DEPRESSION AND ANXIETY 27:168–189 (2010)

Review

SOCIAL ANXIETY DISORDER: QUESTIONS AND ANSWERS FOR THE DSM-V

Susan M. Bögels,[1]* Lynn Alden,[2] Deborah C. Beidel,[3] Lee Anna Clark,[4] Daniel S. Pine,[5] Murray B. Stein,[6] and Marisol Voncken[7]

Background: *This review evaluates the DSM-IV criteria of social anxiety disorder (SAD), with a focus on the generalized specifier and alternative specifiers, the considerable overlap between the DSM-IV diagnostic criteria for SAD and avoidant personality disorder, and developmental issues.* **Method:** *A literature review was conducted, using the validators provided by the DSM-V Spectrum Study Group. This review presents a number of options and preliminary recommendations to be considered for DSM-V.* **Results/Conclusions:** *Little supporting evidence was found for the current specifier, generalized SAD. Rather, the symptoms of individuals with SAD appear to fall along a continuum of severity based on the number of fears. Available evidence suggested the utility of a specifier indicating a "predominantly performance" variety of SAD. A specifier based on "fear of showing anxiety symptoms" (e.g., blushing) was considered. However, a tendency to show anxiety symptoms is a core fear in SAD, similar to acting or appearing in a certain way. More research is needed before considering subtyping SAD based on core fears. SAD was found to be a valid diagnosis in children and adolescents. Selective mutism could be considered in part as a young child's avoidance response to social fears. Pervasive test anxiety may belong not only to SAD, but also to generalized anxiety disorder. The data are equivocal regarding whether to consider avoidant personality disorder simply a severe form of SAD. Secondary data analyses, field trials, and validity tests are needed to investigate the recommendations and options. Depression and Anxiety 27:168–189, 2010.*

Key words: *DSM-V; social anxiety disorder; social phobia; subtypes; classification; interpersonal; performance; test anxiety; selective mutism; avoidant personality disorder*

[1]**Child Development and Education, University of Amsterdam, Amsterdam, The Netherlands**
[2]**Department of Psychology, University of British Columbia, Vancouver, Canada**
[3]**Department of Psychology, University of Central Florida, Orlando, Florida**
[4]**Department of Psychology, University of Iowa, Iowa City, Iowa**
[5]**National Institute of Mental Health, Bethesda, Maryland**
[6]**Departments of Psychiatry and Family and Preventive Medicine, University of California San Diego, La Jolla, California**
[7]**Department of Clinical Psychological Science, Maastricht University, Maastricht, The Netherlands**

This article is being co-published by *Depression and Anxiety* and the American Psychiatric Association.
The authors report they have no financial relationships within the past 3 years to disclose.

*Correspondence to: Susan M. Bögels, Child Development and Education, University of Amsterdam, Nieuwe Prinsengracht 130, 1018VZ, Amsterdam, The Netherlands. E-mail: s.m.bogels@uva.nl

Received for publication 5 October 2009; Revised 29 December 2009; Accepted 5 January 2010

DOI 10.1002/da.20670
Published online in Wiley InterScience (www.interscience.wiley.com).

INTRODUCTION

This review evaluates several issues pertaining to the diagnostic criteria for social phobia or social anxiety disorder (SAD) (Table 1), in light of empirical evidence gathered since DSM-IV. The review was guided by questions posed in the DSM-IV Sourcebook (Vol. 2), chapters titled "Social phobia"[1] and "Social phobia subtypes,"[2] a review conducted as part of the DSM-V Stress Induced and Fear Circuitry Disorders Workgroup Conference, titled "Social Phobia: Towards DSM V,"[3] by questions posed by the DSM-V Anxiety, OC Spectrum, Posttraumatic, and Dissociative Disorder Work Group and by issues raised by consulted experts and advisors. The main issues to be addressed are the generalized specifier and its alternatives, the overlap with avoidant personality disorder, and developmental issues including the relationship that SAD shows in childhood with selective mutism (SM) and test anxiety.

TABLE 1. Diagnostic criteria for Social phobia in DSM-IV.

Social phobia (*social anxiety disorder*)

A. marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others. The individual fears that he or she will act in a way (or show anxiety symptoms) that will be humiliating or embarrassing. *Note*: In children, there must be evidence of the capacity for age-appropriate social relationships with familiar people and the anxiety must occur in peer settings, not just in interactions with adults

B. Exposure to the feared social situation almost invariably provokes anxiety, which may take the form of a situationally bound or situationally predisposed panic attack. *Note*: In children, the anxiety may be expressed by crying, tantrums, freezing, or shrinking from social situations with unfamiliar people

C. The person recognizes that the fear is excessive or unreasonable. Note: In children, this feature may be absent

D. The feared social or performance situations are avoided or else are endured with intense anxiety or distress

E. The avoidance, anxious anticipation, or distress in the *feared social or performance situation*(*s*) interferes significantly with the person's normal routine, occupational (academic) functioning, or social activities or relationships, or there is marked distress about having the phobia

F. In individuals under the age of 18, the duration is at least 6 months

G. The fear or avoidance is not due to the direct physiological effects of a substance (e.g., drug abuse, a medication) or a general medical condition and is not better accounted for by another mental *disorder* (e.g., panic disorder with or without agoraphobia, separation anxiety disorder, body dysmorphic disorder, a pervasive developmental disorder, or schizoid personality disorder)

H. If a general medical condition or another mental disorder is present, the fear in Criterion A is unrelated to it, e.g., the fear is not of stuttering, trembling in Parkinson's disease, or exhibiting abnormal eating behavior in anorexia nervosa or bulimia nervosa

Specify if:

Generalized: if the fears include most social situations (also consider the additional diagnosis of avoidant personality disorder)

STATEMENT OF THE ISSUES

This review addresses the following questions, using the validators provided by the DSM-V Task Force: (1) What is the evidence/utility of the DSM-IV generalized specifier? If there is insufficient evidence/utility for a generalized specifier, what is the utility/evidence for alternative subtypes or specifiers based on the content of feared situations: performance, interaction, and observation? (2) What is the evidence/utility for a specifier designating fear of showing anxiety symptoms? (3) What is the relation between test anxiety and SAD, and should test anxiety be included in SAD? (4) What is the relation between Selective Mutism (SM) and SAD, and should SM be considered a type of SAD? (5) What is the evidence/utility for retaining avoidant personality disorder (AVPD) and SAD as separate diagnostic entities? (6) Is the diagnosis of SAD valid for children and adolescents and, if so, from what age? We have reviewed the data based on the availability of data and relevance of particular validators for the various issues. Before investigating these questions, we present a short overview of changes in the SAD diagnosis from DSM-III to DSM-IV.

SIGNIFICANCE OF THE ISSUES FOR DSM-V

Little is known about the specific individual and environmental factors that promote or protect against SAD. The existing evidence for the causative role of life events and shared environment is nonspecific, meaning that the environmental factors linked to SAD also show relations to other forms of psychopathology, such as other anxiety disorders that frequently are comorbid with SAD.[4–6] One reason that etiological research has not yet led to a deeper understanding of what causes SAD may be the diverse clinical presentation and associated features in individuals with this disorder. The DSM-IV definition for the generalized subtype of SAD is based on the quantity (rather than the thematic content) of social fears ("fears most social situations"). Furthermore, diagnosticians must interpret the meaning of the term "most situations" with little guidance, which creates opportunities for variable application of this specifier. The confusion around the generalized subtype, and perhaps the lack of content specifiers within the broad diagnosis of SAD, may inhibit research into different pathways to this disorder and, accordingly, into its prevention and treatment. The bulk of this review focuses on specifiers for SAD, in particular the evidence for the generalized subtype, and the option of new specifiers: performance, interactional, observational, and one based on fear of showing anxiety symptoms. In addition, we review the relations of SAD to test anxiety and SM, and investigate the overlap of generalized SAD and AVPD. The diagnosis of SAD in childhood has gone through substantial changes from DSM-III to DSM-IV. With its early mean onset, chronic course, and relatively low rate of adult onset, SAD fits the prototype of a developmental

disorder. However, less is known about the validity of the SAD diagnosis in children compared to adults. Therefore, we also review the validity of SAD as a diagnosis in children

Recommendations are based on a review of the published literature. Therefore, they are preliminary and do not reflect any definitive decision-making on the part of the DSM-V Anxiety, Obsessive-Compulsive Spectrum, Posttraumatic, and Dissociative Disorders Work Group. Decisions will be based ultimately on not only the existing literature, but also secondary data analyses, field trials, expert surveys, and group discussions. Thus, these recommendations are subject to change.

SEARCH METHODS

SAD research published since the release of DSM-IV was searched using PSYCINFO and PUBMED searches for English language articles and books. Search terms included (combinations of) *social anxiety disorder*, *social phobia*, *avoidant personality disorder*, *selective mutism*, *test anxiety*, *blushing*, *trembling*, *sweating*, *generalized*, *interpersonal*, *performance*, *speech*, *children*, *adolescents*, *behavior inhibition*. The reference lists of the identified key manuscripts also were reviewed. The DSM-IV Sourcebook, the DSM-IV Options Book, and proceedings and monographs of the preparatory research planning conference series for DSM-V were also consulted.

SOCIAL PHOBIA FROM DSM-III TO DSM-IV

The diagnosis of social phobia has seen substantial changes in the last 25 years, from its first appearance in the DSM-III published in 1980 to the DSM-IV. In DSM-III, phobic disorders and anxiety states were regarded as two types of anxiety disorders, and social phobia was considered a phobic disorder. The idea that social anxiety generalizes many different social situations did not exist at the time, as is illustrated by the remark in DSM-III: "Generally an individual has only one social phobia" (p 227). The DSM-III examples concerned social phobias that later were considered specific social phobias: "Speaking or performing in public, using public lavatories, eating and writing in public" (p 227). With respect to the boundaries with AVPD, DSM-III criterion C stated that symptoms were not due to Avoidant Personality Disorder. In DSM-III, children with social anxiety were diagnosed with Avoidant Disorder of Childhood and Adolescence, defined as a persistent and excessive shrinking from contact with strangers, sufficiently severe to interfere with social functioning in peer relationships. In addition, DSM-III and DSM-III-R contained the diagnosis of Overanxious Disorder in Childhood and Adolescence, which resembled both adult Generalized Anxiety Disorder and social phobia. Application of this diagnosis was also considered for children with social fears, because the criteria referred to social concerns (i.e., preoccupation with appropriateness of behavior in the past, excessive concern with social competence, and marked self-consciousness and susceptibility to embarrassment and humiliation).

The DSM-III-R SAD criteria expanded the examples of social fears with reasons why individuals feared rejection: "Being unable to continue talking while speaking in public, choking when eating in front of others, being unable to urinate in a public lavatory, hand-trembling when writing in the presence of others, and saying foolish things or not being able to answer questions in social situations" (p 243). In DSM-III-R, a specifier indicating the presence or absence of a "generalized subtype" was defined, and social phobia and AVPD were no longer treated as mutually exclusive. Instead, in defining the generalized form of social phobia, the diagnostic criteria stated: "Also consider the *additional* diagnosis of Avoidant Personality Disorder" (p 243, italics added).

The DSM-IV (1994) and DSM-IV-TR text revision (2000) added the term *Social Anxiety Disorder* in parentheses after Social Phobia. This reflected the growing recognition that various forms of specific phobias could be differentiated from social phobia based on several important clinical and pathophysiological factors. Reasons for fearing rejection in SAD were further elaborated in the text: "Individuals with social phobia" […] are afraid that others will judge them to be anxious, weak, "crazy," or stupid (p 450) or "appear inarticulate" (p 451). Furthermore, fear of showing anxiety symptoms was addressed specifically, by its inclusion in criterion A as a primary source of fear: "The individual fears that he or she will act in a way (or show anxiety symptoms) that will be humiliating or embarrassing" (p 456). Under diagnostic features in the text, the anxiety symptoms were described more clearly: "Individuals with social phobia almost always experience symptoms of anxiety (e.g., palpitations, tremors, sweating, gastrointestinal discomfort, diarrhea, muscle tension, blushing, confusion) and in severe cases these symptoms might meet the criteria for a Panic Attack. Blushing may be more typical of Social Phobia" (p 451). Associated features included "observable signs of anxiety (e.g., cold clammy hands, tremors, shaky voice)" (p 452).

With respect to the overlap with AVPD, characteristics of AVPD (e.g., low self-esteem, feelings of inferiority, and hypersensitivity to criticism) were added to the associated features of social phobia, and the DSM-IV text noted that "Avoidant Personality Disorder may be a more severe variant of Social Phobia, Generalized, that is not qualitatively distinct" (p 455). Also a nonsocial aspect of AVPD that is in ICD-10 and that had appeared in DSM-III-R (exaggerating the potential dangers or risks in everyday activities) was revised to have a social motivation in DSM-IV ("because they may prove embarrassing," p 665). Test anxiety was included indirectly, as DSM-IV noted that "Individuals with social phobia also

often fear indirect evaluation, such as taking a test […] often underachieve in school due to test anxiety" (p 452).

Major changes were made in DSM-IV childhood diagnoses. Both Avoidant Disorder and Overanxious Disorder in childhood and adolescence were removed from DSM-IV. One reason for removing Avoidant Disorder was the high (65–100%) overlap with social phobia.[7] The diagnosis of social phobia was modified to include features earlier included in the Avoidant Disorder criteria. Namely, DSM-IV restricted the diagnosis of SAD to children who are capable of manifesting age-appropriate social relations with familiar people and who show social anxiety in peer settings as opposed to just with adults. DSM-IV also noted that social anxiety in children can be expressed by crying, tantrums, freezing, or shrinking from unfamiliar people. Finally, unlike adults, to meet criteria for DSM-IV SAD, children do not have to recognize that their fear is excessive or unreasonable. The elimination of Overanxious Disorder reflected the desire to encourage clinicians to use similar nomenclature at various developmental stages, whenever possible. Overanxious Disorder shows strong overlap with Generalized Anxiety Disorder, and children classified as having Overanxious Disorder in DSM-III-R were felt to be classified more appropriately as having Generalized Anxiety Disorder in DSM-IV.

In summary, the diagnosis of SAD has evolved in the following ways: (1) from a circumscribed phobia "Social Phobia," to a broader condition "subtitled" SAD, which included (a) a generalized subtype and (b) fear of rejection as an overarching reason for more specific fears; (2) expanding its scope to include fear of displaying anxiety symptoms and test anxiety (indirectly); (3) from being only an adult disorder with similar, but distinct, disorders for children to incorporating childhood manifestations into social phobia and eliminating the childhood disorders; (4) from disallowing comorbidity with AVPD to recognizing their overlap and even making them more similar by making fear of rejection central in SAD and making AVPD more socially focused.

SOCIAL PHOBIA OR SOCIAL ANXIETY DISORDER?

The name "social phobia" may be misleading, as including the term "phobia" suggests similarities with specific phobia, in which *avoidance* of a *circumscribed* object, activity, or situation is an essential element of the disorder. However, many persons meeting criteria for SAD do not overtly avoid social situations, which are ubiquitous, creating marked societal pressure to execute social roles despite discomfort or fear. Moreover, unlike in specific phobia, the stimuli feared by persons with SAD frequently involve relatively broad scenarios, as rejection may be feared in many different social situations (e.g., job interviews, dating), in relation to many different types of people (e.g., authority figures, romantic figures), and because of various concerns (e.g., blushing, making mistakes, being boring). Therefore, using the term "social phobia" to describe these patients implies that they exhibit avoidance of a circumscribed situation, which may lead clinicians to fail (inappropriately) to apply the diagnosis to patients who show only subtle avoidance or safety behaviors. Therefore, we recommend use of the name *Social Anxiety Disorder* in the DSM-V (with Social Phobia in parentheses), and we use the name SAD hereafter.

WHAT IS THE EVIDENCE FOR THE SPECIFIER GENERALIZED?

DSM-IV allows the specifier "generalized" subtype (GSAD) if an individual fears "most social situations." Although the text offers some description of GSAD (pp 451 and 452), a clear operational definition of "most social situations" is lacking, and it is apparent that this definition has been inconsistently applied in the SAD literature.[8] This definitional imprecision hinders attempts to draw strong conclusions from extant findings. Some authors have defined subtypes by *number* of situations feared, whereas others make distinctions based on *type* of feared situations (e.g., anxiety limited to public speaking versus social interaction anxiety). Furthermore, the boundaries of particular situations remain incompletely delimited. For example: Is speaking in front of a small group different from speaking in front of a large group? Is initiating a conversation with friends different from doing so with strangers, authority figures, or co-workers? Thus, the concept of "most situations" can lead to various outcomes depending on how "most" is defined and how "situation" is defined.

Some authors suggest that any differentiation of SAD into subtypes or any application of SAD-related specifiers is arbitrary, as many of the reported differences are related to severity and do not constitute categorical distinctions. Instead, they propose that social phobia exists along a continuum—the greater the number of feared situations, the greater the clinical severity.[9–13] Several recent studies support this contention. First, the National Comorbidity Survey Replication (NCS-R) data revealed little evidence for distinct subtypes based on the number of fears.[14] SAD was associated with significant psychiatric comorbidity, role impairment, and treatment-seeking, all of which had a linear dose–response relation with number of social fears. Second, data from the Netherlands Mental Health Survey and Incidence Study (NEMESIS) similarly indicated a linear dose–response relation between number of social fears and various severity parameters.[15] As the number of social fears increased, comorbidity and service utilization increased and quality of life decreased.

A third study[16] used exploratory and confirmatory factor analytic approaches with nationally representa-

tive samples of individuals with a lifetime diagnosis of SAD. Using split-halves of the NCS-R and cross-validation with the Canadian Community Health Survey on Mental Health and Wellbeing, there was strong support for three domains reflecting (1) social interaction fears, (2) observation fears, and (3) performance fears. GSAD was operationalized as endorsing seven or more of the 13 potentially feared social situations assessed in the survey. The justification for this cutoff was that endorsing more than 50% of the situations was consistent with the meaning of the definitional term *most* essential for the GSAD label. The GSAD group was significantly more likely to report social interaction and observation fears compared to individuals with non-generalized SAD (i.e., those who endorsed six or fewer social situations). They also reported high levels of performance fears. This study suggested that having more social fears is "worse," and clearly showed that the nature of the social fears in persons with "many" social fears spans interpersonal, performance, and observational domains.

CONCLUSION

Evidence does not support the current DSM-IV designation of a categorically defined *generalized subtype*, but rather more strongly supports a view of SAD as existing on a continuum, from lesser to greater severity as a function of the number of feared and/or avoided social situations. Although evidence supports this dimensional conceptualization, the problem with defining what constitutes "a situation" remains. Both the dimensional findings and definitional problems indicate that the specifier "generalized" in its current form is not useful for DSM-V. The DSM-V Anxiety, Obsessive–Compulsive, Posttraumatic, and Dissociative Work Group is currently working on a dimensional measure across the anxiety disorders that also will include a severity scale. This scale may replace the one function that the generalized specifier currently has, namely, to indicate severity.

WHAT IS THE EVIDENCE FOR SUBTYPES OR SPECIFIERS BASED ON THE CONTENT OF FEARED SITUATIONS?

For DSM-IV, the possibility of developing subtypes or specifiers based on the *content, or type*, of feared situation was explored, but it was concluded that there was insufficient evidence to warrant a content-based subtype system.[17] Since then, multiple studies have examined whether there are distinct domains of feared social situations, primarily through factor analyses of social anxiety questionnaires, e.g.,[9,18,19] and responses to epidemiological interviews.[12,14,16,20] Depending on the measure and the number of situations assessed, three to five factors have been found, and three of these were identified across multiple studies: (1) fear of performance/public speaking situations[9,16,18,19,21] (see also[20] for a reanalysis of an originally negative finding), (2) fear of social interaction situations (e.g., talking to unfamiliar people, dating, party situations), and (3) fear of observation situations (e.g., being watched while working, writing, or eating;[16,18,19,21] see also[22,23]). The one study that failed to find any evidence for content domains was based on a community sample rather than a social phobia sample.[14]. In addition to these factor analytic findings, the DSM-V committee recognized an emerging literature on fear of blushing and sweating. Accordingly, we reviewed empirical evidence for content subtypes or specifiers related to performance fears, social interaction fears, observation fears, and fears of displaying visible signs of anxiety. The most compelling evidence emerged for performance fears.

PERFORMANCE ANXIETY

Performance anxiety concerns the fear of performing for an audience (e.g., giving a public speech, a music performance, or presentations in classes or meetings). As with other content-based SAD subtypes, research on performance anxiety may have been impeded by the focus in DSM-IV on generalized SAD. Individuals with performance anxiety are often classified as exhibiting non-generalized, circumscribed, or specific SAD, which includes people with other fears. Nonetheless, many studies acknowledge that the majority of individuals in the non-generalized, circumscribed, or specific SAD groups are predominantly characterized by performance fears.

This review is based largely on three earlier reviews.[8,24,25] The question of whether performance anxiety can be regarded as a subtype of SAD was the main focus of the review of Blöte et al.[17] Drawing on 16 studies, predominantly using factor analyses, cluster, and similarity analyses in community and patient samples, they concluded that the evidence supports a qualitatively distinct performance anxiety SAD subtype. Although the reviews of Hofmann et al.[8] and Hook and Valentiner[25] did not investigate specifically whether *performance* anxiety qualifies as a SAD subtype, they also concluded that performance anxiety is qualitatively distinct from other types of SAD. Overall, the data showed that performance anxiety has a phobic quality, whereas other types of SAD have more general anxiety features. That is, performance anxiety has a low genetic component, stronger psychophysiological response to speech situations, and later onset; is not related to personality characteristics, such as shyness or behavioral inhibition, and responds to β-blockers, whereas patients classified as generalized SAD or other types of SAD do not.

Familial/genetic. The prevalence of GSAD was significantly higher among first-degree relatives of people with GSAD (25%) than among relatives of comparison subjects without SAD (5%), whereas the

percentage of first-degree relatives who had specific (mostly public speaking) SAD did not differ significantly between the groups.[26] Similarly, the rate of SAD was elevated only in the relatives of subjects with GSAD in another study.[27] Taken together, these findings indicate that performance anxiety is not familial. Although this could reflect that less severe SAD, such as performance anxiety is less genetic, it may also indicate that performance anxiety has a different etiology, for example, through traumatic performance experiences.

Psychophysiology. Both reviews[8,25] concluded based on four studies[28–31] that individuals with performance anxiety show greater heart rate response when delivering a speech compared to those with GSAD. The one additional study that did not support these findings was limited by reliance on intermittent (versus continuous) heart rate recordings and that performance anxiety was not the main fear of all participants. Likewise, patients with performance anxiety attribute their fear to panic attacks more than to fear of negative evaluation.[32] In line with this, anxiety sensitivity, the fear of hyperarousal, such as increased heart rate or muscle tension, was a predictor for performance anxiety but not for GSAD in a student population.[33] However, in a young female population, this finding was not replicated.[13] Finally, performance anxiety was more associated with hyperarousal, whereas interaction anxiety was more related to a low positive affect factor.[34] In sum, performance fear appears to be related to hyperarousal (e.g., heart rate, panic), and fear of such hyperarousal may maintain performance anxiety.

Development. Specific SAD, mostly including performance anxiety, has a later onset (mean 16.9) than GSAD (mean 10.9).[27] It is possible that demands for a performance, such as giving a speech, is more common for older children and, therefore, the possibility of conditioning experiences are more relevant for performance SAD during adolescence. As interpersonal encounters and negative evaluation in interpersonal contact may occur at any age, this may explain the earlier age of onset of GSAD.

Etiology. Available evidence suggests that fear conditioning is more important in the development of performance anxiety than in GSAD.[35] That is, patients with specific SAD, mostly performance anxiety, reported more "traumatic social experiences" (such as being laughed in the classroom) than those with GSAD. However, only in 15% of the cases did such traumatic experiences occur in the same time period as the onset of the performance anxiety,[36] indicating that conditioning could not play a major role in its etiology. But, as noted above, performance anxious individuals did attribute their fear to panic attacks and most (83%) had had a panic attack.[36]

Fewer childhood factors are found to relate to performance SAD than to GSAD.[37] That is, compared to GSAD, performance SAD patients reported less marital conflict between their parents, less physical and sexual abuse, and fewer instances of failing a grade at a young age or dropping out of high school. Moreover, specific SAD patients describe their family as more sociable and less isolating compared to those with GSAD.[38] However, a limitation of that study was that the "specific" SAD group included not only performance anxiety, but also interactional anxiety, such as initiating and maintaining a conversation. Not only do GSAD patients appear to be exposed to more negative environmental factors than performance SAD, GSAD is more frequently associated with a history of childhood shyness.[35,39] More specifically, in individuals rating high on shyness, the percentage of GSAD was significantly higher than in a low shyness sample, whereas percentages of specific SAD were equal among the two shyness groups.[40] Similarly, 61% of children classified with behavioral inhibition (BI; a temperament style of wariness during exposure to novel people, things and places, which is highly related to shyness, i.e., wariness in the face of social novelty) developed social anxiety, but BI did not relate to performance anxiety.[41] Thus, shyness and BI seem unrelated to specific or performance SAD.

In sum, personality characteristics, such as shyness and BI, do not seem to be related to performance anxiety, but "traumatic experiences" and/or panic seem more important in the development of performance anxiety than in GSAD.

Treatment response. Patients with GSAD generally are found to improve to the same degree with Cognitive Behaviour Therapy (CBT) as patients with specific SAD, including performance anxiety, although they remain more severe before and after treatment.[42,43] Although the same seems true for medication, there is some evidence that the pharmacological class of medications known as β-blockers are effective in people with performance anxiety,[44–46] but not those with GSAD. In everyday practice, β-blockers are used widely by musicians, other performing artists, and people who take exams.[45]

Conclusion. There is a moderate level of evidence that individuals with solely speaking or other performance anxieties are qualitatively different from other persons with SAD, even though they share the same core cognitive concern about being scrutinized and judged negatively. They develop the fear later, are less characterized by childhood factors, are not shy or behaviorally inhibited, their fear is not familial, they have stronger psychophysiological responses and attribute their fear to it, and they are more likely to respond to β-blockers.

INTERACTION ANXIETY

In addition to performance fears, the majority of factor analytic studies identified distinct dimensions reflecting fears of interaction and observation situations.[16,18,19,22,23,47] Those findings raised the possibi-

lity of developing a tripartite subtype system based on whether the predominant fears are of performance, interaction, or observation situations. Although research is limited, extant studies indicate that social interaction and observation fears display substantial intercorrelations[16,22,48] and load on a single higher order factor,[14] which suggests that they are closely associated, a pattern that is inconsistent with the existence of distinct subtypes.

In a similar vein, some earlier writers proposed a dichotomous system that distinguished individuals with performance anxiety only from those who endorsed fear of at least one social interaction situation.[32,49] Extant studies, however, indicate that individuals with interaction fears are likely to have observation and performance fears as well (e.g.,[16] see also[50]). These findings, along with the association between interaction and observation fears, suggest that it would be inaccurate to describe the latter group as an interaction subtype. In short, extant data provide insufficient support for either a tripartite or bipartite subtype system based on situational content, but rather support the above recommendation to distinguish patients who have predominantly performance fears from those with fears across domains.

FEAR OF SHOWING ANXIETY SYMPTOMS

Many patients with SAD suffer from bodily symptoms, such as blushing, trembling, or sweating, and for almost half the patients, in a Dutch clinical sample, this is the primary source of fear.[51] These bodily reactions share the commonalities that they are observable to others and not readily controlled. Fear of blushing was most common in Dutch-referred patients with SAD, followed by fear of trembling, and then fear of sweating.[52] In Japanese SAD patients, fear of blushing was the most frequent fear, followed by fear of feeling tense, and fear of emitting body odor[53] (regarding the last fear, see also a separate DSM-V review on olfactory reference syndrome) [Feusner et al., submitted]. Fear of blocking can also be regarded as a fear of showing uncontrollable anxiety symptoms, which may be apparent in performance, observation, and interactional situations.

Phenomenology. Three medical conditions may relate to fears of showing anxiety symptoms. Hyperhydrosis (axillary and palmar) is a serious condition that can lead from moderate to extreme impairment in interpersonal relationships and social situations. It is likely that many of these patients meet criteria for SAD as well, because a convenience sample of 354 patients reported moderate to extreme limitations resulting from Hyperhydrosis in meeting people for the first time, being in public places, shaking hands, developing personal relationships, participation in family events, and sexual activities compared to controls.[54] Second is essential tremor, a condition that also can lead to social impairment and fear of being noticed for trembling. Third is Rosacea, a distinct chronic skin disorder affecting primarily the central areas of the face. Flushing is one of the symptoms. Rosacea patients show higher facial blushing as assessed with a plethysmograph.[55] In these three syndromes, actual flushing, trembling, and sweating are essential symptoms. The fear and inability to urinate in public restrooms when other persons are present or may be entering the room (paruresis, or so-called shy bladder syndrome) can be regarded as a fourth condition that relates to fear of showing bodily symptoms, in the sense that not being able to urinate in public is a form of blocking or an observable anxiety symptom that cannot be controlled. Paruresis is regarded as a rare form of SAD (e.g.,[56]), and is mentioned as an example of social phobia in the DSM-IV TR, but has not received much research attention. However, Hammelstein and Soifer[57] found paruresis to be distinct from GSAD and NGSAD. Clearly more research is needed.

Genetics. A potential role of functional serotonin transporter gene variation in blushing propensity in patients with SAD has been suggested.[58] That is, those with less active HTTLPR genotypes among SAD patients had higher blushing propensity scores. As blushing propensity is strongly related to fear of blushing,[59] this finding suggests a genetic liability among a subgroup of SAD patients to develop erytrophobia.

Factor analytic studies. Fear that others will notice signs of anxiety was found to be a factor separate from performance, interactional, and observation fears in a factor analytic study on the SPS/SIAS.[18] Indirect support comes from a factor analysis of the Liebowitz Social Anxiety Scale,[19] in which fear of eating and drinking in public, which is often caused by fear of trembling, was a separate factor from performance, interactional, and observational fears. Studies investigating objective social behavior of SAD patients identified two factors: a visible anxiety factor and a social behavior factor.[60,61] These same visible anxiety factor and social behavior factors were found in SAD children while performing social tasks.[62] Therefore, showing visible anxiety symptoms appears to be a different dimension from social behavior in SAD.

Psychophysiological findings. Blushing is a hallmark physical sign of SAD and seems to be unique to SAD. For example, socially anxious individuals were characterized by greater physiological blushing (measured using a cheek plethysmograph and cheek temperature during a conversation with an unknown man and woman) than low socially anxious individuals, whereas no differences were found in their skin conductance response (SCR).[60] The latter is important, as it suggests that blushing is not merely a stress response to a stressful social interaction, but differentiates the way socially anxious and non-anxious individuals react to social stresses. In another study using similar measures, referred patients with SAD were characterized by more physiological blushing

during a conversation and a speech compared to normal control subjects.[63] Comparing patients with fear of blushing as the primary source of fear to other SAD patients, those suffering from fear of blushing had higher physiological blushing than SAD patients without this primary fear, and were identified by independent observers as blushing more often and more intensely.[63] Again, they did not show higher SCR than SAD patients without fear of blushing. The only other study that specifically studied SAD patients with and without blushing fear[64] did not find such physiological differences between these SAD groups. The authors suggest that their tasks might not have elicited enough blushing, as they also did not find self-report blushing differences.

Cultural issues. Another argument for distinguishing a fear of showing anxiety symptoms specifier is that this problem is very common in Asiatic cultures[65] and is the predominant fear in SAD patients with *taijin kyofusho*.[53,66]

Etiology. A disposition to easily blush, sweat or, tremble, or for those responses to be more visible (e.g., because of thin skin) might contribute to social fear of showing those responses. With respect to the learning history of fear of showing bodily symptoms, people with subclinical as well as clinical SAD, who endorsed fear of blushing as the primary complaint, reported more traumatic experiences (e.g., being ridiculed when blushing) preceding the fear, suggesting that conditioning may play a role in its etiology.[67] SAD patients with fear of showing bodily symptoms can be differentiated from SAD patients without such a primary fear and controls, by the self-rated intensity and avoidance of the symptoms (e.g., using make-up to avoid blushing to become visible), and not by negative beliefs about the symptoms.[51]

Treatment response. Treatments that have been evaluated for SAD patients with fear of anxiety symptoms are exposure,[68–70] cognitive therapy,[52,70,71] social skills training,[71] applied relaxation,[52] and task concentration training.[52,68,69] Results indicate that all of these treatments are helpful, with task concentration training being somewhat more helpful than applied relaxation[52] or exposure.[68] Unfortunately, no studies have compared treatment responses (on different treatments) in SAD patients with and without fear of showing anxiety symptoms. Surgical interventions (predominantly ganglionic clipping for sympathetic blocking) have been used for patients with excessive blushing[72] and sweating,[73] and seem to reduce blushing and sweating[74] Pharmacological treatments have not been tested specifically for SAD with primary fear of bodily symptoms. However, SAD patients report specific effects of SSRIs on blushing, but not on trembling and sweating.[75]

Conclusions. A pattern of fearing and avoiding social situations because of fear of showing anxiety symptoms has been identified in about half the patients with SAD as the primary complaint. Many of them endorse that without visible bodily symptoms they would not be anxious in social situations.[51] Fear of showing anxiety symptoms appears across cultures. SAD patients with this particular fear are found to differ in important ways: they blush more (studies of trembling and sweating are nonexistent), and seek treatment that cures the blushing rather than the anxiety. Based on the (still limited) research, a case can be made for fear of showing anxiety symptoms as a specifier. On the other hand, the core feature of SAD is the fear of being negatively evaluated, because of anxiety symptoms, certain behavior, or a certain appearance.[76,77] Therefore, a text description, of the different domains on which fear of negative evaluation is focused in SAD, would appear to be the most conservative option for DSM-V.

SUBTYPE SUMMARY

The extant literature supports including a subtype or specifier for performance anxiety. Although a case was made for a subtype based on fear of displaying visible anxiety, we judge the research to date to be insufficient to do so. Therefore, our subcommittee consensus is to eliminate the "generalized subtype" and include a subtype or specifier "Performance only: if the fear is restricted to speaking or performing in public." Individuals whose fears do not meet that definition would be diagnosed as Social Anxiety Disorder, conceptualized as falling along a dimension of severity and breadth of impairment. A second recommendation is that criterion A should be expanded to list fear of performance, social interaction, and observation situations rather than the two that are mentioned currently ("social and performance"), and that the text be expanded to discuss the various types of feared social situations presented in the empirical literature.

IS TEST ANXIETY A FORM OF SAD?

Phenomenology. Test anxiety is a condition that is not included as a diagnosis in the DSM, but has attracted the interest of researchers since the beginning of the 20th century. During the revision of the DSM-IV, test anxiety was considered for inclusion as a form of SAD.[1] This was based on a review of the literature showing that test-anxious populations endorsed elevated levels of social evaluative anxiety and that SAD patients reported elevated levels of test anxiety. However, the decision was made not to include test anxiety alone inasmuch as it was difficult to define and appeared to capture too large a range of the population (up to 40%). Test anxiety is defined as an excessive degree of fear, worry, and apprehension before, during, and/or after test situations, with symptoms of physiological reactivity and concern regarding (the consequences of) poor performance.[78] For some, test anxiety is a chronic life-long condition that forces them to cope with the disappointment of grades that do not accurately reflect their knowledge[79]

and professional underachievement.[80] Test anxiety can take the form of an anxiety disorder if (following general DSM criteria for an anxiety disorder) the fear is out of proportion with the actual danger posed by the test situation, if the test situations are avoided or else are endured with intense anxiety or distress, and if the avoidance, anxious anticipation, or distress in the feared test situations interfere significantly with the person's normal routine, occupational or academic functioning, or social activities or relationships, or there is marked distress about having the test-anxiety disorder.

As fear of negative evaluation is the core feature of test anxiety, researchers have speculated that test anxiety is a SAD subtype.[78,80] We review the evidence for this since the publication of DSM-IV.

Factor analytic studies. Four factors have been identified in relation to test anxiety: Hyperarousal, worry, inattention, and social humiliation (e.g., "I am worried that people will make fun of me when I take a test" and "I fear that my teacher will think I am stupid if I fail a test").[81] Social humiliation had the highest explained variance of the four factors, suggesting that fear of negative social evaluation is at the heart of test anxiety, as it is in SAD. In factor analytic studies on subtypes or dimensions of SAD, as noted earlier, taking an exam/interview/written test has been found to be part of observation fears.[16,47]

Comorbidity. In a small sample of test-anxious children ($N = 25$), 60% fulfilled diagnostic criteria for anxiety disorders; six for SAD, six for overanxious disorder, one for specific phobia, and two for separation anxiety disorder.[82] Fifty-four percent of a group of test-anxious children ($N = 54$) met criteria for a DSM-III-R anxiety disorder, 19 for SAD, 11 for OAD, five for specific phobia, and one for Obsessive–Compulsive Disorder.[83] In a small sample of test-anxious 9th and 10th grade students ($N = 22$), 61% met DSM-III-R criteria for an anxiety disorder, nine for Overanxious Disorder, seven for Separation Anxiety Disorder, four for Specific Phobia, three for Avoidant Disorder, and one for SAD.[84] As children with overanxious disorders would be mostly classified in DSM-IV as either GAD or SAD, as would children with avoidant disorder, on the basis of these few comorbidity studies it can be concluded that test anxiety in children appears to co-occur most with SAD followed by GAD. In contrast to these child studies, Hall[85] found no differences in rates of SAD between high and low test-anxious college students ($N = 57$), although the former group had higher levels of social anxiety as well as depression. An epidemiology study [Wittchen et al., Preparation] on $N = 3{,}021$ individuals aged 14–24 found that among those meeting CIDI DSM-IV TR criteria for SAD, 75% feared testing plus other social situations and 14% fear testing without endorsing other social situations. Test anxiety, as SAD, is strongly associated with fear of negative evaluation by others, as measured by the Fear of Negative Evaluation scale.[86] In conclusion, there is considerable overlap between test anxiety and SAD based on studies selecting test-anxious children and based on a study assessing test anxiety in individuals meeting criteria for SAD. However, there is a lack of studies in adults while child studies have small sample sizes. Therefore, evidence is insufficient for test anxiety to be part of the SAD criteria.

Maintaining factors. Self-focused attention has been found to play a maintaining role in test anxiety.[87] That is, high test-anxious subjects showed deteriorated performance in a self-focus condition (manipulated by a mirror), whereas low test-anxious subjects" performance improved in the self-focus condition. Similar effects of heightened self-focus are reported in SAD.[88] Cognitive factors, such as underestimation of performance, perfectionism, worry, test-irrelevant thinking, are all found to be related to test anxiety.[85,89,90] BI, measured by retrospective self-report, was related to social fears but unrelated to isolated test anxiety. This result is in line with studies reviewed earlier showing that performance fears are unrelated to BI, whereas other social fears are. Awareness and fear of anxiety symptoms, such as trembling and sweating, also called "emotionality" in the test anxiety literature, is also an important component of test anxiety (e.g.,[90,91]).

Treatment response. Cognitive and behavioral interventions, attention-redirection training, relaxation, anxiety management training, systematic desensitization, as well as teaching proper study habits and test-taking strategies have been found effective in reducing test anxiety and, interestingly, also improved test performance.[86,92]

Conclusions. Pervasive test anxiety is a prevalent, serious and, for some, chronic condition that can take the form of an anxiety disorder. Fear of social humiliation or fear of negative evaluation has been found to be a central feature of test anxiety. Test anxiety bears resemblance to performance SAD, wherein individuals fear rejection because of inadequate performance as well as with observation fears, wherein individuals fear negative evaluation while being observed. Fear that anxiety symptoms may hinder performance plays an important role in test anxiety as it does in SAD (e.g., trembling for a violin player, having one's mind go blank for a test-anxious student). A notable difference between SAD and test anxiety lies in the latter's fear that underperformance on a test will lead to negative nonsocial consequences (the need to repeat a class, retake an exam, or not being able to attend college), but note that these negative nonsocial consequences may have negative social consequences, such as being liked or not or the need to socialize with unknown classmates that may become a primary source of fear.

Given the similarities of test anxiety with performance and observation SAD, pervasive test anxiety could be considered as belonging to either SAD, if fear of negative evaluation by others is the core issue, or to

GAD, if irrational worry about the nonsocial consequences of failing an exam is the core issue [Andrews et al., submitted]. Less commonly, if compulsive preparation and obsessions about exams or their preparation are the central expressions, test anxiety could be part of OCD [Stein et al., submitted]. An alternative to placing test anxiety under SAD, GAD, or OCD, depending on the core fear, would be to consider pervasive test anxiety as a specific phobia. This option was been considered in the review on specific phobia for DSM-V [LeBeau et al., submitted], but it was concluded that the evidence to date do not indicate that it is better categorized as a specific phobia. More research is needed across diagnostic subgroups (e.g., SAD and GAD) and across ages (children, adolescents, adults) to examine how test anxiety is related to other anxiety disorders and whether or not it should become an anxiety disorder on its own.

The recommendation for SAD in DSM-V is to leave test anxiety where it is, in the text: "Individuals with Social Phobia often fear indirect evaluation by others, such as taking a test" (p 452).

IS SELECTIVE MUTISM A FORM OF SAD?

This section is largely based on a recent review by Viana et al.[93]

Introduction. SM is characterized by a lack of speech in settings where speaking is socially expected (e.g., school), despite the presence of normal or nearly normal speech in other situations. To meet diagnostic criteria, failure to speak must be present for at least 1 month and not better accounted for by pervasive developmental disorder, communication disorder, or a psychotic disorder. Currently, SM is classified in DSM-IV in the section on disorders first appearing in children and adolescence. However, there are substantial empirical data suggesting significant overlap of SM with SAD. Other researchers have suggested that, given the topography of SM (i.e., refusal to speak in certain settings), SM may be a symptom of oppositional defiant disorder (ODD). Our goal is to use the available evidence to determine whether SM is (a) a developmental variant of SAD, (b) a similar but distinct disorder (the current state), or (c) a symptom of an externalizing disorder, such as ODD.

Course. SM has a very early mean age of onset, ranging from 2.7 to 4.1 years.[94–96] The disorder may go unrecognized until the child enters elementary school where (s)he is consistently confronted with the challenge of speaking.[96,97] The delay in diagnosis denies these children immediate intervention and, in some cases, creates functional impairment.[98] Some children with SM "outgrow" the condition without intervention, but there currently is no means to identify them.

Comorbidity and associated features. Many investigators[95,99–102] propose that SM is characterized by anxiety, given the clinical presentation (e.g., high anxiety, avoidance) and high comorbidity with SAD[103]: approximately 65% of children with SM also meet diagnostic criteria for SAD.[96,104] Comorbidity rates with anxiety disorders, in general, range from 61 to 97%.[96,104,105] Additional comorbid anxiety disorders include separation anxiety disorder (17–32%;[94,102]) and specific phobia (30–50%;[104,106]). Although children with SM often are viewed as "shy," "anxious," or "timid" (e.g.,[107]), one study found higher parent-reported social anxiety in children with SAD than children with SM,[106] whereas another found that children with diagnoses of SM and SAD were indistinguishable on self-report measures of social anxiety, trait anxiety, and general fears[108] from children with SAD only.

In contrast, few children with SM show comorbid externalizing or oppositional disorders (6–10%) (e.g.,[104]), though somewhat elevated in comparison to rates found in the general child population.[109,110] Some children with SM present mild oppositional symptoms,[99] but the rate is not different from rates found among children with other anxiety disorders. Other studies found children with SM to have *fewer* ADHD and ODD symptoms when rated by parents than when rated by teachers,[94,111] suggesting that their oppositionality exists mostly in settings where they are required to speak. Therefore, rates of comorbidity suggest that SM is best characterized as either a developmental variant of SAD or a closely related disorder, but not an oppositional disorder.

Family history and comorbidity. Overall, the relation between SM and family history of psychopathology has been equivocal. SAD and SM were present in 70 and 37% of first-degree relatives, respectively.[101] In another study,[112] relative to controls, parents of children with SM had higher rates of lifetime GSAD (37 versus 14%) and AVPD (18 versus 5%), but these group differences only held for fathers. In yet another study, positive family histories of psychopathology (but not specifically SAD or SM) occurred in 39% of cases.[107]

SM also has been related to speech and language disorders. For example, premorbid speech and language disorders were present in 30–38% children with SM,[107,113] including language (28%) and articulation disorders (20%). In a Norwegian sample, 50% of children with SM and 12% of controls had a communication disorder,[96] including phonological disorder (43%), mixed receptive–expressive language disorder (17%), and expressive language disorder (12%). Thus, a subsample of children with SM may have a speech or language disorder. However, a variety of impairments are included in this general category and different disorders are identified in different investigations, decreasing their likelihood as a significant factor in the etiology of SM.

Treatment response. Four excellent reviews[93,103,114,115] indicate that (a) methodological weaknesses in study designs limit the confidence that

can be placed in the extant intervention outcome data, and (b) most investigations are limited to case studies. Based on the outcome of single-case experimental studies, behavioral interventions in the form of contingency management, shaping, stimulus fading, systematic desensitization, and self-modeling appear efficacious (e.g.,[114,116,117]). The efficacy of cognitive interventions for SM is less clear,[114] perhaps due to the young age of the sample.

Controlled pharmacological intervention trials have been limited to fluoxetine.[104] Parents perceived children treated with fluoxetine as significantly more improved when compared to those treated with placebo, but both groups remained highly symptomatic. In a small open trial,[119] 76% of children with SM and either avoidant disorder or SAD were considered significantly "improved" based on parent-, child-, and psychiatrist-rated measures of social behavior, social anxiety, and avoidance. Thus, although limited, the data suggest fluoxetine is potentially useful in the treatment of SM and may suggest that SM and SAD are related. The conceptualization of SM as an anxiety-based disorder could promote the use of efficacious pharmacological and psychological treatments by clinicians in traditional outpatient settings, who currently report that they are unfamiliar with and unsure of how to treat SM.

Conclusions. The SM literature describes a significant association between SM and anxiety disorders in general and SAD in particular. SM has been proposed as an extreme symptom of children with SAD rather than a stand-alone disorder,[101] a conceptualization supported by strong positive correlations among mutism severity and general anxiety, separation anxiety, and social anxiety,[116,118] the very high rates of comorbidity of SM with SAD, and the fact that the pharmacological and psychological interventions that are efficacious for SAD are also efficacious for SM. Thus, it appears that there is significant, albeit not perfect, overlap between SM and SAD.

Rather than a distinct disorder, an alternative conceptualization of SM is that it may be a developmentally specific, young child variant of SAD. That is, not speaking might be a more natural form of social avoidance for younger children than for older children and adults, which is then maintained over time by negative reinforcement from decrements in anxiety. In this case, SM is a functional behavior, learned as an avoidance strategy in much the same way that pretending to be ill on school days successfully allows the child to avoid the school environment. Thus, SM may be an avoidant *behavior* that emerges over time in the context of complex interactions between anxiety predispositions, familial patterns of inadequate reinforcement (e.g., avoidance), neurodevelopmental deficits, and other contextual pressures (e.g., second language acquisition). The idea of viewing SM as an avoidant behavior—rather than a diagnosis, per se—is analogous to the current view of school refusal being an avoidant behavior pattern rather than a specific diagnosis.

In summary, refusing to speak in front of others may be a behavior that functions to assist a child in the avoidance of an aversive event. When refusal becomes a characteristic pattern of avoidance, the condition is called SM. This brief review of the literature does not allow us to state definitively that SM is identical to SAD, although there are substantial data to suggest that the two are strongly related. Continuing to classify SM as a separate disorder could allow for the assignation of this diagnosis to a child who does not clearly appear to suffer from SAD. However, extant data indicate that the lack of social anxiety in children with SM is extremely rare. Dropping SM as a separate diagnosis could decrease artificial comorbidity, inasmuch as the most common reasons given for the refusal to speak are extreme anxiety in social settings. Finally, including SM as a young child's variant of SAD could lead to the use of more efficacious treatments for this behavior.

SOCIAL ANXIETY DISORDER VERSUS AVOIDANT PERSONALITY DISORDER

Introduction. The relationship between AVPD and GSAD is the most studied topic in the AVPD literature.[120] Alden et al.[121] published a thorough review of the AVPD literature in 2001, on which we build herein. The general conclusion from the earlier research (e.g.,[122]) and much of the more recent literature is that there is only a quantitative, and not a qualitative, distinction between GSAD and AVPD. However, other recent studies and a closer look at older ones indicate a more complex picture. Moreover, the *DSM-V* Personality and Personality Disorder Work Group is proposing that personality disorder be defined not only in terms of maladaptive traits, but also in terms of core deficits in self-concept and social/interpersonal relations, and there is little in the existing research literature that addresses this issue in relation to the SAD–AVPD overlap.

Comorbidity. Alden et al.[121] noted that SAD–AVPD comorbidity studies typically examine patients with one of these diagnoses for overlap with the other. They reported an average comorbidity rate of 42% for SAD in participants with AVPD, with somewhat higher rates for GSAD. These figures are far lower than would be expected if AVPD were simply a more severe form of SAD, although SAD patients with comorbid AVPD are more severe on a variety of indices.

Jansen et al.[123] argued that to assert a specific relationship between SAD and AVPD, a broader range of personality disorders (PDs) and/or anxiety disorders must be examined. In a patient sample, they found the rate of AVPD to be higher in those with SAD versus panic disorder (32 versus 24%), but the relationship was not specific. That is, panic disorder patients had a lower rate of AVPD than SAD patients, because they

had lower overall rates of PD than SAD patients. Furthermore, Tacken (1998, cited in[124]) reported that only half of AVPD patients in a large heterogeneous patient sample also had GSAD and over one-third had no SAD. These findings are inconsistent with a simple severity hypothesis. Data from several recent studies[125–127] also challenge the severity hypothesis. In sum, although SAD typically is more comorbid with AVPD than with other PDs and AVPD more comorbid with SAD than with other anxiety disorders, in neither case is the relationship at all exclusive, nor close enough to support a simple severity hypothesis.

Symptom picture. Alden et al.[121] reported no consistent findings to suggest that AVPD and SAD, particularly GSAD, have distinct clinical pictures, although typically that of AVPD patients is more severe. Many recent studies find similar results and draw the same conclusion (e.g.,[128,129]). However, other recent studies have reported some qualitative differences between the two disorders, such as a more complex clinical picture in AVPD (e.g., comorbidity with eating disorders and other PDs)[126] or a broader avoidant pattern.[130] Importantly, the last was found using DSM-IV, even though the nonsocial avoidance criterion that had been in DSM-III-R and still is in ICD-10 was revised so that it became another social avoidance criterion in DSM-IV. Thus, the cumulative picture from studies of the clinical pictures of SAD and AVPD indicates that although they clearly both lie along a dimension of social anxiety, AVPD has greater severity on this dimension, and also presents with additional characteristics.

Premorbid background. There are few studies of the premorbid background of patients with AVPD and none that explicitly contrast AVPD and SAD. Childhood temperament research suggests that neuroticism is common to adults with either AVPD and/or SAD,[131–134] but is a nonspecific factor shared with many other forms of psychopathology.[135] A few studies also indicate that impaired motor development is more common in children who later develop either SAD[136,137] and/or AVPD[138] than other personality disorders. Finally, retrospectively reported early social rejection has been related to later reports of both social anxiety[139] and AVPD,[140] and parenting research indicates that various negative characteristics are associated with the development of both SAD[141–144] and AVPD,[135,145,146] but comparisons with other anxiety or PDs are lacking in both these types of studies, so the specificity of these effects is unknown. In sum, there is too little work on premorbid characteristics to be definitive regarding relations between these disorders, but existing research suggests they are more similar than different.

Laboratory studies. There is little biologically based research on either SP or AVPD, and that which exists is too rudimentary and generic to indicate specifically how these disorders might be related or distinguished.[147] Moreover, given the known links between the dopaminergic and serotonergic neurotransmitter systems, general systems of activation and avoidance, including positive and negative emotionality, respectively, and depression and anxiety disorders more generally (e.g.,[148–152]), research in these domains is more likely to reveal dimensions shared across an even wider range of disorders than just SAD and AVPD than to help in their differentiation.

In a study of cognitive processing in individuals selected for AVPD symptomatology, avoidant beliefs, which are hypothesized to be related to AVPD (e.g., "If others really get to know me, they will reject me") and low self-esteem were related to an avoidant schema-congruent information-processing bias, whereas neither SAD nor general personality pathology were.[153] In a public speaking task, SAD patients with AVPD reported more anxious mood and negative cognitions than those without AVPD, although the latter had faster heart rates.[30] However, the same pattern emerged for GSAD versus non-GSAD. Thus, these studies are inconclusive with regard to the SAD-AVPD relation.

Epidemiological/family studies. Both SAD and AVPD are relatively common disorders, with lifetime prevalence estimates of 4–13% for SAD (see introduction) and 2% for AVPD.[154] Cultural variation in prevalence[155] and social/interpersonal dysfunction (e.g.,[156]) is observed, but these data shed little light on differentiating these syndromes.

A number of epidemiologic, family, and twin studies have examined the familial base of—and genetic/environmental risk factors for—SAD and AVPD. In a large Norwegian twin study, the factors underlying *whether* either AVPD or SAD developed were under common genetic control, but *which* of the two developed was due to environmental factors.[157] Regarding family studies, first-degree relatives of probands with GSAD had increased risk for both SAD and AVPD compared to relatives of those with non-GSAD.[26] Likewise, both SAD and AVPD showed increased rates in the parents of children with SM versus controls.[112] A large epidemiological sample of individuals with SAD, AVPD, or both, found an increased risk for excessive social anxiety in the relatives.[158] However, the risk did not differ by probands" diagnosis, so the authors concluded that SAD and AVPD represented "a dimension of social anxiety rather than separate disorders" (p 289).

However, studies examining a broader array of disorders reveal a more complex picture. Individuals with antisocial PD with childhood- versus adolescent-onset conduct disorder were at higher risk for both SAD and AVPD, as well as GAD, drug dependence, and both paranoid and schizoid PD.[159] Reich[160,161] reported that relatives of both dependent PD and panic disorder patients met more criteria for AVPD and dependent PD, and that familial aggregation was found among all "Cluster C" PDs, rather than specifically for each PD.[160] Thus, the SAD–AVPD link appears not to be specific to those two disorders alone.

AVPD as a schizophrenia spectrum disorder. Finally, research examining AVPD in the context of the schizophrenia spectrum has yielded mixed results. Offspring of parents with schizophrenia were at increased risk for AVPD, but not paranoid PD, although the sample was younger than the full risk period for the disorders.[162] Conversely, a family study of schizophrenia patients found an increased risk of schizotypal and paranoid PD, but not AVPD in first-degree relatives.[163] Two family studies of patients with either childhood-onset schizophrenia or ADHD plus community controls, found that AVPD was more common in the relatives of patients with schizophrenia than those of community controls, controlling for comorbid PDs that are well established as schizophrenia spectrum PDs (i.e., schizotypal and paranoid PD).[164,165] They concluded that AVPD may be a separate schizophrenia spectrum PD.

Two studies[166,167] examined the factor structure of the schizotypal PD criteria, and both found that avoidant symptoms formed a separate factor, which contributed to predicting relatives of schizophrenic versus control probands, although not as strongly as odd speech, negative symptoms, or social dysfunction.[166] Thus, some evidence links AVPD with the schizophrenia spectrum, although not as strongly as either AVPD with SAD, or other PDs with the schizophrenia spectrum. Nonetheless, these data suggest that viewing AVPD simply as a severe variant of SAD may be too narrow a characterization, and it may be fruitful to investigate specific AVPD characteristics that underlie these two apparently distinct linkages.

Long-term course. Relatively few studies have examined long-term outcomes or diagnostic course for either SAD or AVPD, but the existing data indicate that both disorders (like many others) have relatively early onsets and a persistent course, albeit with variability in severity over time.[155,168] Both the Collaborative Longitudinal Personality Study[127] and Harvard/Brown Anxiety Research Project[125] found significant but not exclusive overlap in the longitudinal courses of SAD and AVPD. Moreover, the longitudinal courses of AVPD and OCD also overlapped, although not as strongly. A prospective psychometric high-risk study[169] found an elevated risk for the development of AVPD at 5-year follow-up in two psychosis-prone groups of undergraduates.

Treatment studies. Multiple studies converge on the finding that SAD and/or AVPD patients respond to similar psychological and pharmacologic treatments, although patients with SAD tend to show greater improvement, consistent with the view that AVPD is a more severe variant of SAD (e.g.,[169,170]). However, results are mixed regarding whether patients with SAD[170] or AVPD[171] respond more quickly without[170] or with[171] comorbid AVPD. Moreover, patients (particularly those with AVPD) often do not reach a normative level of functioning within 10–15 sessions (e.g.,[172]), unlike many with SAD.

Evidence from psychological treatment studies does not differentiate SAD and AVPD. Both behavioral treatments (e.g.,[173–175]) and social skills training (e.g.,[176–178]) are effective with both disorders, although these treatments are also effective for a large number of disorders which are not necessarily closely related. Although both SAD and AVPD show some benefit from social skills training (e.g.,[176–178]), it neither exceeds that of attention controls (e.g., group discussion,[146] nor adds to efficacious treatments.[172,177] Similarly, of the very limited research on pharmacological treatment of AVPD, little evidence suggests differential effects for various pharmacologic treatments. Benzodiazepines, β-blockers, MAO inhibitors, SSRIs, and serotonin-norepinephrine reuptake inhibitors have been examined, with the greatest support for the latter three (e.g.,[176,179–181]).

Conclusions. In general, studies of the convergent and discriminant validity of SAD and AVPD across multiple domains converge on the finding that the two syndromes are highly overlapping, with AVPD representing the generally more severe disorder. However, sufficient discrepant and discriminating evidence exists to indicate that characterizing AVPD as purely an extreme form of SAD may be overly simplistic. Specifically, casting a wider net beyond these two disorders reveals that AVPD is potentially part of a schizophrenia spectrum.

Moreover, if AVPD were merged with SAD, there is a danger that clinicians might interpret serious deficits in the normal development of interpersonal relations—a cardinal feature of personality disorder—as simply severe social anxiety. Furthermore, preserving AVPD as a separate diagnosis will facilitate research into how social and interpersonal avoidance are related to not only SAD and other anxiety disorders, but also to disorders in the schizophrenic spectrum. Such research is more likely to lead to greater understanding of underlying dimensions that are shared broadly by a range of psychopathological states than either prematurely combining AVPD with SAD into a single disorder or considering AVPD a schizophrenia spectrum disorder.

DEVELOPMENTAL ISSUES

Introduction. Considerable data examine the validity of the SAD diagnosis at various ages. Since the publication of DSM-III, very similar criteria have been used to derive the diagnosis in children, adolescents, and adults. A question is whether developmentally different manifestations in the SAD diagnosis need to be added to the criteria. As a result, this review focused on data published since 1980, with the publication of DSM-III, on adults and among children and adolescents, which are first reviewed briefly. The most definitive support emerges from longitudinal investigations of socially anxious children, which are reviewed more comprehensively.

Neurobiology. Considerable work examines the biology of social anxiety in both adults and adolescents. However, strong evidence of specificity is lacking for any biological correlate of SAD per se, as opposed to a broader array of anxiety disorders, in adults as well as adolescents. Perhaps, the most intensive recent investigations in this area focus on cognitive and neural responses to social threat cues. Here, some evidence does implicate perturbed amygdala engagement to social threat cues in both adult and adolescent SAD, compared to nonsocial threat cues.[182,183]

Therapeutics. As in adults with SAD, both CBT and SSRIs have been shown to be effective in children and adolescents with SAD.[184–186] In the last instance, both CBT and fluoxetine decreased social anxiety, although only CBT improved social skill.

Family genetics. The overwhelming majority of work examines familial aggregation of SAD or shyness. Relatively few studies have attempted to disentangle the environmental and genetic determinants of familial aggregation, using either behavioral or molecular genetic approaches. Moreover, no study demonstrates a specific familial-genetic profile in SAD relative to other anxiety disorders, though some evidence from behavioral-genetics or family-based studies in adults does differentiate phobias and panic attacks more broadly from other anxiety disorders, such as generalized anxiety disorder.[187,188] Similarly, five studies were identified that demonstrate relatively broad associations between either pathological social anxiety or temperamental shyness in parents and similar features in their children.[189–194] However, as in data among adults, strong evidence of specificity does not emerge here. The overall pattern of findings provides as much support for positions suggesting that a broad tendency toward mood and anxiety disorders is transmitted as it does for positions suggesting that social anxiety symptoms specifically aggregate within families.[195–197] Thus, although shyness does appear to aggregate in families, symptoms of major depression in parents also show strong associations with symptoms of shyness or social anxiety in their offspring. No study has demonstrated specific transmission of social anxiety within families that is independent from this broader liability to mood and anxiety problems. Taken together, these findings suggest most strongly that social anxiety is transmitted from parents to children as part of a broad diathesis for mood and anxiety problems, whereas providing weaker support for the idea that social anxiety specifically also might be transmitted from parents to children.

Comorbidity and demographics. Data on both comorbidity patterns and demography appear similar to the biology, therapeutic, and familial aggregation data. Thus, anxiety disorders in both children and adults tend to show higher prevalence in females than males and to exhibit associations with a range of risk factors, such as stressful life events.[197] Moreover, SAD tends to have a relatively early onset, showing peak incidence far earlier than various other so-called "internalizing" disorders, such as major depression, panic disorder, and generalized anxiety disorder.[198] Like SAD, specific phobias and separation anxiety disorder frequently arise before puberty and show strong associations with the female sex.[197] Some evidence does emerge for a unique pattern of comorbidity, in that SAD symptoms have been shown to exhibit a uniquely strong negative association with symptoms of conduct disorder.[199] This is consistent with other work linking BI both to SAD and to reduced risk for conduct disorder.[41,200] However, a pattern of negative association between social anxiety and conduct problems is broadly consistent with other findings linking overall levels of fearlessness to high risk for conduct disorder.[201,202]

Longitudinal outcome. Data on the course of SAD probably provide the most important information speaking to the validity of the SAD diagnosis in childhood, as they test the hypothesis that children with SAD face a high risk for becoming adults with SAD. Retrospective data from important cohorts, such as the Epidemiological Catchment Area study and the National Comorbidity Surveys (NCS) suggest that adults with SAD consistently date the onset of their disorder in childhood.[203] Nevertheless, such data provide only rough approximations of developmental course, given the well-known biases inherent in retrospective dating of psychopathology and various forms of emotional phenomena.[204,205] Thus, prospective investigations provide the most definitive tests in this area.

Relatively few studies examine the longitudinal outcome of pediatric anxiety disorder cases presenting to clinical settings. Long-term outcome studies in treated samples suggest that most cases of SAD, as well as other anxiety disorders, have a relatively good prognosis.[206–208] Three specific studies provide particularly strong support for the validity of the SAD diagnosis made during childhood or adolescence. All three collected data in population-based samples, used structured psychiatric interviews to derive DSM-based diagnosis for SAD and associated conditions, and examined specificity in outcome both for SAD at one point predicting SAD at a later point, as well as for other earlier conditions predicting SAD. Because the similarities in the findings among the three studies are greater than the differences, they generate relatively clear conclusions.

An initial study found that SAD in childhood or adolescence predicted only SAD but no other conditions through the early 20s.[209] This study, however, did find that a range of other conditions during childhood predicted SAD in early adulthood. A second study generally replicated the finding that adolescent SAD not only predicted adult SAD, but also demonstrated an association with adult major depression if adolescents were followed longer into the period of risk for depression.[198] Findings in a third study following

children into late adolescence were similar: SAD at one point in development predicted the condition at later points, but SAD manifested relatively late in development and was predicted by other conditions besides earlier SAD.[210] Finally, data in other population-based samples also suggest that symptom-ratings of SAD show at least modest levels of stability.[193,211] These studies do not provide compelling evidence of specificity in outcomes, in that associations between earlier and later social anxiety symptoms emerge against a backdrop of broader associations among various mood and anxiety disorder symptoms.

Conclusions. The weight of the evidence establishes the validity of the SAD diagnosis in children and adolescence but, without question, evidence of specificity is mixed. Thus, biological, treatment, family-based, and comorbidity data demonstrate a consistent pattern of findings in children and adolescents that resemble findings in adults. Adults as well as children/adolescents with SAD can be clearly differentiated from patients with non-anxiety disorder and from healthy individuals, though more data are needed clearly differentiating SAD patients from other anxiety disorder cases. Hence, these data suggest that any broad or general changes made in the criteria for SAD in children and adolescents should probably be applied to adults as well.

Work in children and adolescents demonstrating validity has used identical criteria to identify SAD cases during childhood, adolescence, and adulthood, thus establishing the suitability of using identical criteria to make the diagnosis across these age groups. Of note, these data do not address the degree to which SAD may be expressed differently in children, adolescents, and adults. Demonstration of such differences would require studies collecting data both on the diagnosis of SAD in various age ranges, as measured using a range of criteria or measures, as well as data from the external validators discussed above. Developmental differences in the clinical manifestations of SAD tend to be instances in which the same criteria can be applied across age ranges, though expressed in slightly different ways concordant with the age of the individual. In sum, given the similarities in the available findings on the validators of SAD children/adolescents and adults, the recommendation is that no developmental subtype of SAD is needed for DSM-V and that few changes are needed.

Minimum age for SAD diagnosis. Virtually all the data reviewed above examined children of at least school age, and it is well established that the diagnosis of SAD can be made reliably in school-age children. However, establishing the diagnosis as a valid condition that is essentially equivalent to the diagnosis made at older ages requires additional data. Given the focus in DSM on clinical utility, research on effective therapies for children of different ages with severe social anxiety appears most relevant in this context. Here, far fewer studies examined young children.

In general, treatment-based studies have collected considerable data in children and adolescents from age 8 into adulthood and have demonstrated a similar treatment response in children as is found in adolescents. Other studies extend down to age 6, though with smaller overall number of patients. These studies also generate comparable findings in 6–8 year olds as in older children and adolescents.[212–214] For longitudinal studies, most data begin following children at age 9. Thus, taken together, data from clinical, therapeutic, and longitudinal studies suggest that the diagnosis of SAD can be made reliably down to age 6, and establish the validity of the diagnosis down to age 9 while also generating some evidence of validity in 6–8 year olds.

OTHER ISSUES CONCERNING THE DIAGNOSTIC CRITERIA FOR SAD

Recognition of irrationality of fear. Criterion C states that adults—but not necessarily children—should recognize that their fear is irrational or exaggerated. Our clinical impression is that some adult SAD patients do not recognize the "irrationality" of their fears. This criterion was formulated to distinguish SAD from psychotic disorders, but is not present in some other anxiety disorders, such as panic disorder. In other anxiety disorders, the criterion is less stringent; for example, in obsessive–compulsive disorder, the criterion is that the person has recognized that the obsessions or compulsions are excessive or unreasonable *at some point during the course of the disorder*. It may not be necessary to make SAD and psychotic disorders mutually exclusive, because psychotic patients with a comorbid diagnosis of SAD may benefit from a treatment for SAD. In fact, there are indications that treating SAD may prevent psychotic relapse.[215] Another reason to reevaluate criterion C is that some SAD patients with taijin kyofusho lose insight into their symptoms,[53] and poor insight tended to be more frequent in non-responders to (pharmacological) treatment. These authors argued for a "poor insight" specifier in SAD, as recognized in some other anxiety disorders (e.g., obsessive–compulsive disorder). Our recommendation for DSM-V is that it is sufficient that the clinician recognizes the fear as exaggerated, and to reword criterion C as: The fear is out of proportion with the actual danger posed by the social situation.

SAD as a comorbid state important for treatment. Criterion G states that certain mental and medical disorders, such as Pervasive Developmental Disorder (PDD), and SAD are mutually exclusive, that is, the social anxiety should not be diagnosed when attributable to PDD. Criterion H, furthermore, states that if a general medical condition or another mental disorder is present, the fear in Criterion A is unrelated to it, e.g., the fear is not of Stuttering, trembling in Parkinson's disease, or exhibiting abnormal eating behavior in Anorexia Nervosa or Bulimia Nervosa. As

was argued in the earlier section concerning psychotic disorder, persons suffering excessive social anxiety as well as from PDD and other mental or medical disorders, even if the anxiety is the direct result of the medical or mental disorder, might benefit from SAD treatment.[216,217] The recommendation for DSM-V is to revise Criterion G and to reword criterion H as: If a general medical condition (e.g., stuttering, Parkinson's disease, obesity, disfigurement from burns or injury) or another mental disorder is present, and the fear or avoidance is related to aspects of the medical condition or mental disorder, it is clearly excessive.

Duration. Severe social anxiety may occur temporarily in different stages of life in which new social roles are required (e.g., entering school, entering puberty, going to college, getting married, having children, getting divorced) and can be viewed as an adaptive response if it resolves within 6 months. Therefore, it is recommended that the duration criterion F of 6 months, which in DSM-IV applies only to persons under 18, be extended to all ages, which may set the threshold for SAD somewhat higher than is presently the case. This recommendation also would be compatible with findings that the severity threshold in DSM-IV is lower for SAD than for many other disorders [Andrews et al., submitted].

DISCUSSION/PRELIMINARY RECOMMENDATIONS FOR DSM-V

The bulk of this review concerns the evidence for subtypes or specifiers within the diagnosis of SAD. The DSM-IV specifier, *generalized*, was found to be problematic as it is poorly defined, and based on quantity rather than content. Furthermore, the DSM-IV practice of distinguishing a generalized subtype implies that the remaining people with SAD (generally denoted as "specific," "non-generalized," or "discrete" SAD) are substantially the same. Thus, the current criteria group together individuals with performance fears, fear of eating and drinking in public, fear of urinating in a public lavatory, and those with more circumscribed observational and interaction fears. It is notable that the DSM-IV social phobia workgroup also considered a subdivision of social phobia based on whether the fear concerned performance situations or social interactions, and proposed to separate the discrete type into a performance type and a "limited interactional" type.[2]

This review concludes that the evidence for a categorical specifier of *generalized* SAD is poor, as the majority of studies find that individuals with SAD fall along a continuum of severity based on the number of fears without a clear inflection point. On the other hand, when one considers fear content, fear of performance situations was found to be a distinctive variant of SAD according to the specified validators. Therefore, a specifier *predominantly performance* is proposed for DSM-V. The question remains as to whether and how to subtype the remaining cases of SAD. Factor analytic studies identified three thematic dimensions underlying the feared situations associated with SAD, namely performance, interaction, and observational. There is little evidence for establishing interaction and observational subtypes at present. Therefore, we propose two options for DSM-V: (1) define these three thematic dimensions instead of the two current dimensions in criterion A and add descriptions in the text, and (2) test the clinical utility of these three specifiers in a field trial.

The specifier "fear of showing anxiety symptoms" also was investigated. Based on the (limited) research, a case can be made for *fear of showing anxiety symptoms* as a subtype or specifier, as this would contribute to the developmental and cultural sensitivity of DSM-V and may inform treatment decisions. On the other hand, the core feature of SAD is the fear of negative evaluation, either because of the person's (1) behavior, (2) anxiety symptoms, (3) appearance, or (4) personality (e.g.,[3,69,70,209]). Therefore, including a specifier *fear of showing anxiety symptoms* implies the need to include these three other specifiers as well. Such a subtyping based on *what is feared* rather than *situations*[218] may have clinical utility, and needs more extensive research to be established. The most reasonable option for DSM-V may be a slight rewording of Criterion A and a text description outlining the different domains on which fear of negative evaluation is focused.

Pervasive test anxiety that takes the form of an anxiety disorder, but does not involve social interaction or public performance and cannot be diagnosed as GAD, has no clear place in the DSM–IV. Test anxiety could be defined as a specific phobia in DSM-V, but a subcommittee review of specific phobia concluded there was insufficient evidence for placing test anxiety under specific phobia. Given the similarities of test anxiety with performance and observation SAD, as reviewed, pervasive test anxiety could be considered as belonging to SAD, if fear of negative evaluation by others is the core issue. We recommend that the DSM-V leave test anxiety where it is, in the text: "Individuals with Social Phobia often fear indirect evaluation by others, such as taking a test" (p 452), and call for more research across diagnostic subgroups (e.g., SAD and GAD) and across ages (children, adolescents, adults) to examine how test anxiety is related to other anxiety disorders and whether test anxiety should become an anxiety disorder on its own.

Concerning the high overlap between AVPD and SAD, we conclude that sufficient discrepant and discriminating evidence exists to indicate that characterizing AVPD purely as an extreme form of SAD may be overly simplistic. Specifically, casting a wider net beyond these two disorders reveals that AVPD often occurs in the absence of SAD and is potentially also part of a schizophrenia spectrum. Moreover, if AVPD were merged with SAD, there is a danger that

clinicians might interpret serious deficits in the normal development of interpersonal relations—a cardinal feature of personality disorder—as simply severe social anxiety. The recommendation for DSM-V is to reevaluate the criteria of AVPD and its possible overlap with the DSM-V SAD criteria, but to keep AVPD as a separate diagnosis for the time being. Particular attention should be devoted to the changes in AVPD criteria from DSM-III to DSM-IV that have increased the AVPD–SAD overlap (see this review's section on history).

With respect to developmental considerations, the weight of the evidence does establish the validity of the SAD diagnosis in childhood. The developmental-specific expression of SAD in the young may have to be revised slightly to include "refusal to speak," referring to those cases of SM in which SM can be seen as an extreme form of social avoidance, comparable to school refusal.

Clearly, more research is necessary to examine the recommendations and alternatives concerning SAD for the DSM-V. Secondary data analyses can help to test the validity of the suggested changes, and field trials to test clinical utility. We hope this review will stimulate further research into the phenomenology, etiology, and treatment of SAD.

Acknowledgments. The article was commissioned by the DSM-V Anxiety, Obsessive–Compulsive Spectrum, PostTraumatic, and Dissociative Disorders workgroup. It represents the work of the authors for consideration by the work group. Andres Viana is acknowledged for his contribution.

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