28) Socially anhedonic individuals perform worse on a number of neuropsychological tests than non-anhedonic participants,[[29]](#cite_note-29)[[30]](#cite_note-30) and show similar physiological abnormalities seen in patients with schizophrenia.[[30]](#cite_note-30)

### Comorbidity[[edit](/index.php?title=(none)&action=edit&section=8)]

Anhedonia is present in several forms of psychopathology.[[31]](#cite_note-31) However, social anhedonia is not a necessary symptom criterion of any disorder. Social anhedonia manifests similarly in a variety of different mental illness, but for differing reasons. Most frequently, social anhedonia is associated with schizophrenia and schizophrenia spectrum disorders (including schizotypal personality disorder, paranoid personality disorder, and schizoid personality disorder). Social anhedonia has also been implicated in other psychological disorders:

#### Depression[[edit](/index.php?title=(none)&action=edit&section=9)]

Social anhedonia is observed in both depression and schizophrenia. However, social anhedonia is state related to the depressive episode and the other is trait related to the personality construct associated with schizophrenia. These individuals both tend to score highly on self-report measures of social anhedonia. Blanchard, Horan, and Brown (2001) demonstrated that, although both the depression and the schizophrenia patient groups can look very similar in terms of social anhedonia cross sectionally, over time as individuals with depression experience symptom remission, they show fewer signs of social anhedonia, while individuals with schizophrenia do not.[[32]](#cite_note-32) Blanchard and colleagues (2011) found individuals with social anhedonia also had elevated rates of lifetime mood disorders including depression and dysthymia compared to controls.[[33]](#cite_note-33)

#### Social anxiety[[edit](/index.php?title=(none)&action=edit&section=10)]

As mentioned above, social anxiety and social anhedonia differ in important ways.[[18]](#cite_note-18) However, social anhedonia and social anxiety are also often comorbid with each other. People with social anhedonia may display increased social anxiety and be at increased risk for social phobias and generalized anxiety disorder.<ref name=Rey2009>[Template:Cite journal](/wiki/Template:Cite_journal)</ref> It has yet to be determined what the exact relationship between social anhedonia and social anxiety is, and if one potentiates the other.<ref name=Horan2006/> Individuals with social anhedonia may display increased stress reactivity, meaning that they feel more overwhelmed or helpless in response to a stressful event compared to control subjects who experience the same type of stressor. This dysfunctional stress reactivity may correlate with hedonic capacity, providing a potential explanation for the increased anxiety symptoms experienced in people with social anhedonia.[[34]](#cite_note-34) In an attempt to separate out social anhedonia from social anxiety, the Revised Social Anhedonia Scale <ref name=Eckblad1982>Eckblad, M.L., Chapman, L.J., Chapman, J.P., & Mishlove, M. (1982). [The Revised Social Anhedonia Scale](https://www.researchgate.net/publication/247979535). Unpublished test</ref> didn't include items that potentially targeted social anxiety.[[35]](#cite_note-35) However, more research must be conducted on the underlying mechanisms through which social anhedonia overlaps and interacts with social anxiety. The efforts of the “social processes” [RDoC initiative](/wiki/Research_Domain_Criteria) will be crucial in differentiating between these components of social behavior that may underlie mental illnesses such as [schizophrenia](/wiki/Schizophrenia).

### Primary relevance in schizophrenia and schizophrenia spectrum disorders[[edit](/index.php?title=(none)&action=edit&section=11)]

Social anhedonia is a core characteristic of [schizotypy](/wiki/Schizotypy), which is defined as a continuum of personality traits that can range from normal to disordered and contributes to risk for [psychosis](/wiki/Psychosis) and [schizophrenia](/wiki/Schizophrenia).[[36]](#cite_note-36) Social anhedonia is a dimension of both negative and positive schizotypy.[[37]](#cite_note-37) It involves social and interpersonal deficits, but is also associated with cognitive slippage and disorganized speech, both of which fall into the category of positive schizotypy.[[38]](#cite_note-38)[[39]](#cite_note-39)[[40]](#cite_note-40) Not all people with schizophrenia display social anhedonia [[41]](#cite_note-41) and likewise, people who have social anhedonia may never be diagnosed with a schizophrenia-spectrum disorder if they do not have the positive and cognitive symptoms that are most frequently associated with most schizophrenia-spectrum disorders.[[42]](#cite_note-42) Social anhedonia may be a valid predictor of future schizophrenia-spectrum disorders;[[42]](#cite_note-42) young adults with social anhedonia perform in a similar direction to schizophrenia patients in tests of cognition and social behavior, showing potential predictive validity.[[38]](#cite_note-38) Social anhedonia usually manifests in adolescence, possibly because of a combination of the occurrence of critical neuronal development and synaptic pruning of brain regions important for social behavior and environmental changes, when adolescents are in the process of becoming individuals and gaining more independence.

### Treatment[[edit](/index.php?title=(none)&action=edit&section=12)]

There is no validated treatment for social anhedonia.<ref name=Horan2006/> Future research should focus on genetic and environmental risk factors to home in on specific brain regions and neurotransmitters that may be implicated in social anhedonia etiology and could be targeted with specialized pharmacological or behavioral treatments. Social support may also play a valuable role in the treatment of social anhedonia. Blanchard et al. (2011) [[33]](#cite_note-33) found that a greater number of social supports as well as a greater perceived social support network were related to fewer schizophrenia-spectrum symptoms and to better general functioning within the social anhedonia group.

### Gender differences[[edit](/index.php?title=(none)&action=edit&section=13)]

In the general population, males score higher than females on measures of social anhedonia.[[43]](#cite_note-43) This sex difference is stable throughout time (from adolescence into adulthood) and is also seen in people with schizophrenia-spectrum disorders. These results may reflect a more broad pattern of interpersonal and social deficits seen in schizophrenia-spectrum disorders.[[44]](#cite_note-44) On average, males with schizophrenia are diagnosed at a younger age, have more severe symptoms, worse treatment prognosis, and a decrease in overall quality of life compared to females with the disorder.[[45]](#cite_note-45) These results, coupled with the sex difference seen in social anhedonia, outline the necessity for research on genetic and hormonal characteristics that differ between males and females, and that may increase risk or resilience for mental illnesses such as schizophrenia.[[46]](#cite_note-46)

### Assessing social anhedonia[[edit](/index.php?title=(none)&action=edit&section=14)]

There are several self-report psychometric measures of [schizotypy](/wiki/Schizotypy) which each contain subscales related to social anhedonia:

* Revised Social Anhedonia Scale—Chapman Psychosis Proneness Scales[[41]](#cite_note-41)\* No Close Friends Subscale—Schizotypyal Personality Questionnaire [[47]](#cite_note-47)\* Introverted Anhedonia Subscale—Oxford Liverpool Inventory of Feelings & Experiences [[48]](#cite_note-48)

### Genetic components[[edit](/index.php?title=(none)&action=edit&section=15)]

L.J. and J.P. Chapman were the first to discuss the possibility that social anhedonia may stem from a genetic vulnerability.[[41]](#cite_note-41) The Disrupted in Schizophrenia 1 (DISC1) gene has been consistently associated with risk for, and etiology of, schizophrenia-spectrum disorders and other mental illnesses.[[49]](#cite_note-49) More recently, [DISC1](/wiki/DISC1) has been associated with social anhedonia within the general population.[[50]](#cite_note-50) Tomppo (2009) identified a specific DISC1 [allele](/wiki/Allele) that is associated with an increase in characteristics of social anhedonia. They also identified a DISC1 allele associated with decreased characteristics of social anhedonia, that was found to be preferentially expressed in women. More research needs to be conducted, but social anhedonia may be an important intermediate phenotype ([endophenotype](/wiki/Endophenotype)) between genes associated with risk for schizophrenia and phenotype of the disorder. Continued study of social anhedonia and its genetic components will help researchers and clinicians learn more about the etiology of schizophrenia-spectrum disorders.

### Neurobiological correlates[[edit](/index.php?title=(none)&action=edit&section=16)]

Researchers studying the neurobiology of social anhedonia posit that this trait may be linked to dysfunction of reward-related systems in the brain. This circuitry is critical for the sensation of pleasure, the computation of reward benefits and costs, determination of the effort required to obtain a pleasant stimulus, deciding to obtain that stimulus, and increasing motivation to obtain the stimulus. In particular, the ventral striatum and areas of the [prefrontal cortex](/wiki/Prefrontal_cortex) (PFC), including the [orbitofrontal cortex](/wiki/Orbitofrontal_cortex) (OFC) and dorsolateral (dl) PFC, are critically involved in the experience of pleasure and the [hedonic](/wiki/Hedonic) perception of rewards. With regards to neurotransmitter systems, [opioid](/wiki/Endogenous_opioid), [gamma-Aminobutyric acid](/wiki/GABA) and endocannabinoid systems in the [nucleus accumbens](/wiki/Nucleus_accumbens), [ventral pallidum](/wiki/Ventral_pallidum), and OFC mediate the hedonic perception of rewards.[[22]](#cite_note-22) Activity in the PFC and ventral striatum have been found to be decreased in anhedonic individuals with [Major Depressive Disorder](/wiki/Major_Depressive_Disorder) (MDD) and [schizophrenia](/wiki/Schizophrenia). However, schizophrenia may be less associated with decreased hedonic capacity and more with deficient reward appraisal.[[51]](#cite_note-51)[[52]](#cite_note-52) Abnormal functioning of the anterior insula and the parietal cortex is also implicated in anhedonia. Dowd & Barch conducted an [fMRI](/wiki/Functional_magnetic_resonance_imaging) study in which schizophrenia-spectrum disorder patients and control participants made [valence](/wiki/Valence_(psychology)) and [arousal](/wiki/Arousal) ratings of their own responses to emotional stimuli. They found that higher levels of anhedonia were associated with diminished arousal, but not valence, ratings. Furthermore, they found that, in controls, greater levels of social anhedonia were related to decreased bilateral caudate activation in response to positive relative to negative stimuli. The authors posit that the striatum in anhedonic individuals might be dysfunctional such that it fails to tag the saliency of positive events. Consequently, these individuals may experience blunted emotion.[[53]](#cite_note-53) Research further implicates that abnormalities in the circuitry underlying social cognition are also critically involved in the generation of anhedonic symptoms. Individuals high in social anhedonia show less activation in the anterior portion of the rostral medial prefrontal cortex (arMFC), right [superior temporal gyrus](/wiki/Superior_temporal_gyrus), and left [somatosensory cortex](/wiki/Somatosensory_cortex) during an emotion discrimination task; these regions are responsible for processing facial emotions. Moreover, the arMFC is highly relevant for social cognition, and the mPFC and somatosensory cortex are involved in theory of mind and mentalizing. Thus, social anhedonia appears to be related to dysfunction of neural systems involved in self/other representation and social perception.[[54]](#cite_note-54)

## Specific musical anhedonia[[edit](/index.php?title=(none)&action=edit&section=17)]

Recent studies have found people who do not have any issue processing musical tones or beat, yet receive no pleasure from listening to music.[[55]](#cite_note-55) Specific musical anhedonia is distinct from melophobia, the fear of music.

## See also[[edit](/index.php?title=(none)&action=edit&section=18)]

* [Avolition](/wiki/Avolition)
* [Clinical depression](/wiki/Clinical_depression)
* [Dysthymia](/wiki/Dysthymia)
* [Schizophrenia](/wiki/Schizophrenia)
* [Schizophrenia spectrum disorders](/wiki/Schizophrenia_spectrum_disorders)

## References[[edit](/index.php?title=(none)&action=edit&section=19)]

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## External links[[edit](/index.php?title=(none)&action=edit&section=20)]

[Template:Wiktionary](/wiki/Template:Wiktionary)

* [Anhedonia - Bipolar Disorder Symptoms](http://www.bipolardisordersymptoms.info/bipolar-symptoms/anhedonia.htm)
* [No Pleasure, No Reward](http://www.mcmanweb.com/no_pleasure.html)

[Template:Bipolar disorder](/wiki/Template:Bipolar_disorder) [Template:Use dmy dates](/wiki/Template:Use_dmy_dates)

[Category:Symptoms and signs: Cognition, perception, emotional state and behaviour](/wiki/Category:Symptoms_and_signs:_Cognition,_perception,_emotional_state_and_behaviour) [Category:Mood disorders](/wiki/Category:Mood_disorders) [Category:Depression (psychology)](/wiki/Category:Depression_(psychology))