

EDITORIAL

Assessment and diagnosis of social phobia in the clinic and the community¹

I have been asked to comment on the three articles on social phobia in this issue of *Psychological Medicine*. The three papers in one way or another concern themselves with important issues in the assessment and diagnosis of social phobia (also known as social anxiety disorder; Liebowitz *et al.* 2000). I do so with the caveat that I am an author on one of the papers and do not claim the same degree of objectivity in examining my own work as I do in examining the work of others. The three papers concern the psychometric evaluation of a modified version of the Clinical Global Impression (CGI) (Guy, 1976) in a sample of persons with social phobia (Zaider *et al.* 2003), the development of a self-report screening questionnaire for social phobia (Newman *et al.* 2003) and the characteristics of social phobia in the Australian National Survey of Mental Health and Wellbeing (NSMHWB) (Lampe *et al.* 2003).

Zaider *et al.* (2003) examine the validity of an adapted version of the CGI Severity and Improvement Scales for the assessment of social phobia and their change over the course of treatment. As many readers are likely aware, the CGI is a ubiquitous measure of outcome in studies of the pharmacotherapy of many disorders. It is included in virtually all industry studies of the efficacy of new medications and is designated as the one of the primary outcome measures in many of these studies. This is certainly the case in studies of social phobia and the other anxiety disorders, despite the almost total lack of studies of its psychometric characteristics. Zaider *et al.*'s study is of great importance on that basis alone.

In this study, additional information was provided to evaluators about the meaning of scale points on the CGI Severity and Improvement Ratings. This is a change from standard operating procedure, but one that we might do well to adopt more broadly. It is likely that this increased specificity will result in greater inter-rater agreement. Although this question was not addressed by Zaider *et al.* (2003), it is not trivial because a measure can be no more valid than it is reliable.

In fact, the modified CGI scales performed quite nicely in this study, giving us a modicum of hope that our previous studies that used this measure may themselves be valid. Scores on the Severity and Improvement scales were highly correlated with each other and normally distributed. They were also significantly (and often substantially) correlated with both self-report and clinician-administered measures of social anxiety symptoms, depression, disability and quality of life. In this study, we also sought to discover the factors that influenced CGI ratings. Thankfully, the patient's level of social anxiety was an important source of influence. However, the severity rating did not show itself to be a pure measure of the severity of social anxiety symptoms, as significant variance was also accounted for by measures of depression and disability. Thus, the Severity rating seems to provide a summary index of a patient's impairment, not limited to the symptoms of the specific disorder. It remains for future research to examine whether this is true for disorders other than social phobia or whether this would be the case without the specific rating instructions used in this study. It is interesting that Hope *et al.* (1997) came to a similar conclusion in a study of ratings of distress and impairment associated with a specific diagnosis that are a part of the Anxiety Disorders Interview Schedule. In addition to social anxiety symptoms, behavioural avoidance and dysphoria accounted for significant variance in these ratings. Interestingly, in the study by Zaider *et al.* (2003), the CGI Improvement ratings were not influenced by any factors other than change in social anxiety

¹ Address for correspondence: Dr Richard G. Heimberg, Adult Anxiety Clinic, Department of Psychology, Temple University, 1701 North Thirteenth Street, Philadelphia, PA 19122-6085, USA.

symptoms, suggesting that assessors have a somewhat narrower focus when judging change. However, it is not a trivial question to ask whether or not they should. Clinically, we have all seen patients who have shown similar degrees of symptomatic change; some of them are ready to take on the world while others still want to hide from it.

Newman *et al.* (2003) address another area of importance in the assessment and diagnosis of social phobia. They report three studies on the development of the Social Phobia Diagnostic Questionnaire (SPDQ). This questionnaire is very similar in concept to the Generalized Anxiety Disorder Questionnaire for DSM-IV (GAD-Q-IV), developed by the same authors (Newman *et al.* 2002) and widely used in research on generalized anxiety disorder (GAD). There is now a fairly large literature on the role of worry in GAD that has been greatly facilitated by the use of the GAD-Q-IV and its predecessor the GAD-Q (Roemer *et al.* 1995) (see review of this research by Borkovec *et al.* 2003), and we might expect similar positive results from the publication of this new measure for the diagnosis of social phobia.

Newman *et al.* (2003) rightly criticize existing screening measures of social phobia on a number of counts: lack of examination of correspondence to diagnosis by structured interview, failure to maximize sensitivity (the likelihood of having positive test results among individuals with a positive diagnosis) and specificity in diagnosis (the likelihood of having negative test results in individuals without the diagnosis), and failure to examine the test's ability to discriminate social phobia from other disorders, among others. These are all legitimate targets in the development of a psychometrically sound assessment device and Newman *et al.* (2003) have set out to develop the SPDQ with these high standards in mind.

One interesting decision made by Newman *et al.* (2003) was to calculate a total score for the SPDQ and use receiver operating characteristics (ROC) analyses to determine the cut-off score that should best determine whether or not someone meets criteria for social phobia, a decision similar to the one they made in the development of the GAD-Q-IV (Newman *et al.* 2002). It is certainly beyond the scope of this editorial to get into the fine points of ROC analyses, but the interested reader is referred to excellent works by Kraemer (1992) and Swets *et al.* (2000). However, a couple of points are relevant in evaluating the use of an approach that dictates a specific cut-off score for screening or determination of diagnosis. As acknowledged by the authors, it is possible to achieve a score on the SPDQ surpassing the recommended cut-off score of 7.38 without meeting all the specific criteria required for the diagnosis of social phobia. In fact, the cut-off score approach led to a better balance of sensitivity and specificity than was achieved when item responses were matched to the DSM-IV (American Psychiatric Association [APA], 1994) diagnostic criteria for social phobia. In the latter case, specificity was high, but sensitivity was only 57%, suggesting that almost half the cases of social phobia would be missed. However, the purpose of the testing must be considered when determining the relative balance of sensitivity and specificity. If there is no specific reason to prefer one over the other, then it makes great sense to maximize both. If the purpose is to detect persons with social phobia in the community in order to provide treatment, we would want to maximize sensitivity (i.e. we would want to miss as few real cases as possible). However, if the goal of a particular screening is to ascertain a sample of persons who are highly likely to have social phobia so that they can be studied, the diagnostic approach may be preferred. A number of true positive cases may be missed, but the ones that end up in the study sample will be highly likely to meet criteria. This may be especially important in settings in which the resources to conduct diagnostic interviews are scarce.

A recent example came up for my research group in a study comparing undergraduates with social phobia and GAD in their ability to modulate emotional expression and utilize emotional information in self-regulation (Turk *et al.* 2003). The GAD-Q-IV was used to select participants in the GAD group. In a sample of 766 undergraduates at Temple University (a large urban university with an ethnically diverse student body), 14.5% met the specific criteria for GAD, but when the cut-off score determined by Newman *et al.* (2002) to simultaneously maximize sensitivity and specificity was applied that figure grew to 33%. That is, there were 146 participants who did not meet the specific DSM criteria for GAD but did surpass the cut-off score. With this approach one-third of

our student body may meet criteria for GAD! The reasons for this discrepancy between Newman *et al.* (2002) and Turk *et al.* (2003) are not clear, but another study conducted in a large urban university setting has reported similar results (Roemer *et al.* 2003).

Another caution concerns the base rate of the disorder in the sample being screened. The cut-off score for the SPDQ was determined in a sample that included participants who were originally selected because of their social anxiety. In fact, 60 of 125 (48%) of the sample met criteria for social phobia, a much higher percentage than would be the case in a community sample or a sample of unselected students. The predictive value of test scores varies as a function of base-rate as well as sensitivity and specificity (Glaros & Kline, 1988). Positive predictive value is the percentage of true positives among those identified by the scale as positive. Negative predictive value is the percentage of true negatives among those identified by the scale as negative. If the base-rate is high, positive predictive value for given values of sensitivity and specificity will be higher and negative predictive value lower. Similarly, if the base-rate is low, negative predictive value would be inflated relative to positive predictive value. Thus, when the rate of true positives is disproportionately high (as was the case for Newman *et al.* 2003), the likelihood of a test classifying a patient as positive may be artificially inflated. Examination of varying cut-off scores within samples with different base-rates of disorder is an important agenda for the future development of both the SPDQ and the GAD-Q-IV.

The above concerns notwithstanding, the SPDQ is a measure with considerable promise. It will be important not only to study the base rate issue, but also to examine the performance of the scale in clinical and community samples as well as undergraduate students. As is also the case for the GAD-Q-IV, other possible factors that may relate to the prevalence of tested positives in a sample should be examined, and individual and cultural diversity may be important candidates for attention. Another issue that is relevant to this discussion (and which goes beyond its specific application to the SPDQ) is the relationship of anxiety to avoidance. It is interesting that Newman *et al.* (2003) state (see the footnote in their paper) that sensitivity and specificity were adversely affected when avoidance items were included in the scoring system for the SPDQ. They do not report the correlation of fear and avoidance rating in items 4 to 19. Clearly, information on avoidance is clinically important, and it is in the disjunction of anxiety and avoidance that we gain the most additional information. However, in clinical samples, anxiety and avoidance are often so highly correlated that they create a problem for measurement. For instance, in a study evaluating the psychometric characteristics of the Liebowitz Social Anxiety Scale (LSAS) (Heimberg *et al.* 1999), the correlation between the total anxiety score and the total avoidance score was $r=0.91$. I have questioned whether separate ratings for avoidance on the LSAS provide non-redundant information, and the same question may be applied to avoidance ratings for the SPDQ. In one final, unrelated, observation, the percentage of the total score that is determined by the number of situations feared (16 of the 25 items) is quite high, suggesting that the SPDQ may actually be more likely to detect persons with generalized social phobia rather than persons with focal social fears, even if these fears are associated with significant distress and impairment.

Lampe *et al.* (2003) present the first examination of social phobia in the Australian NSMHWB. This study is a simply huge undertaking in which diagnostic interviews were administered to over 10 000 individuals across Australia. Anxiety, affective and substance use disorders were examined as were a number of ICD-10 personality disorders. Probably the single most intriguing finding is the 12-month prevalence of DSM-IV social phobia (2.3%). This figure is quite similar to the 6-month prevalence (1.2–2.2%; Myers *et al.* 1984) as well as the lifetime prevalence reported in the Epidemiological Catchment Area Study (2.4%; Schneier *et al.* 1992), which utilized the diagnostic criteria of DSM-III (APA, 1980). It is quite a bit lower than 12-month prevalence rates reported in the National Comorbidity Survey (7.9%; Kessler *et al.* 1994) or the Ontario Mental Health Supplement (6.7%; Offord *et al.* 1996), both of which utilized DSM-III-R (APA, 1987) criteria, and the Early Developmental Stages of Psychopathology Study (5.2% in a sample of 14–24 year olds; Wittchen *et al.* 1999), which utilized DSM-IV criteria. This pattern is curious given that DSM-III excluded from the diagnosis of social phobia persons with generalized interpersonal anxiety

(i.e. generalized social phobia), which became part of the diagnostic criteria in the later editions of the DSM. It should also be noted that there has been controversy about the high rates of diagnosis of mental disorder in the National Comorbidity Survey and similar studies (Regier *et al.* 1998; Narrow *et al.* 2002). Narrow *et al.* (2002) have estimated that the 12-month prevalence of clinically significant social phobia may be closer to 3.7%. However, the differences in these figures also raises questions about the possible difference in prevalence and/or presentation of social phobia in varying cultural contexts, a topic that has received far too little research attention. For instance, we have noted elsewhere (Heimberg & Becker, 2002), that studies of the prevalence of social phobia in far eastern countries typically yield lower estimates than studies using the same instruments in North American or European countries. In a study of clinical presentation of patients with social phobia, Heimberg *et al.* (1997) compared the responses of patients with social phobia in the United States, Australia and Sweden to commonly used measures of social anxiety and their anxiety in situations often reported as problematic by socially anxious persons. Swedish patients generally reported greater fear of being observed by others and greater fear of eating, drinking and writing in front of others than Australian or American patients. Australian patients reported greater fears of dating and initiating conversations.

Lampe *et al.* found little difference in the prevalence of social phobia as a function of birth cohort. The 12-month prevalence was lower in the group of respondents aged 55 and above, but there were few other differences. One wonders what they might have found had they examined lifetime prevalence and considered differences in subtypes of social phobia. Heimberg *et al.* (2000) reported, in a reanalysis of data from the National Comorbidity Survey, that, prevalence was increasing in later birth cohorts for social phobia that involved multiple social fears and was not limited to public speaking.

One of the most interesting findings reported by Lampe *et al.* (2003) was that women with social phobia were over-represented among unemployed respondents whereas men with social phobia were over-represented among respondents who were not in the labour force. Since the group not in the labour force was defined to include those who chose not to seek employment, such as those engaged in full-time parenting, one might expect that women would be more highly represented in this group. It has been previously suggested that the impact of social phobia might be greater on men than women because of its impact on occupational functioning, and this has been put forward as an explanation for the over-representation of men in treatment-seeking samples compared to other anxiety disorders (Turk *et al.* 1998). Lampe *et al.*'s data are very consistent with this notion and suggest the need for more detailed study in this area.

Another important aspect of the study by Lampe *et al.* (2003) is their examination of anxious personality disorder (the closest ICD equivalent to the DSM's avoidant personality disorder). More than 6% of the total sample met criteria for anxious personality disorder, but this figure rose to more than one-third of persons with social phobia. Persons meeting criteria for both diagnoses were generally more impaired than persons meeting criteria for social phobia alone (with the notable exception of alcohol abuse, which was less likely in persons with both diagnoses), and the authors take this as support for the position that the combination is a more severe manifestation of social phobia. The issue of the overlap between social phobia and avoidant personality disorder has been a controversial issue for more than two decades (see review by Heimberg, 1996) and has yet to be adequately resolved. One of the primary reasons for the lack of resolution has been that studies have typically been conducted in samples of patients with social phobia with or without avoidant personality disorder. The fact that these issues have been examined in a community sample allows the examination of patients who meet criteria for anxious (avoidant) personality disorder without also meeting criteria for social phobia (see also Torgersen *et al.* 2001). Examination of these persons and how they compare to persons with social phobia with and without personality disorder is critical to the ultimate resolution of the debate and the determination of the proper relationship of these disorders in future editions of the ICD and DSM.

These three papers have highlighted a number of issues of importance in the study of social phobia that are important for us all to keep in mind. First is the high prevalence of this disorder.

Regardless of whether Lampe *et al.* (2003) found lower rates than in previous studies, a disorder that affects 2.3% of the population in a 12-month period is significant. Secondly, social phobia is associated with significant distress, functional impairment, and risk for the development of secondary disorder. Thirdly, social phobia is under-recognized in both psychiatric and primary care settings, implying that public and professional education remain important agenda for the future. Fourthly, it is critical that we are able to diagnose social phobia and assess change in the symptoms of social phobia over time in a reliable and valid way. Otherwise, we severely limit our understanding of the psychopathology of social phobia and how it is best treated. Effort put into the careful development and evaluation of diagnostic and assessment instruments will ultimately result in increased public health benefits and should be widely supported.

RICHARD G. HEIMBERG

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