

# ANXIETY DISORDERS

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## Introduction

Anxiety disorders are disorders that cause children and adolescents to feel frightened, distressed, and uneasy due to perceived threats or stressors. Although most children and adolescents experience fears and worries, which can be labeled as anxiety, the fears and worries present in anxiety disorders actually impede daily activities or functioning (Christophersen & Mortweet, 2001). The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) distinguishes anxiety from fear, in that fear is an emotional response to a real or perceived imminent threat, and anxiety is the anticipation of a future threat (APA, 2013a). When both anxiety and the impairment of normal activities are evident, an anxiety disorder may be present.

Problems related to fears and anxieties are relatively common in youth, with the lifetime prevalence rates of clinical problems ranging from 6 to 15 percent (Silverman & Ginsburg, 1998; U.S. Public Health Service, 2000). The prevalence of anxiety disorders in children and adolescents is higher than almost all other mental disorders (U.S. Department of Health and Human Services, 1999). Youth with anxiety problems experience significant and often lasting impairment, such as poor performance at school and work, social problems, and family conflict (Grills-Taquechel & Ollendick, 2012; Langley et al., 2004). Anxiety often occurs with other disorders, including behavioral problems, depression, and even additional anxiety disorders (Albano, Chorpita, & Barlow, 2003). Thus, the problems found in youth with anxiety disorders can be substantial (Costello, Angold, & Keeler, 1999; Pine et al., 1998).

## Categories

In 2013, the American Psychiatric Association released the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*. The *DSM-5* no longer considers Obsessive-Compulsive Disorder (OCD) or Post-Traumatic Stress Disorder (PTSD) as anxiety disorders. These disorders will be discussed in separate sections of the *Collection*.

### Recent Changes from the DSM-IV to the DSM-5

The *DSM-5* removed several disorders from the anxiety disorders category, including OCD, PTSD, and acute stress disorder. However, the APA does note the close relationship between these disorders and anxiety disorders. One significant change is the developmental approach and examination of disorders across the lifespan, including children and older adults. Some conditions are grouped together as syndromes because the symptoms are not sufficiently distinct to separate the disorders. Others have been separated into distinct groups (Anxiety and Depression Association of America, 2013). Table 1 outlines the changes to the Anxiety Disorders classification.

**Table 1**  
**DSM-5 Changes to the Anxiety Disorders Classification**

Disorder	Changes
Panic Attack	The <i>DSM-IV</i> described several different types of panic attacks; however, the <i>DSM-5</i> limits those types to expected and unexpected. A panic attack can be a specifier or prognostic factor for severity of diagnosis and comorbidity across disorders.
Panic Disorder and Agoraphobia	In the <i>DSM-IV</i> , the two were diagnosed together. In the <i>DSM-5</i> , each is a separate diagnosis with separate criteria.
Social Anxiety Disorder (Social Phobia)	The <i>DSM-5</i> changes the “generalized” specifier to a “performance only” specifier. This notes that anxiety and avoidance can manifest only in performance situations, like public speaking in schools, and not in other non-performance social situations.

Source: APA, 2013a.

Table 2 outlines the anxiety disorders that affect children and adolescents present in the *DSM-5* as compared to the *DSM-IV-TR*. Note the changes in PTSD, agoraphobia, panic disorder, panic attacks, and selective mutism.

The *DSM-5* is a manual for assessment and diagnosis of mental health disorders and does not include information for treatment of any disorder. In the future, more evidence supporting treatments of disorders with *DSM-5* classifications will be available as clinical studies using *DSM-5* criteria are conducted. As a result, the *Collection* will reference studies that utilize *DSM-IV* diagnostic criteria to explain symptoms and treatments.

### Prevalence

Table 3 outlines the onset age and prevalence of anxiety disorders in children and adolescents.

### Causes and Risk Factors

Research has focused on the risk factors for developing an anxiety disorder in childhood (Albano, Chorpita, & Barlow, 2003; Grils-Tauchel & Ollendick, 2012). Some researchers have described a “triple vulnerability” model of anxiety development (Barlow, 2002). This model describes how three separate risk factors work together to increase the child’s chance of having an anxiety problem. The first risk factor is having some biological predisposition to anxiety; that is, some children are more likely to experience higher amounts of anxiety than others (Eaves et al., 1997; Eley et al., 2003). The second risk factor is having a psychological vulnerability related to “feeling” an uncontrollable or unpredictable threat or danger. Thus, some children may be more likely than others to perceive a situation as threatening.

**Table 2**  
**Anxiety Disorders Affecting Children & Adolescents**

Disorder	DSM-IV Description	DSM-5 Description
Separation Anxiety Disorder (SAD)	A disabling and irrational fear of separation from caregivers.	A disabling and irrational fear of separation from caregivers, who may be children or adults.
Social Anxiety Disorder/ Social Phobia	A disabling and irrational fear of social encounters with non-family members.	A disabling and irrational fear of social encounters with non-family members.
Post-traumatic Stress Disorder (PTSD)	Re-experiencing, avoidance, and hyper-arousal symptoms following a traumatic event.	The <i>DSM-5</i> recategorized PTSD and no longer considers it an anxiety disorder. Refer to the PTSD section of the <i>Collection</i> for more information.
Specific Phobias (SP)	A disabling and irrational fear of something that poses little or no actual danger.	A disabling and irrational fear of something that poses little or no actual danger.
Generalized Anxiety Disorder (GAD)	Chronic, exaggerated, and overwhelming worries about multiple every day, routine life events or activities.	Chronic, exaggerated, and overwhelming worries about multiple every day, routine life events or activities.
Agoraphobia	Anxiety about being in places where escape may be difficult or help may not be available in the event of a panic attack.	No longer linked with panic disorder. Must endorse fears from two or more agoraphobic situations.
Panic Disorder	Linked with agoraphobia. Chronic fears of having panic attacks after having at least one uncued panic attack.	No longer linked with agoraphobia. Chronic fears of having panic attacks after having at least one uncued panic attack.
Panic Attacks	Intense fear or discomfort for distinct timeframe without any real danger. Categories: unexpected (uncued) panic attacks, situationally bound (cued) panic attacks, and situationally predisposed panic attacks.	Intense fear or discomfort for distinct timeframe without any real danger. The <i>DSM-5</i> no longer utilizes categories of panic attacks, but instead limits the types to expected and unexpected. Panic attacks may be applied to all <i>DSM-5</i> disorders as a specifier.
Selective Mutism	Previously included in “Disorders Usually First Diagnosed in Infancy, Childhood or Adolescence.” The child speaks in some locations, but not others, even when expected to speak.	Now classified as anxiety disorder, as most children affected by selective mutism are anxious. The child speaks in some locations, but not others, even when expected to speak.

Source: APA, 1994; APA, 2000; APA, 2013a.

**Table 3**  
**Onset Age and Prevalence of Anxiety Disorders**

Disorder	Onset Age	Prevalence
Separation Anxiety Disorder	As early as preschool age, through childhood, rarely adolescence	Children: 4% Adolescents: 1.6%
Selective Mutism	Usually before age 5	0.03% – 1% by setting
Specific Phobia		Children: 5% 13 – 17 year olds: 16%
Social Anxiety Disorder (Social Phobia)		Prevalence in children and adolescents are comparable to prevalence in adults
Panic Disorder	Usually after 14 years of age	Diagnosed before 14 years: < 0.4% Adolescents: 2% – 3%
Agoraphobia	May occur in childhood, but peaks in late adolescence and early adulthood	Adolescents: 1.7%
Generalized Anxiety Disorder		Adolescents: 0.9%

Source: APA, 2013a.

There are many reasons a child may perceive the world in this way, including family or other social modeling (e.g., peers). Finally, the third risk factor is having a direct experience with anxiety-provoking situations. Thus, these three risk factors combine when a child is more anxious or inhibited by nature, interprets many situations as threatening, and has already experienced anxiety-provoking situations. Such a child is considered to be at risk for developing anxiety problems.

Research also suggests that there are patterns of gender differences, depending upon the disorder. For example, more females are diagnosed with specific phobia than males (Beidel & Turner, 2005). For social anxiety disorder and generalized anxiety disorder (GAD), rates are similar in childhood but, during adolescence, female rates of diagnosis outnumber males (Beidel & Turner). Data on gender differences for SAD, post-traumatic stress disorder (PTSD), and panic disorder have been less conclusive (Beidel & Turner). In addition, stomach pain in children (called functional abdominal pain (FAP)) has been linked to anxiety disorders later in life, even if abdominal pain is resolved (Shelby et al., 2013).

Although not a risk factor, a study by Bufferd et al. (2012) found a possible correlation between anxiety and depression. A statistically significant number of study participants diagnosed with depression at three years of age were more likely to be diagnosed with either anxiety or social phobias at six years of age. The opposite also held statistical significance. Researchers compared this study to information involving school-age children, adolescents, and adults, and found consistent data (Bufferd et al.). General anxiety disorder (GAD) rates did fall from age three to age six, though the rates of most disorders were consistent across time (Bufferd et al.). The study mentions several limitations, including the short initial analysis period and a relatively homogenous sample, but clinicians may find screening both anxiety and depression beneficial if a child exhibits symptoms of one (Bufferd et al.).

## **Assessment**

Unless otherwise cited, the information discussed in this section is from a personal communication with Michael Southam-Gerow and Shannon E. Hourigan on May 11, 2009. Any attempt to define problematic anxiety in youth must clearly define what constitutes typical anxiety for the youth's age, environment, and development. Anxiety and fear are defined as a complex combination of three types of reactions to a perceived threat:

1. Overt behavioral responses (e.g., running away, closing one's eyes, or trembling voice);
2. Physiological responses (e.g., changes in heart or breathing rate, muscle tension, or upset stomach); and
3. Subjective responses (e.g., thoughts of being scared or thoughts of bodily harm).

Another important consideration in assessing anxiety disorders in youth is their development. For example, separation anxiety is a typical phenomenon for an 18-month-old child. Similarly, fear of the dark is common for children around age four. Thus, assessing anxiety in children requires knowledge of child development. Because anxiety is a natural and normal human experience, assessment of anxiety in youth requires attention to the level of impairment that a youth experiences because of anxiety. Accordingly, intense levels of anxiety do not constitute anxiety disorders without the presence of impairment.

Assessment for anxiety disorders should include a medical history and a physical examination within the past 12 months, with special focus on conditions that may mimic anxiety disorders (American Academy of Child & Adolescent Psychiatry [AACAP], 1997). As noted by Huberty (2002), in diagnosing anxiety disorders, the provider should ensure that youth meet the appropriate diagnostic criteria. The provider must also identify those symptoms especially pertinent to children and adolescents. Structured diagnostic interviews can be extremely useful in assessing youth, particularly when administered independently to the youth and the parent. Moreover, gastrointestinal disorders occur more frequently in youth with anxiety compared to youth without anxiety. Youth with gastrointestinal symptoms also had higher levels of anxiety symptom severity (Cunningham et al., 2013). Screening for gastrointestinal disorders could help improve treatment outcomes by identifying gastrointestinal symptoms that may interfere with treatment progress. In addition, it may be beneficial for providers to assess for anxiety if a child presents with gastrointestinal symptoms (APA, 2013b).

A thorough assessment is critical not only because there are numerous anxiety-related disorders, but also because anxiety is often comorbid with other disorders (McLeod, Jensen-Doss, & Ollendick, 2013). For instance, although PTSD is no longer classified as an anxiety disorder, anxiety may be mistaken for PTSD if a connection between the symptoms and any history of trauma is not identified. Cases in which children exhibit an inability to move past frightening or stressful situations should be evaluated for PTSD, as it is a serious and potentially debilitating disorder (Anxiety and Depression Association of America [ADAA], n.d.).

The following are two particularly effective diagnostic interviews:

- Anxiety Disorders Interview Schedule for Children (ADIS-C)
- Schedule for Affective Disorders and Schizophrenia-Children's Version (K-SADS) (Southam-Gerow & Chorpita, 2007)

Assessing anxiety may require using multiple methods to gather information in order to understand a child or adolescent's behavior across the many settings in which he or she functions (e.g., school and home). Typically, questionnaires and interviews are used to assess anxiety. Questionnaires that measure anxiety disorders include:

- Revised Children's Anxiety and Depression Scale
- Screen for Children's Anxiety and Related Disorders (SCARED)
- Spence Children's Anxiety Scale (SCAS) (Southam-Gerow & Chorpita)
- Fear Survey Schedule for Children-Revised (Ollendick, 1983)
- Beck Anxiety Inventory

The Multidimensional Anxiety Scale for Children (MASC) does not assess *DSM* disorders. All of these measures have strong psychometric profiles (Southam-Gerow & Chorpita).

## Comorbidity

Youth diagnosed with an anxiety disorder may also have other mental health disorders. Research has revealed anxiety disorders to be comorbid with attention-deficit/hyperactivity disorder (ADHD), conduct disorder (CD), depression, and dysthymia (Southam-Gerow & Chorpita, 2007). In addition, studies show that one-third of youth having one anxiety disorder meet the criteria for two or more anxiety disorders (AACAP, 1997). Furthermore, it has been found that anxiety appears to precede depression; research indicates that between 28 and 69 percent of youth with anxiety disorders have comorbid major depression (AACAP). When depression and anxiety occur together, there is a significantly higher risk for impairment (Cummings, Caporino, & Kendall, 2014).

Substance use disorder may also co-occur with anxiety disorders (Compton, Burns, & Egger, 2002; Grant et al., 2004). Some research has found that older youth may use alcohol and other substances to reduce the symptoms of anxiety (Jellinek, Patel, & Froehle, 2002). This practice is known as self-medication. Merriam-Webster defines self-medication as “medicating oneself especially without the advice of a physician” (2014). Self-medication can be extremely detrimental because the use or abuse of substances can ultimately worsen symptoms, and certain substances may actually generate symptoms of anxiety.

## Treatments

The treatment of anxiety disorders in youth is usually multimodal in nature. Wide-ranging treatments have been described in the literature, but only two primary treatments have been designated as evidence-based: cognitive behavioral therapy (CBT) and treatment with selective serotonin reuptake inhibitors (SSRIs) (see Ollendick & King, 2012). It is worth noting that CBT has been tested and found to be effective for anxiety disorders in youth in over 35 separate randomized trials. Treatments are outlined in Table 4.

### Psychological Treatments

The many psychological treatments available to treat youth with anxiety disorders are described in the paragraphs that follow.

#### **Behavioral Therapy and Cognitive Behavioral Therapy**

Behavioral therapy and cognitive behavioral therapy (CBT) are the most studied and best-supported treatments for helping youth diagnosed with an anxiety disorder (Chorpita & Southam-Gerow, 2006; Silverman, Ollendick, & King, 2012; Pina & Viswesvaran, 2008). These approaches, though diverse, typically include what is called exposure therapy. Exposure treatment involves exposing youth in a graduated fashion to the non-dangerous situations that they fear, with a focus on having them learn that their anxiety will decrease over time. As an example, youth afraid of talking to peers would practice conversations numerous times until they felt less anxious about doing so. Often, exposure therapy involves using a hierarchy, or fear ladder, such that youth may be exposed to moderately stressful situations and work towards more difficult ones. This approach allows these youth to experience mastery and increases their self-confidence.

Other elements common to behavioral therapy and CBT include psychoeducation, relaxation, and cognitive skills. Psychoeducation entails teaching older youth and parents about what causes anxiety, the effects of anxiety, how to distinguish between problematic and non-problematic anxiety, and how to overcome problematic anxiety. Psychoeducation also teaches youth and parents to monitor levels of anxiety across a variety of situations. Both forms of therapies often use praise and/or rewards to encourage the youth's progress. Both also include relationship building between the therapist and the parents and children. Relaxation entails teaching youth how to relax through breathing exercises or by alternating muscle tension and release. Cognitive skills involve teaching youth how to observe and change their thinking so they can change how they feel and reduce their feelings of anxiety.

Most versions of behavioral therapy and CBT include parental involvement, with some versions involving the parents attending all sessions with their children. In these approaches, parents learn the same skills as their children. In addition, the parent is involved in the exposure therapy situations and in the maintenance of gains made following treatment.

Both behavioral therapy and CBT have been found to be helpful to youth of all ages and can be administered in individual and group settings (Chorpita & Southam-Gerow, 2006; Ollendick & King, 2012; Silverman, Pina, & Viswesvaran, 2008). They have also been delivered with good effects in schools, clinics, hospitals, daycare centers, and homes. Evidence supporting CBT has been found across a variety of racial and ethnic groups, including Caucasian, African American, Latino, Asian, and Multiethnic.

Because of long waiting lists, lack of clinical specialists, and a multitude of other reasons, only about 25 percent of all clinically anxious young people receive the help they need (Spence et al., 2011). Computer based CBT was created to combat this gap in care. Although it is in its infantile stages, Spence et al. reports no significant difference between computer based CBT treatments and in-house clinic based CBT and user feedback was, for the majority of respondents, positive (2011).

### **Other Therapies with Research Support**

There are several other treatments with modest levels of support. For example, educational support treatment, which involves providing support and education about anxiety to parents and youth with anxiety problems, has shown some promise in a several studies (Ollendick et al., 2009). There is also some support in one study for the use of hypnosis in youth having high levels of test-taking anxiety (Chorpita & Southam-Gerow, 2006).

### ***Pharmacological Treatments***

Before the mid-1990s, evidence about the effectiveness of the variety of medications (e.g., tricyclic antidepressants, benzodiazepines) used to treat most childhood anxiety disorders was mixed (Bernstein & Kinlan, 1997; Coghill, 2002; Kearney & Silverman, 1998; Velosa & Riddle, 2000). Today, selective serotonin reuptake inhibitors (SSRIs) are generally the first pharmacological treatment for children with anxiety disorders. (Nutter et al., 2012). However, the FDA issued a public health advisory regarding the safety of SSRIs in children with major depressive disorder due to the risk of increased suicide attempts and suicidal ideation (Nutter et al.). In addition, although some antidepressants are approved by the FDA for use in children, not all are (FDA, 2007). The FDA did require additional testing to be done on suicidal ideation in youth taking SSRIs in addition to an antidepressant, and at least one study showed improvement. However, the study was scrutinized for not using an untreated class in their study. An evidenced-based review of pharmacological treatments for anxiety disorders in children additionally supports the use of SSRIs as part of the treatment regimen (Strawn & McReynolds, 2012); however, the study's authors still warn of the possible increased risk in suicidal thoughts in young people using SSRIs. Finally, it should be noted that when some children take SSRIs, activation or initial worsening of symptoms occurs, but this often has little bearing on the long-term prognosis (Sullivan, 2014).

Benzodiazepines have also been shown to be effective in the treatment of anxiety disorders, but they are not a first choice treatment because they increase the risk of behavioral disinhibition in children (Nutter et al., 2012 and Strawn & McReynolds, 2012). However, for a child with panic disorders, benzodiazepines may be helpful at the beginning of a treatment path that includes SSRIs (Strawn & McReynolds). This is because benzodiazepines may control symptoms until antidepressants can take effect (Oregon State University [OSU], n.d.).

Treating a child with anxiety requires patience and persistence. Families and physicians must work together to find the proper medication and dosage. Some physicians choose to change the prescribed medication in one of two ways: by discontinuing the first and beginning the second, or by cross-tapering, a process of titrating down the old medication and increasing the new (Sullivan, 2014). Cross-tapering is only successful when the initial medication is stopped at the appropriate time. Physicians may also choose to keep the child on a combination of medications (Sullivan).

The AACAP suggests that pharmacotherapy should not be used as the sole intervention for anxiety disorders in youth. Instead, it should be used in conjunction with behavioral or psychotherapeutic treatments (1997). One large, multi-site controlled study found that, in the treatment of GAD, SAD, and social anxiety disorder, a combination of pharmacotherapy and CBT was superior to either treatment alone or a placebo (Walkup et al., 2008).

### ***Unproven Treatments***

Treatments that are unproven or lack the necessary research to be called evidence-based do exist. These include, but are not limited to, play therapy, psychodynamic therapy, and the use of biofeedback. Although there is very little support for these treatments at this time, future research may later demonstrate their positive effects on youth with anxiety.

Regarding psychopharmacological interventions, there are several medications with either little evidence of efficacy or with high levels of risk. For example, there are no controlled studies evaluating the efficacy of antihistamines for anxiety disorders in youth (AACAP, 1997). The benefit of herbal remedies is also considered unproven.

Furthermore, due to the risks of impaired cognitive functioning and tardive dyskinesia (a potentially permanent involuntary movement disorder caused by the long-term use of neuroleptic drugs), neuroleptics are not recommended for treating anxiety symptoms in youth who do not have a co-occurring diagnosis of Tourette's syndrome or psychosis (AACAP, 1997; AACAP, 2000).

### ***Cultural Considerations***

Unless otherwise cited, information in this section is taken from the DSM-5 (APA, 2013a)

The understanding of anxiety disorders may vary significantly from culture to culture. Studies with participants from diverse ethnic backgrounds have become more common in recent years; however, literature in the field is greatly lacking (Austin & Chorpita, 2004; Safren et al., 2000). For instance, some studies have found differing levels of anxiety symptoms between African-American and Caucasian youth, although the differences have not been consistent across studies (Compton, Nelson, & March, 2000; Last & Perrin, 1993). The *DSM-5* states that the prevalence of anxiety disorders is greater in American Indians than non-Hispanic whites. Furthermore, non-Hispanic whites are more likely than other races (Hispanic, African American, or Asian) to be diagnosed with an anxiety disorder.



**Table 4**  
**Summary of Treatments for Youth with Anxiety Disorders**

<b>What Works</b>	
Behavioral & cognitive behavioral therapy (CBT)	Treatment that involves exposing youth to the (non-dangerous) feared stimuli and challenging the cognitions associated with the feared stimuli with the goal of the youth's learning that anxiety decreases over time
Selective serotonin reuptake inhibitors (SSRI)	Treatment with certain SSRIs have been proven to help with anxiety; however, SSRIs may increase suicidal ideation in some youth
Benzodiazepines	While proven effective, not a first choice treatment because of an increase in the risk of behavioral disinhibition
<b>What Seems to Work</b>	
Educational support	Psychoeducational information on anxiety provided to parents, usually in a group setting
Computer-based behavioral & cognitive behavioral therapy (CBT)	CBT administered electronically to eliminate long waiting periods or lack of clinical experts in a given area
<b>Not Adequately Tested</b>	
Play therapy	Therapy using self-guided play to encourage expression of feelings and healing
Antihistamines or herbs	No controlled studies on efficacy
Psychodynamic therapy	Therapy designed to uncover unconscious psychological processes to alleviate the tension thought to cause distress
Biofeedback	Minimal support for efficacy
Antipsychotics/neuroleptics	High level of risk of impaired cognitive functioning and tardive dyskinesia with long-term use; contraindicated in youth who do not also have Tourette's syndrome or psychosis

Culture and ethnicity are important considerations for the clinician assessing anxiety in youth because of how child behaviors are perceived within a cultural group. For instance, not all cultural groups use the term "anxiety." Chen, Reich, and Chung (2002) noted that, within some Asian populations, the term "anxiety" is rarely used, whereas terminology such as "being nervous" or "being tense" are more commonly used. The cultural and ethnic background of a family will also affect emotional development, and not all cultures share the same views on emotional expression and regulation (Matsumoto, 1990; Fredrickson, 1998; Friedlmeier & Trommsdorff, 1999). For example, Asians may describe symptoms of anxiety as physical complaints, since physical ailments are more acceptable. Furthermore, people of certain cultures may understand their symptoms as a defined illness known only to their culture. These preconceived notions can make diagnosis more complex.

The APA sets forth diagnosis-specific cultural considerations in the *DSM-5*. The *DSM-5* also advises clinicians to distinguish between separation anxiety disorder (SAD) and the value a culture may place on

interdependence among the family. Selective mutism may be an appropriate diagnosis for a child who immigrates to a new country but refuses to speak the new language even with adequate comprehension of that new language. Non-Latino whites, African Americans and Native Americans have significantly higher rates of specific phobia than those of Asian and Latino descent.

Social anxiety disorder (social phobia) has a counterpart disorder in Asian cultures, specifically Japan and Korea, called *taijin kyofusho*, which is associated with the fear that one makes other people feel uncomfortable. It may reach delusional tendencies. Additionally, social anxiety disorder is lower in immigrants of both Latino and non-Latino white groups. Some groups may be more likely to report social anxiety but not show a prevalence of social anxiety disorder.

Panic disorders vary across cultures, and that variability may be influenced by rates of fear about mental and somatic symptoms of anxiety. Whether a panic attack is expected or unexpected may also change based on cultural expectations. In Vietnam, a panic attack in a windy environment may be associated with that wind because of *trúng gió*, meaning “hit by the wind.” Latin Americans may experience *ataque de nervios* including trembling, screaming, or crying uncontrollably; aggressive or suicidal behavior; and depersonalization or derealization. This may last longer than a few minutes, and may meet the criteria of conditions other than a panic attack. In Cambodia, *khyal* attacks, or “soul loss,” may accompany types of exertion. In the U.S., African Americans are significantly more functionally impaired by anxiety than non-Latino whites. Non-Latino Caribbean blacks have higher rates of objectively defined severity when diagnosed with panic disorder. However, African-American and African-Caribbean groups have lower rates of panic disorder. The *DSM-5* suggests that this may show that substantial severity and impairment is required for diagnosis in individuals of African descent. The criteria for panic attacks vary across cultures, but cultural-specific criteria should not count as one of the four required symptoms.

Cultures also vary how they express generalized anxiety disorder (GAD). Somatic or cognitive symptoms may dominate, but the differences typically present more at the beginning of the disorder. The *DSM-5* notes that propensity for excessive worrying is not tied to a culture, although excessive worrying about a specific topic may be culturally specific. Clinicians should consider social and cultural context when evaluating whether worries are excessive by topic.

### **Prevalence by Gender or Ethnicity**

The *DSM-5* notes that females are two times more likely to suffer from anxiety disorders than males. There are also variations in prevalence based on the child’s ethnicity. Table 5 lists the prevalence of anxiety disorders by gender and ethnicity (prevalence is for all ages of population unless specified).

There are limited studies that examine the prevalence of anxiety disorders in lesbian, gay, bisexual and transgender (LGBT) populations, but those that do point to an increased risk in anxiety in this subgroup (Institute of Medicine, 2011; Mutanski, 2011).

### **Overview for Families**

It is normal for all children to experience anxiety. Anxiety should be expected in the healthy development of a child. The difference between regular anxiety and an anxiety disorder is that an anxiety disorder is debilitating. It leaves the child unable to function in a normal, productive manner (AACAP, 2012). Most young children show fears of the dark, storms, animals, separation, or strangers. Children with an anxiety disorder often display an overly tense and sometimes agitated demeanor. Parents should not dismiss their children’s anxieties and should be alert to signs of severe anxiety (AACAP). Early intervention can prevent complications (AACAP).

There are several different anxiety disorders. General symptoms of each are outlined in Table 6.

If the child's fears or anxieties are frequent, severe, and interfere with the child's life activities, the family should seek an evaluation by a qualified mental health professional or a child and adolescent psychiatrist (AACAP, 2012).

**Table 5**  
**Prevalence by Ethnicity and Gender**

Disorder	Prevalence by Country or Ethnicity	Prevalence by Gender
Separation anxiety disorder (SAD)	U.S. adults: 0.9% – 1.9% U.S. adolescents: 1.6% U.S. children: 4.0%	For children in clinical settings, equally common in males and females For children in community setting, more frequent in females
Selective mutism	No variation in ethnicity	No variation in gender
Specific phobia <sup>†</sup>	U.S. and Europe: 6% – 9% Asia, Africa, and Latin America: 2% – 4%	Female* to male: 2:1
Social anxiety disorder (social phobia)	U.S.: 7% When compared to non-Hispanic whites, higher prevalence in American Indians and lower in people of Asian, Latino, African American and Afro-Caribbean descent. Europe: 2.3% Worldwide: 0.5% – 2.0%	Female to male: 1.5:1 to 2.2:1
Agoraphobia	Worldwide: 1.7%	Female to male: 2:1
Generalized anxiety disorder	U.S.: 2.9% Other countries: 0.4% – 3.6%	Female to male: 2:1
Panic disorder	U.S. and Europe: 2% – 3% When compared to non-Hispanic whites, significantly higher prevalence in American Indians and significantly lower in people of Asian, Latino, African American and Afro-Caribbean descent. Asia, Africa, and Latin America: 0.1% – 0.8%	Female to male: 2:1

Source: APA. 2013a.

\*Females predominately experience specific phobias to animals, the natural environment, and situational concerns; both genders equally experience blood-injection-injury phobia.

†Females are affected more frequently than males, beginning in childhood and peaking in adolescence at a rate of approximately 2:1.

**Table 6**  
**General Symptoms of Anxiety Disorders**

<b>Separation Anxiety Disorder</b>
<ul style="list-style-type: none"> <li>• Constant thoughts and fears regarding well-being of parents and caretakers</li> <li>• Refuses to go to school</li> <li>• Frequent stomach aches and other physical complaints when separation from major attachment figure occurs or is anticipated</li> <li>• Extreme worries about sleeping away from home</li> <li>• Panic or tantrums at times of separation from parent(s) or attachment figures</li> <li>• Persistent and excessive fears of being apart from major attachment figure</li> <li>• Recurring separation-themed nightmares</li> </ul>
<b>Social Anxiety Disorder/Social Phobia</b>
<ul style="list-style-type: none"> <li>• Extreme fear of meeting or talking to people</li> <li>• Avoids social situations or has few friends</li> <li>• The anxiety must occur in peer settings and not just in interactions with adults</li> </ul>
<b>Post-Traumatic Stress Disorder (PTSD)</b> <i>(In DSM-5, no longer listed as an anxiety disorder)</i>
<ul style="list-style-type: none"> <li>• Having frequent memories of the traumatic event, or, in younger children, repeating some or all of the trauma over and over in play</li> <li>• Acting or feeling like the experience is happening again</li> <li>• Developing physical pains when reminded of the event</li> <li>• Worries about dying at a young age</li> <li>• Shows more sudden and extreme emotional reactions</li> <li>• Acts younger than their age</li> </ul>
<b>Specific Phobia</b>
<ul style="list-style-type: none"> <li>• Extreme fear of a specific thing or situation (e.g. animals, needles, flying)</li> <li>• Fear must cause significant distress and interfere with usual activities</li> </ul>
<b>Generalized Anxiety</b>
<ul style="list-style-type: none"> <li>• Excessive worrying about things before they happen</li> <li>• Restlessness or feeling on edge</li> <li>• Sleep disturbance</li> </ul>
<b>Panic Disorder</b>
<ul style="list-style-type: none"> <li>• Abrupt change from calm to anxious state reaching its peak within minutes, with symptoms including but not limited to:</li> <li>• Intense fearfulness</li> <li>• Feeling short of breath or smothered</li> <li>• Dizziness</li> <li>• Trembling or shaking</li> <li>• Fear of dying or losing control (going crazy)</li> <li>• Parathesia (numbness or tingling sensations)</li> </ul>

*continued next page*

**Table 6 (continued)**  
**General Symptoms of Anxiety Disorders**

**Agoraphobia**

- Consistent significant fear about two (or more) of the situations listed below:
- Using public transportation
- Being in open spaces
- Being in enclosed spaces
- Standing in line or being in a crowd
- Being outside of the home alone
- The child avoids an area or requires a companion because:
- Fears that escape may not be easy, or
- Fears that help might not be available if symptoms occur (includes panic or fear of incontinence).
- The fear of a situation is out of proportion to the actual danger in the situation or the sociocultural context therein.
- The fear causes clinically significant distress or impairment in functioning.
- A comorbid medical condition is present (such as a bowel disorder) due to the anxiety.
- The fear is not better explained by the symptoms of another mental disorder.

Note: Agoraphobia will be diagnosed without respect to panic disorder. If a child meets the diagnostic criteria of both disorders, both should be assigned to the child.

Sources: APA, 2013a; AACAP, 2012, 2011, 2004.

**Resources and Organizations**

**American Academy of Child, & Adolescent Psychiatry (AACAP)**

<http://www.aacap.org/>

**Anxiety Disorders Resource Center**

[https://www.aacap.org/aacap/Families\\_and\\_Youth/Resource\\_Centers/Anxiety\\_Disorder\\_Resource\\_Center/Home.aspx](https://www.aacap.org/aacap/Families_and_Youth/Resource_Centers/Anxiety_Disorder_Resource_Center/Home.aspx)

**Anxiety and Depressive Disorders of America**

<https://adaa.org/>

**Association for Behavior and Cognitive Therapies**

<http://www.abct.org/Home/>

**Mental Health America**

<http://www.mentalhealthamerica.net/conditions/anxiety-disorders>

**National Anxiety Foundation**

<http://www.nationalanxietyfoundation.org/>

**National Institute of Mental Health (NIMH)**

<https://www.nimh.nih.gov>

**Social Phobia/Social Anxiety Association**

<http://socialphobia.org/>

**Society of Clinical Child & Adolescent Psychology**

<https://www.clinicalchildpsychology.org/>

**Substance Abuse and Mental Health Services Administration (SAMHSA)**

<https://www.samhsa.gov/>

**Virginia Resources and Organizations**

**University of Virginia Health System**

Neurosciences and Behavioral Health Center

Mental Health Conditions

<https://neurosciences.uvahealth.com/services/psychiatry/mental-health-conditions>

**Anxiety Disorders**

<https://neurosciences.uvahealth.com/services/psychiatry/mental-health-conditions/anxiety-disorders>

**Virginia Commonwealth University Medical Center**

Children's Mental Health Resource Center

<https://www.chrichmond.org/Children's-Mental-Health-Resource-Center.htm>

**Virginia Polytechnic Institute and State University**

Child Study Center

<https://www.psyc.vt.edu/labs/csc>

**Psychological Services Center**

<http://www.psyc.vt.edu/outreach/psc>

**References**

- Albano, A., Chorpita, B., & Barlow, D. (2003). Childhood anxiety disorders. In E. Mash, & R. Barkley (Eds.), *Child psychopathology* (2<sup>nd</sup> Ed.). New York: Guilford Press, 279-329.
- American Academy of Child, & Adolescent Psychiatry (AACAP). (1997). Summary of the practice parameters for the assessment and treatment of children and adolescents with anxiety disorder. *Journal of American Academy of Child and Adolescent Psychiatry*, 36(10).
- American Academy of Child, & Adolescent Psychiatry (AACAP). (2000). Practice parameters for the assessment and treatment of children and adolescents with schizophrenia. Updated 2016. Retrieved from [http://www.jaacap.com/article/S0890-8567\(13\)00112-3/pdf](http://www.jaacap.com/article/S0890-8567(13)00112-3/pdf)
- American Academy of Child, & Adolescent Psychiatry (AACAP). (2004). Facts for families: Panic disorders in children and adolescents. Updated July 2013. Retrieved from [https://www.aacap.org/AACAP/Families\\_and\\_Youth/Facts\\_for\\_Families/FFF-Guide/Panic-Disorder-In-Children-And-Adolescents-050.aspx](https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/Panic-Disorder-In-Children-And-Adolescents-050.aspx)
- American Academy of Child, & Adolescent Psychiatry (AACAP). (2011). Facts for families: Posttraumatic stress disorder (PTSD). Updated July 2013. Retrieved from [https://www.aacap.org/AACAP/Families\\_and\\_Youth/Facts\\_for\\_Families/FFF-Guide/Panic-Disorder-In-Children-And-Adolescents-050.aspx](https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/Panic-Disorder-In-Children-And-Adolescents-050.aspx)
- American Academy of Child, & Adolescent Psychiatry (AACAP). (2012). Facts for families: Anxiety and children. Updated October 2013. Retrieved from [https://www.aacap.org/AACAP/Families\\_and\\_Youth/Facts\\_for\\_Families/FFF-Guide/The-Anxious-Child-047.aspx](https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/The-Anxious-Child-047.aspx)
- American and Depression Association of America (ADAA). (2013). DSM-5: Changes to the diagnostic and statistical manual of mental disorders. Retrieved from <https://www.adaa.org/node/1882>
- American Psychiatric Association (APA). (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- American Psychiatric Association (APA). (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.
- American Psychiatric Association (APA). (2013a). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.
- American Psychological Association (APA). (2013b). APA practice central research roundup: Anxiety disorders in youth. Retrieved from <http://www.apapracticecentral.org/update/2013/09-12/anxiety-disorders.aspx>
- Anxiety and Depression Association of America (ADAA). (n.d.). Help your child manage traumatic events. Retrieved from <https://adaa.org/living-with-anxiety/children-and-teens/tips-parents-and-caregivers/help-your-child-manage-traumatic-events>
- Austin, A., & Chorpita, B. (2004). Temperament, anxiety, and depression: comparisons across five ethnic groups of children. *Journal of Clinical Child and Adolescent Psychology*, 33, 216-226.
- Barlow, D. (2002). *Anxiety and its disorders: The nature and treatment of anxiety and panic* (2<sup>nd</sup> ed.). New York: Guilford Press.
- Beidel, D., & Turner, S. (2005). *Childhood anxiety disorders: A guide to research and treatment*. New York: Routledge.
- Bernstein, G., & Kinlan, J. (1997). Summary of the practice parameters for the assessment and treatment of children and adolescents with anxiety disorders. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36, 1639-1641.
- Bufferd, S., Dougherty, L., Carlson, G., Rose, S., & Klein, D. (2012). Psychiatric disorders in preschoolers: Continuity from ages 3 to 6. *American Journal of Psychiatry*, 169(11), 1157-1164.
- Chen, Jian-P., Reich, L., & Chung, H. (2002). Anxiety disorders. *Western Journal of Medicine*, 176, 4.
- Chorpita, B., & Southam-Gerow, M. (2006). Treatment of anxiety disorders in youth. In E. Mash, & R. Barkley (Eds.), *Treatment of childhood disorders* (3<sup>rd</sup> ed.). New York: Guilford Press, 271-335.
- Christophersen, E., & Mortweet, S. (2001). Treatments that work with children: Empirically supported strategies for managing childhood problems. American Psychological Association.

- Coghill, D. (2002). Evidence-based psychopharmacology for children and adolescents. *Current Opinions in Psychiatry*, 15(4), 361-368.
- Compton, S., Burns, B., & Egger, H. (2002). Review of the evidence base for treatment of childhood psychopathology: Internalizing disorders. *Journal of Consulting and Clinical Psychology*, 70(6), 1240-1266.
- Compton, S., Nelson, A., & March, J. (2000). Social phobia and separation anxiety symptoms in community and clinical samples of children and adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 39, 1040-1046.
- Costello, E., Angold, A., & Keeler, G. (1999). Adolescent outcomes of childhood disorders: The consequences of severity and impairment. *Journal of the American Academy of Child and Adolescent Psychiatry*, 38, 121-128.
- Cummings, C. M., Caporino, N. E., & Kendall, P. C. (2014). Comorbidity of anxiety and depression in children and adolescents: 20 years after. *Psychological Bulletin*, 140(3), 816-845.
- Cunningham, N. R., Lynch-Jordan, A., Mezoff, A. G., Farrell, M. K., Cohen, M. B., & Kashikar-Zuck, S. (2013). Importance of addressing anxiety in youth with functional abdominal pain: Suggested guidelines for physicians. *Journal of Pediatric Gastroenterology and Nutrition*, 56(5), 469-474.
- Eaves, L., Silberg, J., Maes, H., Simonoff, E., Pickles, A., Rutter, M., Pickles, A., ... Hewitt, J. K. (1997). Genetics and developmental psychopathology: the main effects of genes and environment on behavioral problems in the Virginia twin study of adolescent behavioral development. *Journal of Child Psychology, & Psychiatry, & Allied Disciplines*, 38, 965-980.
- Eley, T., Bolton, D., O'Connor, T., Perrin, S., Smith, P., & Plomin, R. (2003). A twin study of anxiety-related behaviors in young children. *Journal of Child Psychology and Psychiatry*, 44, 945-960.
- Food and Drug Administration (FDA). (2006). FDA stance on antidepressant warnings unchanged by NIMH suicide findings. *FDC Reports*, 68(002), 16.
- Food and Drug Administration (FDA). (2007). Revisions to medication guide; medication guide antidepressant medicines, depression and other serious mental illnesses, and suicidal thoughts or actions. Retrieved from <https://www.fda.gov/downloads/Drugs/DrugSafety/InformationbyDrugClass/ucm100211.pdf> Not available December 2017.
- Fergusson, D., Horwood, L., & Beautrais, A. (1999). Is sexual orientation related to mental health problems and suicidality in young people? *Archives of General Psychiatry*, 56(10), 876-880.
- Fredrickson, B. (1998). Cultivated emotions: parental socialization of positive emotions and self-conscious emotions. *Psychological Inquiry*, 9, 279-281.
- Friedlmeier, W., & Trommsdorff, G. (1999). Emotion regulation in early childhood: A cross-cultural comparison between German and Japanese toddlers. *Journal of Cross-Cultural Psychology*, 30, 684-711.
- Grills-Tauchel, A. E., & Ollendick, T. H. (2012). *Phobic and anxiety disorders in youth*. Cambridge, MA: Hogrefe, & Huber.
- Grant, B., Stinson, F., Dawson, D., Chou, P., Dufour, M., Compton, W., ... Kaplan, K. (2004). Prevalence and co-occurrence of substance use disorders and independent mood and anxiety disorders: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Archives of General Psychiatry*, 61, 807-816.
- Huberty, T. (2002). Dealing with anxiety in children professional growth for school psychologists—Self study. National Association of School Psychologists. Retrieved from <http://www.nasponline.org/certification/anxiety.html>. Not available December 2017.
- Hudziak, J. (2010). *The Vermont family based approach: Addressing children's emotional and behavioral health*. [PowerPoint slides]. Retrieved from [http://www.uvm.edu/medicine/documents/CMS\\_Hudziak\\_Family\\_Approach\\_091410.pdf](http://www.uvm.edu/medicine/documents/CMS_Hudziak_Family_Approach_091410.pdf)
- Institute of Medicine (U.S.) Committee on Lesbian, Gay, Bisexual, and Transgender Health Issues and Research Gaps and Opportunities. (2011). *The health of lesbian, gay, bisexual, and transgender people: Building a foundation for better understanding*. Washington, DC: National Academies Press (US).
- Jellinek, M., Patel, B., & Froehle, M. (Eds.). (2002). *Bright futures in practice: Mental health* (Volume 1, Practice Guide). Arlington, VA: National Center for Education in Maternal and Child Health.
- Kearney, C., & Silverman, W. (1998). A critical review of pharmacotherapy for youth with anxiety disorders: Things are not as they seem. *Journal of Anxiety Disorders*, 12, 83-102.
- Langley, A., Bergman, L., McCracken, J., & Piacentini, J. (2004). Impairment in childhood anxiety disorders: Preliminary examination of the child anxiety impact scale-parent version. *Journal of Child and Adolescent Psychopharmacology*, 14, 105-114.
- Last, C., & Perrin, S. (1993). Anxiety disorders in African-American and white children. *Journal of Abnormal Child Psychology*, 21, 153-164.
- Matsumoto, D. (1990). Cultural similarities and differences in display rules. *Motivation and Emotion*, 14, 195-214.



- McLeod, B. D., Jensen-Doss, A., & Ollendick, T. H. (Eds.). (2013). *Diagnostic and behavioral assessment: A clinical guide*. New York: Guilford.
- Mutanski, B. (2011). Ethical and regulatory issues with conducting sexuality research with LGBT adolescents: A call to action for a scientifically informed approach. *Archives of Sexual Behavior*, 40(4), 673-86.
- Nutter, D., Pataki, C., Johnson, C., Larsen, L. H., Sylvester, C., & Windle, M. (2012). Pediatric generalized anxiety disorder medication. Updated October 2017. Retrieved from <https://emedicine.medscape.com/article/916933-medication>
- Ollendick, T. H. (1983). Reliability and validity of the Revised Fear Survey Schedule for Children (FSSC-R). *Behavior Research and Therapy*, 21, 685-692.
- Ollendick, T. H., & King, N. J. (2012). Evidence-based treatments for children and adolescents: Issues and controversies. In P.C. Kendall (Ed.), *Child and adolescent therapy: Cognitive-behavioral procedures* (pp. 499-519). New York: Guilford.
- Ollendick, T. H., Ost, L. G., Reuterskiold, L., Costa, N., Cederlund, R., Sirbu, C., ... Jarrett, M. A. (2009). One-session treatment of specific phobias in youth: A randomized clinical trial in the United States and Sweden. *Journal of Consulting and Clinical Psychology*, 77, 504-516.
- Oregon State University. (n.d.). RetroDUR criteria: Chronic benzodiazepine use in children and adolescents. Retrieved from [http://www.orpdl.org/durm/drug\\_articles/evaluations/benzos\\_kids.pdf](http://www.orpdl.org/durm/drug_articles/evaluations/benzos_kids.pdf)
- Pine, D., Cohen, P., Gurley, D., Brook, J., & Ma, Y. (1998). The risk for early-adulthood anxiety and depressive disorders in adolescents with anxiety and depressive disorders. *Archives of General Psychiatry*, 55, 56-64.
- Safren, S., Gonzalez, R., Horner, K., Leung, A., Heimberg, R., & Juster, H. (2000). Anxiety in ethnic minority youth: Methodological and conceptual issues and review of the literature. *Behavior Modification*, 24, 147-183.
- Self-medication. (2014). In *Merriam-Webster's medical dictionary*. Retrieved from <https://www.merriam-webster.com/medical/self-medication>
- Shelby, G., Shirkey, K., Sherman, A., Beck, J., Haman, K., Shears, A., ... Walker, L. (2013). Functional abdominal pain in childhood and long-term vulnerability to anxiety disorders. *Pediatrics*, 132(3), 475-482.
- Silverman, W., & Ginsburg, G. (1998). Anxiety disorders. In T. Ollendick and M. Hersen (Eds.), *Handbook of child psychopathology* (pp. 239-268). New York: Plenum.
- Silverman, W., Pina, A., & Viswesvaran, C. (2008). Evidence-based psychosocial treatments for phobic and anxiety disorders in children and adolescents. *Journal of Clinical Child, & Adolescent Psychology*, 37, 105-130.
- Southam-Gerow, M., & Chorpita, B. (2007). Anxiety in children and adolescents. In E. Mash, & R. Barkley (Eds.), *Assessment of childhood disorders* (4<sup>th</sup> ed.) (pp. 347-397). New York: Guilford.
- Spence, S. H., Donovan, C. L., March, S., Gamble, A., Anderson, R. E., Prosser, S., & Kenardy, J. (2011). A randomized controlled trial of online versus clinic-based CBT for adolescent anxiety. *Journal of Consulting and Clinical Psychology*, 79(5), 629-642.
- Strawn, J., & McReynolds, D. (2012). An evidence-based approach to treating pediatric anxiety disorders. *Current Psychiatry*, 11(9), 16-21.
- Sullivan, M. (2014). Treating childhood anxiety requires patience, persistence. Retrieved from <http://www.mdedge.com/clinicalpsychiatrynews/article/80078/pediatrics/treating-childhood-anxiety-requires-patience>
- U.S. Department of Health and Human Services. (1999). *Mental health: A report of the Surgeon General*. Rockville, MD.
- U.S. Public Health Service. (2000). Report of the Surgeon General's conference on children's mental health: A national action agenda. Washington, DC: Department of Health and Human Services.
- Velosa, J., & Riddle, M. (2000). Pharmacologic treatment of anxiety disorders in children and adolescents. *Child, & Adolescent Psychiatric Clinics of North America*, 9, 119-133.
- Walkup, J., Albano, A., Piacentini, J., Birmaher, B., Compton, S., Sherrill, J. T., ... Kendall, P. C. (2008). Cognitive behavioral therapy, sertraline, or a combination in childhood anxiety. *The New England Journal of Medicine*, 359(26), 2753-2766.

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