

# An Epidemiologic Perspective on Social Anxiety Disorder

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Social anxiety disorder (SAD) is among the most common mental disorders on a lifetime basis, ranging from 12% to 14%. The *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition, categorizes SAD as either generalized (fear/avoidance of multiple social situations) or nongeneralized (fearing only a limited number of social situations), with some overlap between the 2 subtypes. Generalized SAD is associated with more comorbid mental disorders, greater functional impairment, and lower health-related quality of life. Half of SAD patients have onset by age 13 years and 90% by age 23 years; however, SAD is rarely diagnosed or treated by the pediatrician, highlighting the low awareness level of SAD and the need to increase attention among physicians. Social anxiety disorder is associated with an increased risk for depression and a more malignant course, characterized by increased likelihood of suicide attempts and greater disease chronicity. SAD has an adverse impact on outcomes in patients with other comorbid mental conditions such as bipolar disorder, eating disorders, and personality disorders.

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On being asked if she would travel to Stockholm to collect her prize in person, she answered, “*I am not mentally able to withstand that. I have a social phobia and cannot stand these large crowds of people. But I will certainly write a speech.*”

—Elfriede Jelinek from Austria,  
2004 Nobel Prize winner in literature

This quote is emblematic of several of the key features of social anxiety disorder (SAD) (a.k.a. social phobia): it is common and may occur in otherwise very successful people. Though not pervasively disabling in the way that some other serious mental disorders (e.g., schizophrenia) are, it can restrict opportunities, rob individuals of chances for personal and professional growth, and cause considerable mental anguish.

This article will review the epidemiology of social anxiety disorder, with an emphasis on prevalence, clinical characteristics, and comorbid mental health conditions.

## PREVALENCE

Social fears are extremely common among individuals in the general population. A Canadian community survey of social fears of persons in the community<sup>1</sup> revealed that some fears, such as giving a speech in public, occur in 15% of individuals, comprising the most prevalent type of social fear. Other social fears, such as participating in a meeting (14%), talking to people not well known to the individual (13%), and walking into a room when others are already seated (13%), are also remarkably common. Social fears are so common, in fact, that it raises the question of whether these should be considered abnormal or pathologic. Clearly, if 15% of persons report at least moderate difficulty with speaking in public (and an even greater percentage reports minor distress or difficulty), what evidence is there that such fears lead to the kinds of distress or disability that would warrant their classification into a “mental disorder”?

Indeed, some scholars have questioned whether SAD should be considered a mental disorder.<sup>2</sup> They suggest that SAD fails to meet the criterion of “harmful dysfunction” necessary for labeling something a mental disorder. They further suggest that SAD yields problems for some individuals only because of societal demands (e.g., for performance) placed upon them in certain social contexts, and that this is not compatible with a “disorder” definition. We have countered with the opinion that we recognize, in clinical medicine and psychology, many conditions that stem from a coming together of innate (biological) susceptibility (e.g., heightened immune response) and changes in environmental milieu (e.g., increase in pollutants with

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increased industrialization in the past century) that yield recognizable clinical dysfunction (e.g., asthma).<sup>3</sup> But the question of whether or not social phobia qualifies as a “disorder” is more an academic exercise in semantics than a serious attempt at ascertaining whether (and how) social anxiety symptoms interfere with functioning in a meaningful way.

In the aforementioned community survey,<sup>1</sup> as many as 15% of persons admitted particular social fears (e.g., speaking in public); the median (and modal) number of social fears was zero. But the 90th, 95th, and 99th percentiles for total number of social fears in the survey were 4, 6, and 9, respectively, indicating that a minority of persons in the general population have *multiple* social fears. The question that then arises is whether having more social fears is associated with more disability. In that study, there was a clear, dose-response relationship between the number of social fears and the extent of self-reported dysfunction in multiple domains of functioning (i.e., education, occupation, personal life). Thus, it is apparent that social fears can be associated with meaningful decrements in functioning and quality of life. It is therefore possible to determine what proportion of individuals who admit social fears would meet the *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition (DSM-IV) criteria for SAD. In the aforementioned survey, the 12-month prevalence of DSM-IV–defined SAD was approximately 7%.<sup>1</sup>

Numerous large-scale, representative epidemiologic surveys have confirmed that SAD is extremely common, with point prevalence rates running as high as 16% in some studies,<sup>4</sup> but with most studies yielding estimates more in the range of 7% to 10% (12-month prevalence) and 12% to 14% (lifetime prevalence).<sup>5–7</sup> Virtually all of these studies find that SAD is among the most common mental disorder on a lifetime basis. Most recently, the National Comorbidity Survey Replication (NCS-R) confirmed that anxiety disorders are the most common category of mental disorders with a 12-month prevalence rate of 18.1%; among these, the 12-month prevalence of SAD was 6.8%, a rate exceeded only by that of specific phobias (8.7%).<sup>8</sup> Lifetime prevalence of SAD in the NCS-R was 12.1%, exceeded only by major depression (16.6%), alcohol abuse (13.2%), and specific phobias (12.5%).<sup>9</sup>

A reanalysis of the original National Comorbidity Survey (NCS) SAD data using more strict clinical significance criteria reduced the 12-month (past-year) prevalence of SAD by half (from 7.4% to 3.7%).<sup>10</sup> Interestingly, these data are fairly consistent with findings from the NCS-R that approximately 4.5% of persons in the general population have SAD that is either serious (2.0%) or moderate (2.5%) as defined by criteria that included (among other criteria) extent of work disability and impairment in functioning (as determined by the Sheehan Disability Scale<sup>11</sup>).<sup>8</sup> In this regard, SAD is not unlike other DSM-IV–defined mental disorders that show a range of severity. However,

compared to some other disorders such as major depression, SAD (and several other anxiety disorders such as posttraumatic stress disorder and specific phobia) had a higher proportion of cases categorized as mild.<sup>8</sup> A report from the Rhode Island Methods to Improve Diagnostic Assessment and Services (MIDAS) project also assessed the relationship between mood and anxiety diagnoses and the DSM-IV clinical significance criterion (i.e., sufficient distress or impairment).<sup>12</sup> In 1500 psychiatric outpatients examined with the Structured Clinical Interview for DSM-IV (SCID), investigators determined the percentage of patients who met symptom criteria but did not meet the DSM-IV clinical significance criterion for major depressive disorder and anxiety disorders. They found that although no patient who met the symptom criteria for current major depressive disorder or posttraumatic stress disorder failed to meet the clinical significance criterion, there was variability among the remaining anxiety disorders (including SAD) in the percentage of symptomatic patients who met the clinical significance criterion.<sup>12</sup> Taken together, data from these 2 studies suggest that some reconceptualization of the requisite severity (clinical significance) criteria for SAD (and possibly, other phobic disorders) may be necessary in future revisions of DSM-IV. Thus, for the time being, if we use the most conservative estimates, we still find that SAD has a 1-year prevalence of approximately 4%, still making it one of the most common mental disorders.

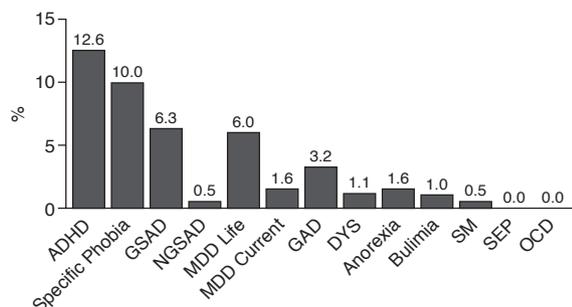
It should come as no surprise that SAD patients, who are often uncomfortable speaking to new people, seldom seek care for their social anxiety.<sup>13</sup> Numerous barriers to care exist, including uncertainty on the part of patients about where to go for help, financial barriers, and fear of what others might think or say about them getting care.<sup>14</sup> Furthermore, perceived need may be relatively low in SAD (and in anxiety disorders generally, compared with depressive disorders),<sup>13,15</sup> perhaps reflecting the more “trait-like” aspects of the disorder that may leave sufferers feeling uncertain about how and if mental health treatment might be beneficial to them. Access to treatment for SAD may be improved by building public and professional awareness of available services,<sup>14</sup> and of the success rates of existing evidence-based treatments.

## CLINICAL CHARACTERISTICS

### Subtype: Generalized Social Anxiety Disorder

DSM-IV recognizes a generalized subtype of SAD. This subtype is characterized by fear and/or avoidance of multiple (“most,” according to DSM-IV) social situations.<sup>16</sup> Although community surveys using strict DSM-IV criteria for this subtype have yet to be conducted, surveys that approximate these criteria suggest that the point or past-year prevalence of generalized social anxiety disorder (GSAD) is approximately 3% to 5%.<sup>17</sup> It is likely that

Figure 1. One-Year Prevalence of Mental Disorders (Assessed by Parental Interview) in Children and Adolescents From a Primary Care Pediatric Practice<sup>a</sup>



<sup>a</sup>Data from Chavira et al.<sup>21</sup>

Abbreviations: ADHD = attention-deficit/hyperactivity disorder, DYS = dysthymia, GAD = generalized anxiety disorder, GSAD = generalized social anxiety disorder, MDD = major depressive disorder, NGSAD = nongeneralized social anxiety disorder, OCD = obsessive-compulsive disorder, SM = selective mutism, SEP = separation anxiety disorder.

this group of persons with GSAD in the general population overlaps substantially with the subset of individuals with SAD in the NCS-R who are seriously or moderately impaired<sup>8</sup>; this remains to be empirically demonstrated in future analyses of the NCS-R data.

Generalized social anxiety disorder is the most common form of SAD among patients presenting to a physician or other primary healthcare provider.<sup>18,19</sup> Compared to the nongeneralized subtype, GSAD is associated with more comorbid mental disorders, greater functional impairment, and lower health-related quality of life. In a study of health maintenance organization (HMO) patients with GSAD,<sup>19</sup> persons with average-severity GSAD had probabilities of graduating from college that were 10 percentage points lower, earned wages that were 10% lower, and had probabilities of holding a technical, professional, or managerial job that were 14 percentage points lower than the comparison group.

### Subtype: Nongeneralized Social Anxiety Disorder

Individuals with nongeneralized SAD fear only a limited number of situations or just a single situation compared with those with GSAD, who fear *most* social situations. However, there is some overlap of fears between these 2 subtypes; for example, 80% of people with nongeneralized SAD fear public speaking, which is experienced commonly by patients with the generalized subtype. Whether these 2 subtypes represent a spectrum of severity of 2 distinct forms of SAD is uncertain.<sup>16,17</sup>

### Presentations in Childhood

Social anxiety disorder is an early-onset disorder,<sup>20</sup> with 50% of individuals having onset by age 13 years and 90% by age 23 years.<sup>9</sup> In a recent survey of patients from a

primary care pediatrics practice, we found that SAD (especially the generalized subtype) was the second most common anxiety disorder (after specific phobias) in children and teenagers (Figure 1).<sup>21</sup> However, SAD had rarely been diagnosed by the pediatrician, and few children or adolescents with SAD had received any clinical care for this condition. These findings highlight the relatively low level of awareness of SAD among pediatricians and indicate the need for efforts to remediate this problem (perhaps implementing screening for the disorder, which can be efficiently done using widely available parent- or child-report measures)<sup>22</sup> for a disorder that so often manifests in childhood.

As is the case in adults, many of the youth with SAD in the aforementioned primary care pediatrics study had already developed episodes of major depression; this was particularly true of children and adolescents with GSAD.<sup>23</sup> A large, prospective community cohort study<sup>24</sup> of older adolescents and young adults from Munich, Germany, showed that SAD predicts the subsequent development of depressive disorder. Further analysis of this dataset suggests that this risk is not specific to SAD, but is probably shared by other anxiety disorders.<sup>25</sup> But SAD, which was the most prevalent of the anxiety disorders at the baseline assessment, was shown to be associated not only with increased risk for subsequent depression, but also with a more malignant course of depression, characterized by more intense suicidal ideation, increased likelihood of suicide attempt(s), and greater disease chronicity (persistence or recurrence).<sup>24</sup> These data suggest that the presence of SAD in pediatric patients warrants early and aggressive intervention. Whether or not such intervention will mitigate the course of illness deserves to be carefully studied.

Selective mutism (SM) is a childhood disorder characterized by a consistent failure to speak in specific social situations despite speaking in others.<sup>16</sup> Children learning a second language may display reticence about speaking, but SM would only be diagnosed if this were prolonged and pervasive.<sup>26</sup> Although the etiology of SM is uncertain, it is thought to involve a multifactorial pathogenesis, including contributions in individual cases from sources such as subtle communication (speech and language) problems, deficits in social skills, and, in nearly all cases, excessive social anxiety.<sup>27</sup>

Most experts consider SM to be a severe, very early-onset manifestation of GSAD.<sup>28</sup> Its prevalence in school-aged children is slightly under 1%,<sup>29,30</sup> and thus, it is clearly not synonymous with SAD, which is much more common. In one of the few studies of the course of SM in a nonclinical sample,<sup>29</sup> affected children were found to be highly impaired, and symptoms were stable for at least 6 months (i.e., the duration of the study follow-up period). The natural course of SM is unknown, but clinical experience suggests it is extremely rare for it to persist, as such,

into adolescence. Some cases of SM may remit spontaneously, but others are thought to persist through the expression of SAD symptoms to a greater or lesser degree. Prospective longitudinal studies of children identified with SM are needed to determine the extent to which they go on to develop SAD and to identify which additional factors determine this particular developmental course.

## COMORBID MENTAL HEALTH CONDITIONS

It has long been appreciated that SAD (especially GSAD) is frequently comorbid with other anxiety disorders and with major depressive disorder.<sup>17,31–36</sup> An association with substance use disorders is also apparent.<sup>37,38</sup> Less appreciated until recently, however, has been the extent of comorbidity between SAD and bipolar and eating disorders.

### Bipolar Disorder

The Systematic Treatment Enhancement Program for Bipolar Disorder (STEP-BD) study is a longitudinal outcomes study of patients with bipolar I or II disorder. Data from the first 500 study patients revealed that lifetime anxiety disorder comorbidity was present in more than half of patients with bipolar disorder.<sup>39</sup> Social anxiety disorder was the most common anxiety disorder in this group (12.7% current; 22.0% lifetime). Anxiety disorder comorbidity in bipolar patients was associated with a younger age at onset of bipolar disorder and a poorer prognosis for recovery from the index episode of bipolar illness.

The impact of comorbid anxiety disorders on outcomes was examined in a consecutive clinical sample of patients (N = 138) with bipolar disorder.<sup>40</sup> In this prospective, 3-year study, 55.8% of bipolar patients had 1 or more comorbid anxiety disorders, and 31.8% of patients had 2 or more comorbid anxiety disorders. Generalized anxiety disorder (31.2%), panic disorder (26.8%), and SAD (17.4%) were the most common comorbid anxiety disorders in this sample. Comorbid anxiety disorders were associated with greater illness severity and chronicity (i.e., more years spent ill).

These studies have important implications for identifying occult bipolar disorder in patients with SAD and for managing patients with both bipolar disorder and SAD. They suggest, for example, that comorbid anxiety and bipolar disorder may be a more difficult-to-treat disorder, requiring more work to develop therapies that are more effective for this subgroup of patients.

### Eating Disorders

Comorbidity between eating disorders and anxiety disorders was the subject of a recent report from the Price Foundation Collaborative Genetics Study of Eating Disorders.<sup>41</sup> The SCID was given to 672 patients with eating disorders who were participating in a study of the genetic

basis of these disorders. Subjects had anorexia nervosa (N = 97), bulimia nervosa (N = 282), or both anorexia nervosa and bulimia nervosa (N = 293). About two thirds (63.5%) of patients had at least 1 lifetime anxiety disorder. Obsessive-compulsive disorder (41%) and SAD (20%) were the most common comorbid anxiety disorders. There were no differences among the types of eating disorders in the prevalence of SAD. Other studies have found strong phenomenological relationships between eating disorders and social anxiety,<sup>42</sup> and there is evidence to suggest that these disorders co-aggregate in families.<sup>43</sup> Additional studies of the longitudinal and neurobiological relationships between SAD and eating disorders, and their mutual impact on treatment, are sorely needed.

### Personality Disorders

Data on the relationship between personality disorders and SAD come from the Harvard/Brown Anxiety Research Program, a multisite, prospective, longitudinal, naturalistic study.<sup>44</sup> In a report from this study, patients (N = 514) were assessed for time to remission during 5 years of follow-up. The presence of avoidant personality disorder predicted a 41% lower likelihood of remission in patients with SAD (about half of whom had GSAD).

The 2001–2002 National Epidemiologic Survey on Alcohol and Related Conditions (N = 43,093) examined the relationship between Axis I and Axis II disorders in a representative, general population sample.<sup>45</sup> In this survey, 61% (SE = 1.7%) of persons with SAD had a personality disorder and, specifically, 30.3% (SE = 1.6%) of persons with SAD had avoidant personality disorder (APD). This shows that APD is common among persons with SAD in the community, and is not merely an artifact of help-seeking, as might be seen in clinical samples.

The Collaborative Longitudinal Personality Disorders Study explored associations between personality disorders and Axis I disorders over time in adult outpatients (N = 544).<sup>46</sup> Avoidant personality disorder was significantly associated with SAD over time, and improvement in one disorder correlated with improvement in the other. These investigators concluded that APD and SAD reflect shared dimensions of psychopathology, consistent with the conclusion of several other investigative teams that the diagnosis of APD may simply be a descriptor (i.e., on Axis II) of the presence of pervasive GSAD symptomatology. It remains to be seen whether APD will survive as a distinct entity in DSM-IV, or whether it will be subsumed within the GSAD diagnosis.

## SUMMARY

Social anxiety disorder is the most common anxiety disorder, even using conservative prevalence estimates. Onset of SAD is usually in childhood or early adoles-

cence. Childhood-specific manifestations of SAD (e.g., selective mutism) are sometimes encountered, but less commonly than the usual presentation that is highly reminiscent of (and, in some cases, continuous with) the adult form of the disorder. The generalized subtype of SAD (GSAD) causes more impairment and is more commonly associated with other mental health disorders and substance abuse than the nongeneralized subtype. Avoidant personality disorder on Axis II overlaps considerably with GSAD on Axis I, and may be considered a descriptor of increased severity of GSAD, rather than an independent disorder. Clinical studies suggest that SAD is associated with comorbid mental health conditions that have not been routinely assessed in epidemiologic surveys, notably bipolar disorder and eating disorders. Social anxiety disorder has an adverse impact on outcomes in patients with comorbid mental health conditions. Additional research is needed to determine whether treating SAD in these patients improves outcomes.

*Disclosure of off-label usage:* The author has determined that, to the best of his knowledge, no investigational information about pharmaceutical agents that is outside U.S. Food and Drug Administration–approved labeling has been presented in this article.

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