Social Anxiety Disorder: Comorbidity and Its Implications

R. Bruce Lydiard, M.D., Ph.D.

Social anxiety disorder is an extremely common and potentially disabling psychiatric disorder. Generalized social anxiety disorder, a subtype of the disorder, is believed to be the most common and most severe form. It is also the form that is most often associated with other psychiatric disorders. Unless the clinician has a high index of suspicion, social anxiety disorder may remain undetected. The clinical and treatment implications of the most common psychiatric comorbidities associated with social anxiety disorder are discussed in this article, with a focus on major depression, panic disorder, posttraumatic stress disorder, and alcohol abuse/dependence. Other psychiatric disorders and some medical conditions commonly associated with social anxiety disorder are briefly mentioned. Finally, a differential diagnosis of social anxiety disorder is described. Individuals who present for treatment of other anxiety disorders, mood disorders, or alcohol/substance abuse disorders should be considered at risk for current but undetected social anxiety disorder.

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Social anxiety disorder, or social phobia, is an extremely common and potentially disabling psychiatric disorder. Table 1 itemizes the key diagnostic features of social phobia according to the *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition (DSM-IV).[1] Social phobia affects women twice as often as men and tends to persist over time if not treated effectively. Social phobia often coexists with other psychiatric disorders and may remain undetected in many individuals unless the clinician takes a careful history and has a high index of suspicion. Community studies and clinical samples suggest that there is a high rate of comorbidity in individuals with anxiety disorders, including social anxiety disorder,[2–8] and there is evidence that social anxiety disorder and generalized anxiety disorder are almost always associated with one or more additional anxiety disorders and/or depressive disorder.[9] This review focuses on the comorbidity of social phobia with major depression, panic disorder, posttraumatic stress disorder (PTSD), and alcohol abuse/dependence. Brief mention of other comorbidities is included, and a differential diagnosis of social anxiety disorder is suggested. Patients who present with depression, other anxiety disorders, or alcohol use disorders should be considered at risk for current but undetected social anxiety disorder. Diagnostic assessment for social anxiety disorder should be a routine part of any psychiatric evaluation.

COMORBIDITY OF PSYCHIATRIC DISORDERS

The National Comorbidity Survey (NCS)[10] was a U.S. population survey conducted in the early 1990s to assess the coexistence of psychiatric disorders (i.e., psychiatric comorbidity). In this study, a population sample of 8098 noninstitutionalized individuals, aged 18 to 54 years, were evaluated for the presence of one or more psychiatric disorders via the Composite International Diagnostic Interview (CIDI), a structured interview. One of the many valuable findings from the NCS was that psychiatric disorders were not randomly distributed in the population. Rather, they tended to aggregate in a small percentage of the population. Individuals with 3 or more psychiatric disorders constituted only about 14% of the U.S. population but had 59% of all mental disorders and 88% of all serious mental disorders in the prior 12 months.

Many of these individuals with a disproportionate share of multiple psychiatric disorders suffered from comorbid anxiety and depression; exhibited greater limitations in job, family, and employment; and utilized a disproportionately high level of health care resources.[11] The comorbid states of anxiety and depression tended to be more persistent than pure anxiety or depression. Furthermore, the authors estimated that detection and treatment of comorbid anxiety and mood disorders could greatly lessen the workplace costs (e.g., reduced productivity) of psychiatric disorders. Impor-

From the Mood and Anxiety Program, Medical University of South Carolina, Charleston.

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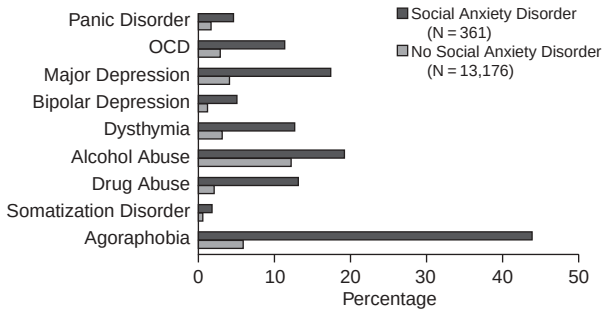
Reprint requests to: R. Bruce Lydiard, M.D., Ph.D., 67 President St., P.O. Box 250861, Charleston, SC 29425.

Table 1. Key Diagnostic Features of Social Anxiety Disorder (social phobia)[a]

Fear that words or actions will prove humiliating or embarrassing
Exposure to or thinking about entering feared situations causes Anxiety
Physiologic symptoms (flushing, sweating, tremulousness)
Fear recognized as excessive or unreasonable
Avoidance of feared situation or endurance of it with distress
Social or occupational problems, or marked distress, arising from avoidance, fear, or anxious anticipation
Unrelated to other Axis I or Axis III disorders

[a]Based on DSM-IV.[1]

Figure 1. Lifetime Rates of Psychiatric Disorders in Individuals With and Without Social Anxiety Disorder[a]



[a]Data from Schneier et al.[13] Abbreviation: OCD = obsessive-compulsive disorder.

tantly, preexisting anxiety, including social phobia, was the strongest predictor of subsequent development of major depression.[10,11] Since anxiety disorders, including social phobia, tend to appear earlier than most other psychiatric disorders, they constitute a risk factor for the development of other psychiatric disorders. As comorbidity occurs, the risk for additional disorders also increases.[10]

The public health implications of the NCS findings are clear. Detection and treatment of psychiatric disorders, such as anxiety disorders, early in life might prevent the appearance of subsequent disorders, thus reducing both the considerable financial[12] and psychosocial burden imposed by comorbidity in the U.S. population.

Social Anxiety Disorder (Social Phobia) and Psychiatric Comorbidity

Social phobia is the most common anxiety disorder and is more frequently associated with secondary depression (22.4%) than any other anxiety disorder.[11] In individuals with social phobia, major depression occurred a mean of 11.9 years after onset, and a mean of 4.3 disorders affected those with secondary major depression. These findings, as well as those from the earlier Epidemiologic Catchment Area (ECA) study (Figure 1),[13] suggest that comorbid disorders often complicate the clinical picture in many patients with social phobia. Of the individuals identified as having social phobia in the NCS, approximately 80% had more than one psychiatric disorder.[11]

The NCS estimates of the lifetime (13.8%) and 1-year (7.9%) prevalence rates for social phobia[10] are higher than the estimates from the ECA study.[14] One possible reason for this difference is that there were 6 stem questions in the CIDI employed in the NCS, compared with 3 used in the ECA study.

Social anxiety disorder is a particularly difficult problem to detect, since it begins early in life (primarily in the first 2 decades[6,13,15]) and the affected individuals may not recognize their symptoms—usually shyness—as a treatable psychiatric disorder.[16–19] There are 2 main subtypes of social phobia currently listed in the DSM-IV (Table 2). The first, which constitutes approximately 75% of social phobias, is the generalized subtype, in which most or all social situations provoke anxiety and/or avoidance. The

Table 2. Diagnostic Subtypes of Social Anxiety Disorder[a]

Generalized
Anxiety precipitated by most social interactions (except those with family or close friends)
Most severe form of social phobia
Likelihood of comorbid psychiatric conditions, including avoidant personality disorder
Nongeneralized
Limited to specific social situations (eg, public speaking, performance as an actor or musician)

[a]Based on DSM-IV.[1]

second subtype, which affects approximately one fourth of individuals with social anxiety, includes one or a few circumscribed social fears, usually involving performance situations such as public speaking. Individuals with the generalized subtype are 3 times more likely to suffer from comorbid anxiety disorders and 2 times more likely to suffer from mood disorders than those with the nongeneralized subtype.[20,21] Adolescents who suffer from social phobia are more likely to suffer from major depression, academic difficulties due to attentional disruption related to social anxiety, truancy and other behavioral problems, and alcohol and other substance abuse.[21–26] At this point, there are too few data to evaluate whether comorbidity affects treatment outcome for social anxiety disorder. One large naturalistic study,[27] which observed a cohort of patients with social anxiety disorder, showed that the clinical status at 65 weeks was not affected by comorbidity. Notably, there was a low rate of remission of social anxiety disorder over this follow-up period.

The consequences of comorbidity in social anxiety disorder are substantial. Compared with individuals with social anxiety disorder only, those who also have comorbid psychiatric disorders are more likely to become dependent on alcohol and to have more substance abuse disorders, are more severely impaired in social and occupational functioning, consume more health care resources, and more frequently attempt suicide.[5,13,28] In primary care samples, the prevalence of social anxiety disorder is high, and co-

morbidity with other psychiatric disorders is much more common than social anxiety disorder only.[29,30] On the basis of the model of increased risk suggested by the NCS,[10] it is possible that early detection and intervention might prevent the accumulation of multiple comorbid disorders and the attendant suffering and billions of dollars lost to the U.S. economy annually.[12]

Social Anxiety Disorder and Major Depression

As noted above, major depression frequently complicates preexisting social phobia, especially in individuals with generalized social anxiety disorder. Individuals with social anxiety disorder are at substantially increased risk for later development of major depression.[11] Increased risk for early-onset major depression and the apparent persistence or chronicity of mood symptoms are also associated with social anxiety disorder.[31] Consistent with the NCS data noted above, Breslau et al.[32] assessed a sample of patients in a large Detroit-area health maintenance organization (HMO) for psychiatric disorders. They found that primary anxiety disorders (including social anxiety disorder) were potent risk factors for secondary major depression in men and women. Furthermore, their findings showed that primary anxiety disorders were twice as common in women as in men and that the lifetime prevalence of major depressive disorder was also almost 2-fold higher in women than in men. According to the investigators, these results suggest that the observed gender difference in depression in this HMO sample can be substantially explained by the higher rates of preexisting anxiety in women versus men. It appears that individuals with social anxiety disorder who experience the onset of major depression during childhood constitute a distinct subgroup. These individuals are more likely than individuals with late-onset depression to have subsequent alcohol abuse disorders.[33] Social anxiety disorder commonly occurs with bipolar depression, schizoaffective depression, or psychotic depression, usually with one or more other anxiety disorders and significantly increased rates of stimulant abuse.[34]

Although social anxiety disorder often precedes the onset of major depression, it can also appear secondary to a depressive episode. Dilsaver and colleagues[35] assessed social anxiety in 42 patients with recurrent major depression, 19 of whom experienced social anxiety that met criteria from the *Diagnostic and Statistical Manual of Mental Disorders*, Third Edition, Revised (DSM-III-R) for social phobia in the context of an episode of major depression. When social anxiety disorder and major depression coexist, clinicians are presented with the diagnostic challenge of distinguishing social reticence/withdrawal due to depression from that associated with social anxiety disorder.

Social Anxiety Disorder and Panic Disorder

Panic disorder commonly coexists with social anxiety disorder. In clinical studies, up to 45% of patients presenting for treatment of panic disorder with or without agoraphobia also had social phobia.[36] In the majority, social phobia appeared prior to the onset of panic disorder. Fyer et al.[37] suggested that comorbid social anxiety disorder and panic disorder may be different from social anxiety disorder that occurs without any comorbid anxiety disorder. Fyer et al. conducted a study to examine the effects of the comorbidity of panic disorder and social anxiety disorder on familial transmission of each of these disorders. They interviewed first-degree relatives of 4 groups of subjects: those with panic disorder only, those with social anxiety disorder only, those with panic disorder plus social anxiety disorder, and controls who had never been ill. No additional lifetime anxiety disorders were present in the probands. The familial pattern of the probands with social anxiety disorder plus panic disorder and those with panic disorder alone showed higher rates of panic disorder but not of social anxiety disorder compared with relatives of controls. Relatives of probands with social anxiety disorder alone had higher rates of social anxiety disorder but not of panic disorder. On the basis of these findings, Fyer et al. suggested that social anxiety disorder with panic disorder may be a nonfamilial subtype of social anxiety disorder in which the social anxiety is possibly causally related to panic disorder. No information on differential treatment response in these subgroups is yet available.

Stein et al.[38] compared 19 patients with panic disorder only and 16 patients with panic disorder plus social anxiety disorder. They found that 93% of those with both panic disorder and social anxiety disorder had experienced prior episodes of major depression compared with 47% of those with panic disorder only.[38] These studies and numerous others suggest that social anxiety disorder, panic disorder, and depression frequently coexist.[39] Whether subtyping these conditions according to order of onset will yield findings that will affect treatment remains unclear.

Social Anxiety Disorder and PTSD

There has been little systematic study of the association of PTSD and social anxiety disorder, and whether social anxiety disorder may be a common sequela of severe traumatic stress (i.e., whether trauma is a risk factor for social anxiety disorder) has not been studied in detail. A substantial percentage of adult patients, especially women, with panic disorder or social anxiety disorder may have higher rates of past sexual and/or physical abuse than those without anxiety disorders.[40] In one study of women who were victims of traumatic rape,[41] there were high levels of social anxiety disorder, all the other anxiety disorders, and major depression. In contrast, there was no such association in women who were robbed or burglarized. Orsillo and colleagues[42] evaluated psychiatric comorbidity in veterans with combat-related PTSD and veterans without PTSD. Veterans with the disorder had significantly higher rates of current social phobia, major depression, bipolar disor-

der, and panic disorder, in addition to higher rates of lifetime major depression, panic disorder, social phobia, and obsessive-compulsive disorder (OCD).[42] These same researchers[43] described a group of male Vietnam veterans with PTSD. After controlling for relevant variables, they found that over 30% of veterans had social anxiety disorder beginning after the onset of PTSD. Adversity of homecoming and shame about their experience in Vietnam were significant predictors of current levels of social anxiety over and above the effects of premilitary anxiety and severity of combat exposure.

In a community study, Davidson et al.[44] reported that PTSD in the general population was associated with a family history of psychiatric illness, poverty, abuse, and parental separation prior to age 10 years. Those with chronic PTSD were more likely to have social phobia. David et al.[45] assessed a group of patients with either panic disorder and/or social phobia and compared them with a nonclinical sample. Traumatic events in childhood were more commonly reported by the patients compared with the nonclinical subjects (63% vs. 35%, respectively). Sexual and/or physical abuse was significantly increased in the patient group and was most specifically associated with social phobia. Engdahl et al.[46] examined 262 men with prior combat exposure and imprisonment by the enemy. They found that social anxiety disorder and panic disorder, in addition to other anxiety and mood disorders, were more common in individuals with PTSD related to war trauma. About half of the social anxiety disorder and panic disorder diagnoses arose after the traumatic event.[46] One recent controlled twin study from Australia[47] indicated that early childhood sexual abuse was associated with a higher rate of adult psychopathology, including (in women only) social anxiety disorder. Social anxiety disorder appears to be a familial disorder, suggesting that genetic vulnerability is one important etiologic variable.[48–52] Whether social anxiety disorder following traumatic stress in childhood, adulthood, or both is different in some way from social anxiety disorder that appears in the absence of trauma and whether treatments should also be different are questions that merit further study.

Social Anxiety Disorder and Alcohol and Other Substance Abuse Disorders

Individuals with social anxiety disorder are at substantially increased risk for alcohol abuse and dependence, nicotine dependence, and other substance abuse disorders.[5,10,13,25,53–65] Nearly all studies examining the relative ages at onset of social anxiety disorder and problem alcohol use have found that social anxiety disorder precedes alcohol use, possibly because of the typically early age at onset of social anxiety disorder.[24,25,58,66–68] Individuals who have social anxiety disorder with comorbid alcohol use disorders are more likely to have additional disorders, such as panic disorder with agoraphobia and major depression.[33,69,70] Suicide risk is increased in males with social anxiety disorder and alcohol dependence.[69]

Although the association between social anxiety disorder and alcoholism has been established, the effects of alcoholism on the treatment of social anxiety disorder have received minimal investigation.[71,72] The limited data available indicate that alcohol-related disorders convey a worse prognosis of social anxiety disorder following cognitive-behavioral therapy,[73] pharmacologic treatment,[74,75] and alcohol detoxification.[57,76] Myrick and Brady[56] recently reported that 22 of 158 patients who were admitted for cocaine dependence had social anxiety disorder. Compared with those who had cocaine dependence only, the patients with social anxiety disorder also had higher rates of additional psychiatric disorders, greater severity of symptoms, and more alcohol and polysubstance abuse.[56]

Individuals with social anxiety disorder and alcoholism are faced with numerous treatment-seeking barriers. Perhaps the greatest of these is that many individuals with alcohol- or drug-related disorders are unaware that they have a known, treatable anxiety disorder. Rather, they see their social fears as an enduring part of their constitutional makeup. Also, social anxiety disorder sufferers tend to avoid scrutiny, criticism, and being the center of attention. Reluctance to enter alcohol and other substance abuse treatment programs that are highly socially interactive undoubtedly complicates the search for treatment by individuals who also have social anxiety disorder. Such patients may require novel treatment approaches, such as those using computers,[77] or individualized treatment in a dual-diagnosis program.[78] Given the relatively high rates of social anxiety disorder in alcohol-dependent individuals, the cost-effectiveness of more definitive and comprehensive early intervention seems clear, but further research is required to confirm this hypothesis.

Social Anxiety Disorder and Other Psychiatric Disorders

In addition to the disorders noted above, individuals with social anxiety disorder exhibit high rates of other psychiatric disorders[5,13,18,79] such as generalized anxiety disorder,[9,80–82] bipolar disorder,[31,34,83–86] OCD,[87–90] body dysmorphic disorder,[91,92] eating disorders,[54,93–96] and specific phobia (previously called simple phobia).[6,13,97] The extremely high comorbidity of social anxiety disorder with specific phobias is of interest from a research perspective as a potential risk factor for additional psychiatric disorders, but currently carries little significance for clinical practice. Although there has been no systematic study of the treatment of patients with bipolar disorder and social anxiety disorder, data from clinical and patient samples indicate that the 2 conditions overlap with significant frequency.[31,34,83–86] In such patients, treatments that address both bipolar disorder and social anxiety disorder could be useful. Gabapentin, an established anticonvulsant, has re-

Table 3. Differential Diagnosis for Social Anxiety Disorder

Condition	Diagnostic Features
Posttraumatic stress disorder[1]	Temporally follows traumatic event; cues related to trauma, not exclusively to social situations
Panic disorder[1]	Unexpected panic attacks, not exclusively socially mediated anxiety
Agoraphobia[1]	Fearful avoidance of situations in which panic attacks may occur, not limited to social situations
Major depression or atypical depression[106]	Social withdrawal temporally related to mood disturbance, not to fear of humiliation or embarrassment; atypical depression with rejection sensitivity associated with other symptoms (eg, hypersomnia, hyperphagia, anergy, mood reactivity)
Generalized anxiety disorder[1]	Focus of worry not limited to social situations; social discomfort or avoidance not a key feature
Body dysmorphic disorder[107]	Avoidance of social activity focused on concern over perceived ugliness
Avoidant personality disorder[108]	Often present in generalized social anxiety disorder; may represent more severe end of social anxiety disorder spectrum; individual desires social activity, but avoids it
Schizotypal/schizoid personality disorders[108]	Avoidance of social situations is preferred by individual and is not due to fear of embarrassment or humiliation
Normal shyness	No or minimal interference with social, occupational, or family functioning

cently been reported to be effective in the treatment of generalized social anxiety disorder.[98] Although more needs to be learned, anticonvulsants such as gabapentin, with therapeutic effects for anxiety, may prove useful in selected patients. In a case series of individuals with either generalized or nongeneralized social anxiety disorder and OCD, there was evidence of poor response to conventional pharmacologic treatment with selective serotonin reuptake inhibitors but a good response to phenelzine.[99] Beyond the minimal information noted above, treatment outcome of comorbid disorders requires further investigation.

COMORBIDITY OF MEDICAL DISORDERS

The diagnostic system currently utilized (DSM-IV) excludes social anxiety due to medical disorders.[1] However, social anxiety commonly occurs in the context of several medical disorders, such as benign essential tremor, stuttering, and irritable bowel syndrome.[100–104] Anecdotal evidence indicates that morbidly obese individuals and burn victims also experience significant social anxiety secondary to their medical conditions. In our experience, social anxiety in these individuals can respond to the same treatments that are used in social anxiety disorder patients without such medical disorders. The clinical implications of secondary social anxiety disorder in terms of additional disability/functional impairment have not been investigated. However, on the basis of the limited information available, it seems worthwhile to address social anxiety disorder specifically even when it appears in the context of a medical condition identified in Axis III of the DSM-IV.

DIFFERENTIAL DIAGNOSIS

A thorough differential diagnosis is vital in treating patients with social anxiety disorder. However, discriminating social anxiety disorder from associated disorders can sometimes present a diagnostic challenge.[105] Table 3 presents several important conditions and their features that differ from social anxiety disorder. One of the more controversial of these is avoidant personality disorder, which usually coexists with generalized social anxiety disorder. Most experts believe that this "personality disorder" is actually the same as generalized social anxiety disorder and note that it has been shown to resolve with treatment of social anxiety disorder.[109,110] Still, questions remain as to whether this condition is a personality disorder or an artifact of the early onset and chronic nature of social anxiety disorder.[105,111–113] Atypical depression, another disorder requiring differential diagnosis, is a subtype of major depression that is characterized by rejection sensitivity. However, it is also associated with anergy, mood reactivity, hypersomnia, and hyperphagia. Atypical depression is more commonly associated with generalized social anxiety disorder[20,111] than with the nongeneralized subtype.

SUMMARY

The majority of individuals with the generalized subtype of social anxiety disorder have an additional psychiatric disorder. The most common comorbid disorders reviewed here are major depression, panic disorder, PTSD, and alcohol abuse/dependence. These additional psychiatric disorders may confer relative treatment resistance and chronicity of symptoms and associated disability in individuals with social anxiety disorder. There is substantial evidence that social anxiety disorder is a risk factor for the development of additional psychiatric disorders, in particular, major depression. Also, there is some evidence suggesting that the comorbid disorders themselves may increase the risk for additional psychiatric disorders and associated functional impairment. The available information suggests that early detection and treatment of social anxiety disorder may prevent the subsequent progression to often chronic comorbid states and significant impairment of functioning. Further research on this important hypothesis is urgently needed.

Drug names: gabapentin (Neurontin), phenelzine (Nardil).

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Question and Answer Session

Question: If someone with a physical disability that is visible to other people experiences social phobia, is that really social phobia? Also, what kind of medications would you give that person?

Dr. Lydiard: Strictly speaking, it is probably not social phobia. But should we just ignore those people and say, "No, you don't have anything"? Clearly not. Anecdotally, we've had experience treating people with stuttering and social anxiety. Their stuttering doesn't get better, but they feel more confident and are able to avoid fewer situations. Patients with Parkinson's disease also experience secondary social anxiety, as Dr. Stein has observed.

Dr. Schneier: We reported a series of 8 cases of people with various physical disabilities who were being treated with the monoamine oxidase inhibitor phenelzine.[1] By and large, even if their underlying medical problem did not improve or worsened during phenelzine treatment, they were less self-conscious about it.

Dr. Davidson: The concept of secondary social phobia is actually heuristically productive, because that's how gabapentin received its application for social phobia. Patients with epilepsy were much less embarrassed by their condition after they were treated with gabapentin.

Dr. Lydiard: From anecdotal reports, I understand that there has been good luck treating patients with irritable bowel syndrome who also have psychiatric disorders—social anxiety disorder, panic disorder, or other anxiety disorders. As their psychiatric symptoms subside, their physical symptoms also improve and they are more functional. This is especially true in irritable bowel patients who have had accidents and have been extremely socially embarrassed, situations that have made them phobic. This is a group that could very likely benefit from standard treatment for social anxiety, but no one has studied this systematically.

Comment: There must be a large number of individuals with subsyndromal social phobia for whom the development of a socially conspicuous medical illness will move them into a formal diagnosis of social phobia.

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