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Discriminating Clinical From Nonclinical Manifestations of Test Anxiety: A Validation Study

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Test anxiety, although being a very common, severe, and impairing psychological disorder, is not coded as a separate diagnosis in the DSM or ICD. In the present study we investigated whether the Test Anxiety Inventory can be used to discriminate clinical and subclinical levels of test anxiety by comparing patients who seek treatment for their test anxiety in an outpatient clinic with carefully matched students with normal test anxiety. The data from 47 test-anxious patients as well as 41 healthy university students were examined. Results show that a cutoff score of ≥80 in the Test Anxiety Inventory can discriminate the clinical group from the control students. The symptom pattern of test anxiety was very consistent in the clinical group regardless of the principal diagnosis allocated by the treating clinician. Comorbid depression did not affect the severity of test anxiety. The motivation to avoid failure was one of the most important differences between patients who sought help for their test anxiety and students with nonclinical levels of test anxiety.

Keywords: test anxiety; social phobia; specific phobia; TAI

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Test anxiety is defined as an excessive degree of fear and apprehension of poor performance and resulting negative self-evaluations before, during, and/or after test situations, particularly in academic domains (Brown et al., 2010). Test anxiety is very common. Twenty to 35% of all college students report functionally impairing levels of test anxiety (Naveh-Benjamin, Lavi, McKeachie, & Lin, 1997; Zeidner, 1998). Even higher prevalence rates are reported in younger populations (up to 40%; Beidel, Turner, & Trager, 1994; McDonald, 2001).

Despite these high prevalence rates and high risk of functional impairment, test anxiety is not coded as a separate diagnosis in the DSM-IV (American Psychiatric Association, 2000) or ICD-10 (World Health Organization, 1992). Instead, examination phobia is included in the ICD-10 description of specific (isolated) phobias, whereas the DSM-IV states that impairing and distressing levels of test anxiety that interfere with daily living should be classified as a form of social phobia. Therefore, it does not come as a complete surprise that test anxiety is often coded as specific but also as social phobia. Accordingly, two recent reviews on open questions to consider for a revision of the DSM-IV in case of anxiety spectrum disorders discuss test anxiety both in the area of specific phobias (LeBeau et al., 2010) but also in the context of social anxiety disorders (Bögels et al., 2010). Both reviews point out that one central problem in defining test anxiety as a separate categorical disorder is the lack of clear diagnostic criteria, particularly the absence of any threshold or cutoff scores researchers agree on (LeBeau et al., 2010). Studies that have investigated test anxiety using self-report measures such as the Test Anxiety Scale for Children (TASC; Beidel et al., 1994) or the

Test Anxiety Inventory (TAI; Putwain, 2007) did not report any cutoff scores that could clearly discriminate clinically significant levels of test anxiety from normal manifestations of test anxiety in nonclinically impaired populations. This lack of clinical research probably contributed to the conclusion by LeBeau and coworkers (2010), who recommended retaining the term "test anxiety" to describe this anxiety that is experienced across various disorders, while Bögels et al. (2010) recommended classifying test anxiety as a special case of social phobia.

Aside from the lack of clear criteria to define clinical levels of test anxiety, there is almost no research linking clinical data with theoretical constructs that are considered to be central elements of test anxiety. One reason for this lacking connection might be that the theoretical models of test anxiety are mostly developed in the area of educational rather than clinical psychology. According to extant models (for two prominent examples, see Elliott and McGregor, 1999, for the hierarchical model of approach and avoidance achievement motivation, or Zeidner, 1998, for the transactional model of test anxiety), test anxiety is always associated with poor outcome. Indeed, numerous studies show that high test-anxious individuals show poorer performance in exams (Elliot & McGregor, 1999; Musch & Broder, 1999; Rothman, 2004), have a higher university dropout rate (Schaefer, Matthess, Pfitzer, & Köhle, 2007), and show strong negative affect and avoidance behavior (Huberty & Dick, 2006). Moreover, these models also assume that specific personal dispositions modulate test anxiety. For example, Elliot and McGregor (1999) found that fear of failure is a central concern in test-anxious individuals. Thus, the authors concluded that highly test-anxious individuals are dominated by the motivation to avoid failure rather than by the motivation to achieve certain goals of performance. Starting from this theoretical model we would predict that motivational dispositions to avoid failure are important contributors to clinical test anxiety. If correct, treatment approaches should incorporate techniques to change such elements of achievement motivation.

Thus, the present study was aimed to investigate whether it would be possible to clearly discriminate between individuals who inquired about a treatment of their test anxiety in a routine outpatient treatment unit (henceforth referred to as patients) and nonselected university students who were hypothesized to have normal levels of test anxiety in the academic domain. Using the TAI, we tested whether it was possible to define cutoff scores that clearly discriminate patients from the nonclinical sample. If successful, this would be the first screening instrument for this clinical phenomenon. In a second step, we wanted to explore whether manifestations of test anxiety differed between patients who reported test anxiety as their only problem (often then coded as a specific phobia) and those who reported fear of evaluation in other social situations, thereby receiving the diagnosis of social phobia. Moreover, we investigated whether test anxiety differed between patients with only test-anxiety concerns and patients with other principal diagnoses, but who also reported current test-anxiety symptoms. Because comorbid depression is very common in anxiety disorder patients (Brown, Campbell, Lehman, Grisham, & Mancill, 2001) and is associated with both higher anxiety levels and lower remission rates (Bruce, 2005; Campbell-Sills et al., 2012), we tested the occurrence of comorbid depression in the patient sample and its impact on test-anxiety levels.

Finally, we wanted to take the first step in evaluating whether patients with clinically relevant test anxiety differ from university students with normal test anxiety with regard to variables considered to be theoretically important predictors of test anxiety. Thus, we investigated whether motivational dispositions with regard to achievement was different between patients and student controls. Accordingly, we hypothesized that high test anxious individuals are characterized by a dominant motivation to avoid failure, as would be predicted by the model of Elliot and McGregor (1999).

Method

PARTICIPANTS

Clinical Sample

Forty-seven patients (35 females; age: $M = 25.28$, range = 20–33) from the outpatient clinic at the Department of Psychology of the University of Greifswald were included in this study. All patients had to take a test in the near future either as university students ($n = 43$) or as part of their vocational training ($n = 4$). Since test anxiety is not an explicit DSM-IV diagnosis, the inclusion procedure comprised two diagnostic steps (Figure 1). After self-referral to the outpatient clinic, all patients accomplished an initial screening interview by an experienced clinician (who did not provide treatment). Afterward, all patients were further clinically diagnosed using a standardized computer-administered personal Composite International Diagnostic Interview (CAPI-WHO-CIDI; DIAX-CIDI version by Wittchen & Pfister, 1997). If patients reported any symptoms of test anxiety either during the initial screening (free report of serious symptoms of test anxiety such as serious concerns, debilitating physiological symptoms, persistent procrastination or fear-driven avoidance with reference to exams) or during the standardized clinical interview (affirmative