

Understanding Anxiety in Children and Teens

2018 Children's Mental Health Report



CHILD MIND[®]
INSTITUTE

An Anxious World

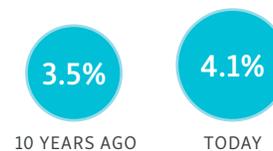
Anxiety is normal and healthy. When we're presented with something dangerous in the world, our anxiety response protects us from danger. It makes us hyperaware and primed for action — the “fight or flight” response. Anxiety disorders arise when we develop out-of-proportion anxiety responses to things most of us cope with easily and that happen every day.

The core symptoms of anxiety are worry, difficulty tolerating uncertainty, an overactive response to perceived threats (including freezing) and avoidance. Some children avoid or become overly afraid of situations or objects that trigger fears, while others react with explosive fear and frustration. That behavior is often misread as anger or opposition. In youth with phobias or social anxiety disorder, their difficulties may be attributed to “shyness,” with few people recognizing the severe distress they experience. Many young people don't realize that their overwhelming reactions may stem from a disorder that can be treated, rather than from a personal failing.

In the past 10 years, there has been increasing recognition of anxiety in young people by health care providers — one study found a 17% increase in anxiety disorder diagnosis.¹ Teens and their parents are recognizing that anxiety disorders can be serious and they are beginning to advocate for treatment at a level that far surpasses care-seeking a generation ago. Anxiety is the number one cause for concern at college counseling services.²

Increase in diagnosis

Health care provider diagnosis of anxiety disorders in youth under age 17



Are rates of anxiety disorders truly increasing, or is there growing recognition of the distress and impairment that anxiety causes? Is the increase in reported anxiety fueled by contemporary stresses, or is it a sign that youth today are more comfortable asking for help?

This year's Child Mind Institute Children's Mental Health Report looks at just how widespread child and adolescent anxiety disorders are, examines the impact of early risk factors including temperament, and describes effective treatments that are being accessed more frequently.

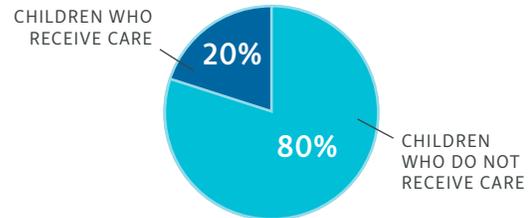
INTRODUCTION: AN ANXIOUS WORLD

Despite growing awareness, the proportion of youth who receive treatment is still the lowest of all of the major categories of mental health disorders — far below anxiety prevalence in the population.³ At some point, 30% of children and adolescents will meet criteria for an anxiety disorder, yet 80% never get help.

Nearly 117 million youth worldwide have suffered from an anxiety disorder. Although approximately 10% of youth aged 6–17 have a current anxiety disorder, by early adulthood, nearly 20% will have functional difficulties related to anxiety in at least one area of life.⁴ Anxiety disorders can impact every aspect of a child’s life, but particularly their social and educational functioning.

Treatment gap

Eighty percent of children with anxiety disorder never receive treatment



Prevalence

A public health approach advocates for improving recognition (the earlier, the better) and increasing the rate of treatment of psychiatric disorders. Over the past decade an enormous amount of work has been done to promote improving recognition of the childhood anxiety disorders.

— John T. Walkup et al.

Why do people talk about an “epidemic” of anxiety?

Anxiety disorders are the most common of all child and adolescent mental health disorders, both in the United States and around the world.⁵ Untreated, many subtypes persist into adulthood.⁶ Whether anxiety is on the rise or is more frequently identified, there is widespread

concern. Even as more kids are diagnosed, many more go untreated because of a lack of outward signs, and because young people have a hard time identifying when anxiety is not normal.⁷

What are child and adolescent anxiety disorders?

There are many types of anxiety in children and adolescents:

- **Separation anxiety:** When children are worried about being separated from caregivers.
- **Social anxiety:** When children are excessively self-conscious.
- **Selective mutism:** When children cannot speak in some settings, like at school.
- **Generalized anxiety:** When children worry about a wide variety of everyday things. Kids with generalized anxiety often struggle with perfectionism.
- **Specific phobias:** When children have excessive fear of particular things. This includes emetophobia, or fear of vomiting, which is common and impairing in young children.

- **Panic disorder:** When children have sudden, unpredictable panic attacks that may cause feelings of impending death or doom, and heart attack-like symptoms.

Until recently, obsessive-compulsive disorder (OCD) and post-traumatic stress disorder (PTSD) were classified as anxiety disorders. Children with OCD have unwanted thoughts that they try to neutralize with ritualized behaviors. PTSD symptoms develop after a disturbing event and include detachment, difficulty sleeping, irritability and reliving the event.

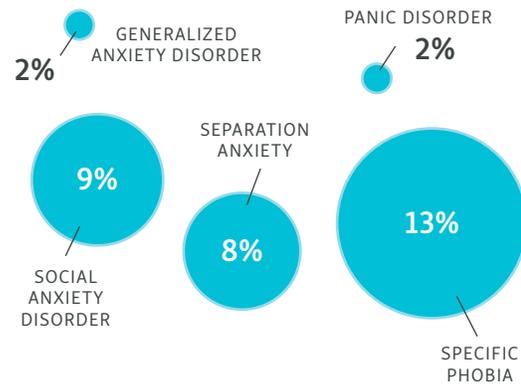
ONE: PREVALENCE

How prevalent are anxiety disorders?

- According to a study of more than 10,000 teens, the percentage of U.S. adolescents who will meet criteria for one of these anxiety disorders is: ^{8,9}
 - Specific phobia: 13%
 - Social anxiety disorder: 9%
 - Separation anxiety: 8%
 - Panic disorder: 2%
 - Generalized anxiety disorder: 2%
- Current anxiety worldwide in children and adolescents is 7%, according to a 2015 meta-analysis of 41 studies from 27 countries.¹⁰

Prevalence

Young people who meet criteria for a variety of anxiety disorders



Clinical recognition is on the increase

A 2018 study by the Centers for Disease Control and Prevention of health care provider diagnosis of anxiety in approximately 100,000 children aged 0–17 shows:¹¹

- Anxiety disorders in youth are being increasingly recognized by health care providers.
- In youth with disorders, anxiety is mild for 48%, moderate for 37% and severe for 15%.

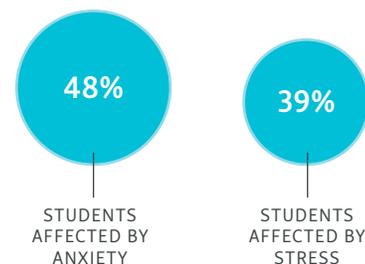
- From 2007 to 2012:
 - Current anxiety diagnoses increased from 3.5% to 4.1%.
 - Ever diagnosed anxiety increased from 5.5% to 6.4%.
- Approximately 2 million children aged 6–17 in 2011–2012 had a recognized problem with anxiety.

Anxiety is out in the open

- High school students today have more anxiety symptoms and are twice as likely to see a mental health professional as teens in the 1980s.¹²
- Anxiety has surpassed depression as the top complaint among college students seeking mental health services; anxiety is the most frequent concern (48%), followed by stress (39%).¹³

Mental health in college

Anxiety is the top concern among college students seeking counseling services



Developing Anxiety: When, Why and How

One of the strongest and first visible risk factors is childhood temperament. In particular, children who are behaviorally inhibited or temperamentally shy are more likely to exhibit signs of anxiety by adolescence.

— Koraly Perez-Edgar et al.

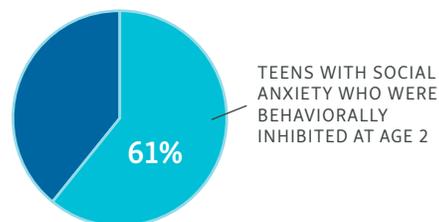
Temperament

Recent research has solidified the link between early temperament and later behavioral patterns. Behavioral inhibition (BI) in toddlerhood predicts social withdrawal in early childhood.^{14, 15, 16, 17}

- The 15% of adolescents who rate themselves the most behaviorally inhibited are five times more likely than less inhibited peers to develop social anxiety.¹⁸
- Sixty-one percent of adolescents identified as BI at age 2 showed signs of social anxiety at age 13, during interactions with an unfamiliar adult.¹⁹
- By mid-adolescence, children with BI have four times the rate of anxiety of other children, evident in diagnostic interviews as well as through parent- and self-report.^{20, 21}

Behavioral inhibition

Early temperament predicts later social anxiety



When is shyness pathological?

Many children whose anxiety causes them severe distress, like those with selective mutism, are dismissed as “just shy.” At the same time, people worry about medicalizing all shyness. How can we tell the difference between regular shyness and clinical anxiety?

- A nationally representative study found that around 50% of teens either consider themselves “shy” or are described as shy by their parents.
- However, only 12% of those shy adolescents are impaired enough to meet criteria for social anxiety disorder.²²
- This suggests that a wide range of behavior and temperament is typical in this population.

Anxiety Rarely Occurs Alone

Whilst it is possible that high levels of anxiety during childhood and adolescence may place young people at risk of later mental health problems and constrained life opportunities, it is also possible that the higher rates of subsequent adversity evident amongst anxious adolescents may reflect the effects of comorbid psychiatric symptomatology or family risk factors that encourage both the development of anxiety and later life-course adversity.

— Woodward et al.

Childhood anxiety disorders are strongly linked to increased risk for later depression, anxiety, behavior problems and substance abuse.

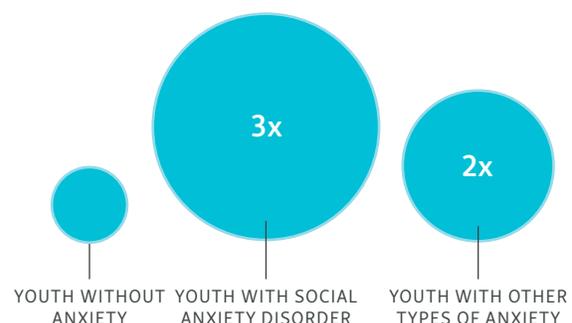
- Adults with anxiety disorders report experiencing “disturbing anxiety” as children.³²
- Depression and eating disorders often co-occur with anxiety disorders.³³
- Youth anxiety increases risk of educational underachievement in young adults and functional impairment in areas like health, social relationships or work in adulthood.^{34, 35}

Depression

- Social anxiety disorder has the highest correlation to later depression: twice that of other anxiety disorders and three times that of youth with no anxiety.³⁶
- When adolescents have depression alongside social anxiety, it is strongly associated with more suicidal ideation, suicide attempts and more depressive symptoms.
- Social anxiety disorder with onset in childhood and adolescence leads to earlier onset of depression and poor social functioning.³⁷

Risk of depression

Youth with social anxiety disorder are more likely to become depressed later



THREE: ANXIETY RARELY OCCURS ALONE

Continued anxiety

- Childhood anxiety is a strong predictor of an anxiety disorder during adolescence.³⁸
- Childhood separation anxiety disorder predicts adolescent separation anxiety.
- Generalized anxiety disorder is associated with later anxiety and panic attacks.
- Social anxiety disorder in childhood is associated with adolescent generalized anxiety disorder, continued social anxiety and ADHD.

Substance abuse

- A study following youth over a period of 14 years found that anxiety disorders are linked to a twofold increase in risk for substance use disorder.³⁹
- Childhood anxiety disorders including panic and social anxiety are linked to increased risk for substance use, particularly alcohol abuse and dependence.^{40, 41}

Risk of substance abuse

Youth with anxiety disorders have double the chance of developing a substance use disorder



Behavioral problems

- Multiple studies have demonstrated a link between early anxiety symptoms and the later development of disruptive behavior.⁴²
- Untreated social phobia is associated with a number of negative outcomes, including poor school and work performance, school dropout and unemployment.⁴³
- Children whose anxiety manifests as tantrums, oppositionality or violent outbursts often find themselves in disciplinary trouble, at the emergency room or even interfacing with law enforcement.

Smartphones, Social Media and the Anxiety of Adolescence

Teens turn to and are obsessed with whichever environment allows them to connect to friends. Most teens aren't addicted to social media; if anything, they're addicted to each other.

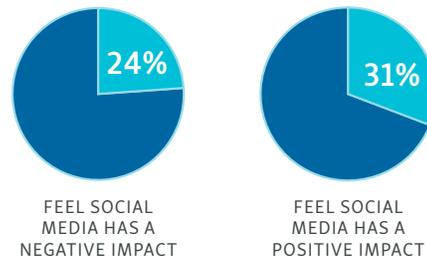
— Danah Boyd

Prevalence and habits of adolescent social media use

- According to a study of 750 U.S. teens, 95% have a smartphone and 45% are online “almost constantly” in 2018 compared to 24% in 2014.⁴⁴
- Twenty-four percent of teens surveyed said they thought it had a negative impact, and the biggest reason was bullying/rumor spreading.
- Thirty-one percent of teens surveyed said social media has a mostly positive effect, and the biggest reason was connecting with friends and family.

Social media

Adolescents have divergent perspectives on the impact of social media in their lives

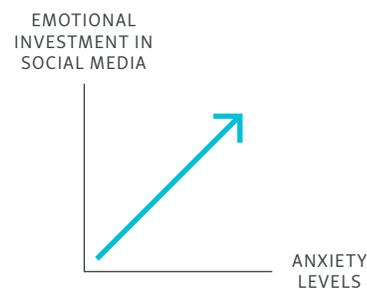


Social media and anxiety in adolescents

- A study of more than 450 youth aged 11–17 found:
 - Ninety-seven percent of participants indicated that they used social media.
 - Thirty-five percent of participants were classed as poor sleepers.
 - Forty-seven percent of participants were classed as anxious.
 - Higher emotional investment in social media was strongly correlated with higher levels of anxiety.⁴⁵

Likes and friends

Youth with a stronger emotional investment in social media are likely to have higher levels of anxiety



FOUR: SMARTPHONES, SOCIAL MEDIA AND THE ANXIETY OF ADOLESCENCE

- A nationally representative sample of more than 550 emerging adults (aged 18–22) shows that more time spent using social media is associated with greater anxiety symptoms and a greater likelihood of participants meeting criteria for an anxiety disorder.⁴⁶
- The authors suggest two explanations that are commonly put forth for this phenomenon:
Social media could be a source of stress that contributes to anxiety symptoms; or
Emerging adults with elevated anxiety tend to engage in more social media use, perhaps as a form of reassurance-seeking to alleviate anxiety symptoms.
- A review of 43 papers from 2003 to 2013 shows that social media can be both helpful and harmful to young users. When offline friendship quality is perceived as high, youth benefit from social media more.
Benefits: increased self-esteem, perceived social support, increased social capital, safe identity experimentation and increased opportunity for self-disclosure.
Harmful effects: exposure to violence, social isolation and cyberbullying.

Identification and Prevention

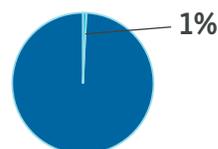
Most people experiencing an anxiety disorder do not seek treatment, particularly those with less severe symptoms... Ensuring that mild/moderate cases access evidence-based care is important and will result in substantial burden averted.⁴⁷

— Baxter et al.

Unfortunately, anxiety disorders are often overlooked. As little as 1% of youth with anxiety seek treatment in the year their symptoms begin, and most anxiety symptoms go untreated for years.⁴⁸

Access to care

Just 1% of youth seek treatment at the onset of anxiety symptoms



Identification

The first step in helping youth is to accurately identify anxiety symptoms. Anxiety is often mistaken for other disorders, resulting in ineffective treatment. Common misdiagnoses:

- **Learning Disorders:** When a child starts doubting her abilities in a subject, anxiety can prevent her from learning or showing what she knows. Sometimes this can be mistaken for a learning disorder when it's really just anxiety.
- **ADHD:** Children who have difficulty concentrating in school but are not hyperactive may be diagnosed with ADHD-Inattentive Presentation, while they are actually distracted by the internal worry and fear that come with an anxiety disorder.
- **Depression:** Teenagers who have been struggling with untreated anxiety for as long as a decade have accumulated impairment — things they can't do — and are often unhappy because of their limited lifestyle. That unhappiness, or dysphoria, can be confused with clinical depression.
- **Autism:** Children who have very early social anxiety, which can lead to behavioral inhibition, selective mutism and poor social skills, may be misdiagnosed with autism.
- **Psychosis:** Older teenagers who have panic disorder or PTSD sometimes experience depersonalization or derealization — a sense of detachment from the self, or a feeling that the world is unreal. These symptoms may be misunderstood as a form of psychosis, resulting in a diagnosis of schizophrenia or some other psychotic disorder.
- **Oppositional Defiant Disorder:** Kids who have acute anxiety may lash out when something triggers a fight-or-flight response. If the anxiety is undiagnosed, the aggression may be interpreted as a behavioral disorder like ODD.

FIVE: IDENTIFICATION AND PREVENTION

Prevention

There is some research suggesting that prevention (intervening before an at-risk or anxious child develops a full-blown anxiety disorder) is effective in school-age children and young adults.

Cool Little Kids is a parenting program delivered over the Internet with a goal of preventing the development of anxiety disorders in 3- to 6-year-olds with inhibited temperament.

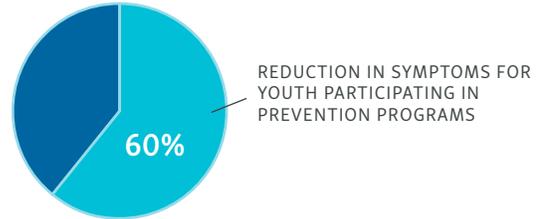
- The program shows significant reduction in child anxiety symptoms.⁴⁹

A review of community-based prevention programs for young adults found:⁵⁰

- Anxiety symptoms were reduced in about 60% of the programs.

Preventing anxiety disorders

Research suggests that prevention programs can be successful in school-age children



Treatment

The German poet Goethe, who suffered from fear of heights, would force himself to slowly ascend to the top of his local cathedral and then stand on a small platform overlooking the city with nothing to hold on to until his fear dissipated. He repeated this exercise often and was eventually able to go on enjoyable field trips to the mountains.

— Joseph LeDoux

Most kids with anxiety disorders don't get treatment, which is unfortunate since cognitive behavioral therapy (CBT) has been shown to be highly effective in combination with medication.

CBT for anxiety disorders: Exposure and response prevention

Exposure and response prevention (ERP) is a kind of CBT that works by helping children address their anxiety and fears in incremental steps in a safe, controlled environment. This allows children to experience anxiety and distress without resorting to their avoidance behaviors, giving them a sense of control. By facing the symptoms head-on, children learn to tolerate their anxiety, and, over time, they will discover that their anxiety has actually decreased. This process is called "habituation."

ERP usually starts with developing a "fear hierarchy" that guides treatment, starting with the easiest, least stressful trigger and working up to the most dreaded.

A long-term follow-up study found sustained benefit from CBT treatment 8 to 13 years later:⁵¹

- Ninety-three percent showed long-term recovery of the targeted anxiety disorder.
- Eighty-seven percent did not meet criteria for any DSM-IV anxiety disorder.

Medications for anxiety disorders

- **Antidepressants:** The clear medications of choice for treating anxiety in children are the serotonin reuptake inhibitors, the antidepressants. Study after study shows those are the medicines that are effective, and they can be extremely effective.
- **Benzodiazepines:** These short-term medications can be extremely effective in reducing intense anxiety in youth, but there is little data supporting their long-term usefulness, and they have a risk of dependence and addiction.

SIX: TREATMENT

Gold standard treatment for anxiety disorders: Combined therapy

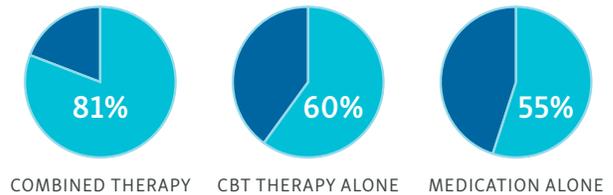
The most widely recognized clinical trial of treatments for youth with separation anxiety, generalized anxiety and social anxiety disorders showed that a combination of CBT and antidepressant medication (a selective serotonin reuptake inhibitor, or SSRI) is most effective.⁵²

Treatment effectiveness after 12 weeks:

- 81% Combination therapy
- 60% CBT therapy alone
- 55% Medication alone

Effectiveness of therapy

A combination of CBT therapy and medication proves to be a highly effective approach for treating anxiety



Innovations: Online and computer-based CBT interventions

Research has shown that patients are more open and honest about their symptoms when they are interacting with “virtual humans” and don’t think they are being observed or judged.⁵³

- Woebot is an online “chatbot” based on CBT principles designed to deliver a therapeutic experience to college students. It resulted in significantly reduced anxiety.⁵⁴

- Camp Cope A Lot (CCAL) is a 12-session intervention for children aged 7–13 that can be implemented by providers with no previous CBT training. Eighty-one percent of study participants randomized to CCAL no longer met criteria for their principal diagnosis, compared to 14% in the placebo group.

Innovations: Mindfulness and meditation

Mindfulness meditation is increasingly being introduced in a variety of situations (school, clinical mental health) to help young people manage stress, emotionality and problem behaviors. A meta-analysis of studies found that

these interventions have a small to moderate effect on anxiety symptoms, similar to other interventions like exercise or CBT.⁵⁵

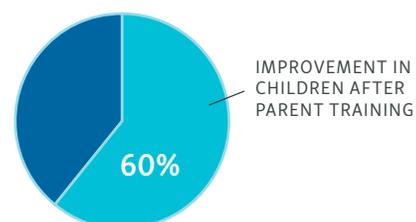
Promising: Treating parents

Higher levels of family accommodation (when the family organizes routines and behavior around a child’s anxiety or OCD) have been found to predict greater impairment and poorer response to treatment.⁵⁶ A new approach, called Supportive Parenting for Anxious Childhood Emotions (SPACE), targets parental accommodation and treats the child by training parents.^{57, 58}

- Parents reported high satisfaction and reduced child symptoms.
- Sixty percent of children scored as much improved or very much improved after treatment.

Targeting accommodation

By training parents to help children overcome anxiety, kids get better



SIX: TREATMENT

Developing: Biofeedback

Biofeedback is monitoring the body and providing information through audio or visual feedback. Anxiety disorders are often accompanied by physical symptoms; recognizing and altering these through biofeedback may relieve the associated psychological problem.⁵⁹ Proponents of biofeedback say it is an excellent tool for overcoming denial and promotes self-regulation skills.

- In a survey study, EEG neurofeedback (measuring brain waves) was the most common for anxiety. Sixty-five percent of studies found a statistically significant level of symptom reduction.
- One study of heart rate variability (HRV) biofeedback, which asks participants to sync pulse and breathing, showed reduction in self-reported anxiety and a 75% drop in stress.⁶⁰

Conclusion

Anxiety symptoms can cause severe distress and impairment in a substantial proportion of youth in the United States. This is a serious public health issue that deserves attention from parents, teachers and health care providers. There are compelling reasons to believe that reported increases in child and adolescent anxiety disorders reflect society's increased awareness rather than an epidemic of new cases. But there is still a huge gap between the number of children in need and the number receiving treatment.

Anxiety disorders affect millions of kids and keep them from reaching their full potential. We still must do much, much more. Untreated, anxiety is a gateway disorder that leads to increased risk of depression, school failure, suicide and substance abuse. And because children are often quite young at the onset of anxiety, they learn from an early age to suffer in silence.

Anxiety is highly treatable, and early intervention is particularly effective. We have gotten very good at helping individual children and adolescents in need; now we need to get better at identifying the vast majority who don't get help.

Moving the needle on the acceptance of anxiety disorders as real and readily treatable illnesses of childhood and adolescence can have a profound effect on the lives of millions of people in this country and around the world. It has already begun. Now is the time to harness the potential of schools, colleges, the Internet and social media — which have often been blamed for an epidemic of anxiety! — to educate and even treat children who often suffer silently from impairing anxiety.



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