



# Discriminant validity of constructs derived from the self-regulative model for evaluation anxiety for predicting clinical manifestations of test anxiety



Frank Herzer\*, Julia Wendt, Alfons O. Hamm\*\*

Department of Biological and Clinical Psychology, University of Greifswald, Franz-Mehring-Str. 47, 17487 Greifswald, Germany

## ARTICLE INFO

### Article history:

Received 14 April 2015

Received in revised form

3 July 2015

Accepted 25 July 2015

Available online 29 July 2015

### Keywords:

Test anxiety

Evaluation anxiety

Test anxiety model

Test anxiety predictors

## ABSTRACT

Test anxiety is a highly prevalent and impairing syndrome. However, research on clinically relevant manifestations of test anxiety and especially on effective treatment components is still very sparse. In the present study we examined the predictive validity of constructs derived from the self-regulative model for evaluation anxiety proposed by Zeidner and Matthews (2007) for discriminating clinical and non-clinical levels of test anxiety. We compared self-report data from 47 clinically test anxious patients with those from 41 healthy university students. Results showed that learning goals, self-concept of abilities, self-incrimination, elaboration and perfectionism were the constructs that independently separated clinical from non-clinical levels of test anxiety, thus providing the strongest discriminant validity even when controlling for an effect of the global severity of mental health problems. These constructs spread across all three domains proposed in the model, thus providing important implications for possible targets of interventions to reduce clinical levels of test anxiety.

© 2015 Elsevier Ltd. All rights reserved.

## 1. Introduction

Functionally impairing levels of test anxiety, defined as an excessive fear of poor performance and resulting negative self-evaluations before, during, and/or after test situations (Brown et al., 2010) are very common among adults (prevalence: 20–35%; Naveh-Benjamin, Lavi, McKeachie, & Lin, 1997; Zeidner, 1998) and children (prevalence: 40%; Beidel, Turner, & Trager, 1994; McDonald, 2001). According to the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013) such intense performance fears that manifest in academic settings can be diagnosed as social anxiety disorder with a “performance only” specifier if all clinical criteria are met. A recent study demonstrated that clinical levels of performance fear can be reliably discriminated from non-clinical levels of test-anxiety (Herzer, Wendt, & Hamm, 2014). The current study follows up on this research aiming to isolate relevant theoretical constructs predicting clinical levels of performance fears and, thus, providing indications for corresponding therapeutic interventions.

Zeidner and Matthews (2007) proposed an elaborated theoretical model of test anxiety based on the “self-referent executive function” (S-REF) theory of emotional distress. According to this model, state test anxiety is evoked when a testing situation generates intrusions of threatening cognitions or images focussed on thoughts of failure. These intrusions then activate executive processing concerning the possibility to fail, negative self-referent thoughts (metacognitions), and negative future consequences. These executive processes interact with a self-knowledge system characterized by negative self-beliefs and avoidant motivation. Additionally, these self-referent thoughts are supposed to be maintained by, but also to cause maladaptive behaviors in the testing situation such as performance failure and avoidance.

Various studies support an association between test anxiety and the constructs comprising the domains of self-knowledge, executive processing, and maladaptive behaviors. In the domain of *self-knowledge*, test-anxious people were found to show more dysfunctional aspects in their academic self-concept including locus of control (Carden, Bryant, & Moss, 2004; Shelton & Mallinckrodt, 1991) and self-efficiency (Bembenutty, 2009; Nie, Lau, & Liau, 2011). Their achievement motivation tends to be dominated by avoidant performance goals to prevent failure (Elliot & McGregor, 1999; Hagvet & Benson, 1997; Herzer et al., 2014) instead of self-oriented mastery goals to increase the own

\* Corresponding author.

\*\* Corresponding author.

E-mail addresses: [frank.herzer@uni-greifswald.de](mailto:frank.herzer@uni-greifswald.de) (F. Herzer), [julia.wendt@uni-greifswald.de](mailto:julia.wendt@uni-greifswald.de) (J. Wendt), [hamm@uni-greifswald.de](mailto:hamm@uni-greifswald.de) (A.O. Hamm).

competency (Cron, Slocum, John, VandeWalle, & Fu, 2005; Dweck, 2000). Highly test anxious individuals also show more dysfunctional metacognitions (Matthews, Hillyard, & Campbell, 1999; Spada, Nikcevic, Moneta, & Ireson, 2006) indicating that these individuals show maladaptive *executive processing*, as would be predicted by the model. Moreover, stress-exacerbating coping styles in testing situations have been investigated. Avoidance and self-incrimination (Blankstein, Flett, & Watson, 1992) seem to be relevant maladaptive coping styles for escalating test anxiety. As for *maladaptive behaviors* associated with high levels of test anxiety, test anxious students use less effective or more superficial learning strategies (Entwistle, 1988). Furthermore, test anxiety seems to be associated with perfectionistic learning behaviors (Accordino, Accordino, & Slaney, 2000; Ashbaugh et al., 2007; Bottos & Dewey, 2004; Stoeber, Feast, & Hayward, 2009).

Taken together there is much empirical support for the theoretical self-regulatory model of test anxiety proposed by Zeidner and Matthews (2007). Most of these studies, however, focused on a single construct and its association with test anxiety, without investigating the relationships between different constructs, their shared and specific variance in predicting different levels of test anxiety. Moreover, from a clinical point of view it would be important to investigate which constructs are important to discriminate clinical levels from non-clinical levels of test anxiety.

In the current study we investigated whether clinically test anxious patients could be validly discriminated from healthy students with normal test excitement with regard to the theoretical constructs that would be central to test anxiety according to the S-REF model. The construct of *self-knowledge* was operationalized by measuring (1) mastery goals, (2) performance avoidance and (3) self-concept of abilities. *Executive processing* was assessed measuring (1) dysfunctional metacognitions and dysfunctional coping strategies including (2) avoidance and (3) self-incrimination. *Maladaptive behaviors* in testing situations were assessed by measuring (1) using elaboration as a strategy during learning as well as (2) perfectionism and (3) commitment. In order to control for an effect of the severity of psychological distress on test anxiety we also included a global measure of distress. Our first study aim was to compare manifestations of those variables in clinically test anxious patients and a non-clinical control group that was matched for age, gender and education. According to the empirical support for the self-regulatory model of test anxiety we hypothesized significant differences between the two groups on all included variables. Among variables that clearly discriminate between the two samples we then planned to identify those that explain variance in test anxiety beyond the other variables, assuming that those should be key concepts of diagnostics and therapeutic interventions for test-anxious patients. Since the S-REF model proposes a dynamic interactive process between separate model domains self-knowledge, executive processing and maladaptive behaviors as an explanation for the maintenance of test anxiety we expect that at least one variable per domain remains significant in the context of other predictors.

## 2. Method

### 2.1. Participants and procedure

Forty-seven patients (35 females; age:  $M = 25.28$ , range = 20 to 33) from the outpatient clinic at the Department of Psychology of the University of Greifswald who stated a request for treatment of their test anxiety symptoms comprised the *clinical sample* in this study. The inclusion procedure consisted of two diagnostic steps. All patients accomplished an initial screening interview by an experienced clinician. Following, all patients were clinically diagnosed using a standardized computer-administered personal

Composite International Diagnostic Interview (CIDI-WHO-CIDI; DIA-X-CIDI version by Wittchen & Pfister, 1997). Forty-one students of the University of Greifswald (30 females; age:  $M = 24.17$ , range = 19 to 32) who reported no history of mental disorders during a screening interview (short version of the German translation of the Anxiety Disorders Interview Schedule; Brown, Di Nardo, & Barlow, 1994; the Mini-DIPS; Diagnostisches Interview bei psychischen Störungen; Margraf, 1994) were recruited for the *control sample*. Control participants were carefully matched for level of education. All participants were Caucasian. Please see Herzer et al. (2014) for a more detailed description of the study samples, recruiting procedure, and inclusion criteria.

### 2.2. Measures

After providing informed consent regarding study participation, all participants completed a battery of well-established questionnaires assessing our variables of interest. Test anxiety was assessed using the Test Anxiety Inventory (TAI-G; Spielberger, 1980; German version by Hodapp, 1991). The TAI-G is a 30-item questionnaire aimed to measure four components of test anxiety: (1) worry (thoughts of failure, self-doubts, situation-specific cognitive biases), (2) emotionality (emotional and physical tension), (3) interference (distraction from the task due to irrelevant thoughts), and (4) lack of confidence (low confidence, lacking self-worth). Response format is a 4-point Likert scale and scores range from 30 to 120 points. The internal consistency (Cronbach's  $\alpha$ ) of the subscales varies between  $\alpha = .84$  and  $\alpha = .90$  and amounts  $\alpha = .93$  for the entire test. The subscale inter-correlations vary between  $r = .34$  and  $r = .58$ ,  $\bar{x} = .5$ .

#### 2.2.1. Severity

Respondent's distress level was assessed by the Global Severity Index (GSI) subscale from the Brief Symptom Inventory (German version: Franke, 2000). The BSI is a 53-item questionnaire covering nine different symptom dimensions and three global indices of distress. The GSI combines information about the number of symptoms and the intensity of distress. Information about Cronbach's  $\alpha$  for the GSI vary between .90 and .98 (Mohammadkhani, Dobson, Amiri, & Hosseini, 2010).

#### 2.2.2. Self-knowledge

Mastery goals and performance avoidance goals were measured using the Scales for the Assessment of Learning and Achievement Motivation (German version: Spinath, Stiensmeier-Pelster, Schöne, & Dickhäuser, 2002). Self-concept of abilities was assessed using the Questionnaire for Competency and Control Beliefs (German version: Krampen, 1991).

#### 2.2.3. Executive processing

Dysfunctional metacognitions were measured using the short form of the Metacognitions Questionnaire (German version: Wells & Cartwright-Hatton, 2004). The dysfunctional coping styles of avoidance and self-incrimination were assessed using the Stress Coping Questionnaire (German version: Janke & Erdmann, 1997).

#### 2.2.4. Maladaptive behaviors

Elaboration was measured using the Inventory for the Assessment of Learning Strategies during Study (German version: Wild, Schiefele, & Winteler, 1992). Finally, perfectionism as well as commitment were assessed via Occupational Stress and Coping Inventory (German version: Schaarschmidt & Fischer, 2008). Table 1 gives an overview of test anxiety related constructs that were measured in the current study including the internal reliability of the scales that were used.

Download English Version:

<https://daneshyari.com/en/article/7262242>

Download Persian Version:

<https://daneshyari.com/article/7262242>

[Daneshyari.com](https://daneshyari.com)