

An Examination of Trait Test Anxiety in the EFL Context among Chinese Graduate Students

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Abstract: *Distinguishing trait test anxiety from state test anxiety, this study employed Achievement Anxiety Scale (Alpert and Harber, 1960) to examine 307 Chinese graduate students' trait test anxiety in the EFL context. The study involves the investigation on both debilitating and facilitative anxiety. Results show 99.7% of the participants demonstrate debilitating anxiety in EFL tests, and 15.5% of the participants have a high debilitating anxiety level. Research also reveals Chinese graduate students' debilitating and facilitative test anxiety levels significantly predict their English proficiency level.*

Keywords: trait test anxiety; debilitating test anxiety; facilitative test anxiety; EFL testing contexts; Chinese graduate students

1. Introduction

The study of test anxiety started in early 20th century, and the interest has blossomed since then with the increasing importance of tests in education; however, relatively few studies have contributed to the situations of EFL testing, even fewer in the specific context of China, where high-stakes English tests abound. Among the researches on Chinese students' test anxiety (Zheng & Chen, 1990; Mo, Wang & Wang, 1999; Wei & Liu, 2000; Zhang, 2002; Zhang, 2003; Fang, Ke, Liu, Cha & Duan, 2003; Wu, 2003; Tian & Guo, 2004; Tian & Wang, 2004; Wu & Zhao, 2004), little consideration has been given to the distinction between state and trait test anxiety; moreover, most work focuses on the study of students' debilitating test anxiety, much less work has been conducted to study facilitative test anxiety. This study attempts to make a tentative study of Chinese non-English major graduate students' trait test anxiety in EFL tests, examining both debilitating and facilitative test anxiety. To be specific, the objective of the research is to investigate the status quo of Chinese graduate students' debilitating and facilitative trait test anxiety in EFL tests, and explore the correlation between their debilitating and facilitative test anxiety and English ability or proficiency level.

2. Test Anxiety to be Examined in the Study

The purpose of this research is to investigate Chinese graduate students' trait test anxiety in EFL testing contexts, with both facilitative and debilitating anxiety levels examined. The following explains the distinction between trait and test anxiety, as well as that between facilitative and debilitating test anxiety.

2.1 Trait and state test anxiety

The distinction between state anxiety and trait anxiety was first suggested by Cattell and Scheier (1961), and Spielberger (1966, 1972, 1983) clarified this distinction. According to Spielberger (1983):

The emotional state (state anxiety) experienced during

examinations consists of feelings of tension, apprehension, nervousness, and worry and associated physiological arousal resulting from activation of the automatic nervous system. Trait anxiety refers to relatively stable individual differences in anxiety proneness to differences in the disposition to perceive a wide range of situations involving evaluative stress as dangerous or threatening and to respond to such situation with more or less intense elevations in state anxiety (p. 6).

2.2 Facilitative and debilitating test anxiety

Although it is commonly accepted that academic performance is impaired by test anxiety, empirical evidence for this phenomenon is not consistent. Negative correlations between test anxiety and performance have been found to be low to moderate, but positive relationships have also been found, suggesting test anxiety may sometimes facilitate performance (Schwarzer, Van der Ploeg, & Spielberger, 1982). According to different roles that test anxiety plays in affecting test performance, there is a distinction between debilitating test anxiety and facilitative test anxiety. Debilitating test anxiety is regarded as negative, inhibiting test takers' working and lowering their efficiency. Individuals high in debilitating test anxiety normally "experience more frequent and more intense state anxiety and self-centered worry cognitions and test-irrelevant thoughts that interfere with attention, concentration, and test performance" (Spielberger & Vagg, 1995, p. 14), and they are so preoccupied with worrisome thoughts during test taking that these thoughts preempt attentional resources, which could have been used for task-relevant mental activities, thereby decreasing performance (Mandler, 1984). Facilitative anxiety can help the test takers remain poised, alert, and sufficiently unbalanced to prevent over relaxation in a test situation (Brown, 1994), which helps test takers become more serious about the test because of the possible consequences of the results. On the contrary, if the result of the test does not have any consequence for the test taker, the test taker may not pay any attention to it.

3. Research Questions and Methods

The research is conducted to address the following two research questions: (1) What is the status quo of graduate students' debilitating and facilitative trait test anxiety in EFL tests? (2) How is students' debilitating and facilitative trait test anxiety level correlated with their language ability or proficiency level in EFL testing contexts? To achieve the purpose, a questionnaire survey is made to 307 Chinese graduate students to investigate their trait anxiety in EFL tests.

3.1 Participants

Three hundred and seven first year graduate students from a graduate university participated in this study. All of them are Chinese native speakers. They are randomly chosen from different majors, including biology, geography, physics, chemistry, etc. There are two reasons that the graduate students of this university are recruited. First, the research is about Chinese graduate students' test anxiety, and this university is the largest graduate university in terms of the number of graduate students enrolled; therefore, data collected could be representative of the Chinese graduate students. Second, these students represent a relatively homogeneous group with respect to English proficiency since they need to reach a certain level on an English proficiency test of the National Entrance Examination for Graduate Study, and they are assumed to be medium-advanced adult English learners.

3.2 Instrument

Alpert and Harber (1960)'s Achievement Anxiety Scale (AAS) is employed in this study to check graduate students' debilitating and facilitative trait anxiety level. AAS is a 19-item self-report inventory that measures two components of test anxiety: facilitative anxiety and debilitating anxiety on a five point scale. The items in the questionnaire reflect students' proneness to perceive a wide range of EFL testing contexts involving evaluative stress as dangerous or threatening, so AAS is supposed to measure trait test anxiety level. One advantage that this scale has over other measures is that it includes the facilitative sub-scale in addition to the debilitating anxiety scale. The facilitative subscale is made up of 9 items like "I work most effectively under pressure", while the debilitating subscale consists of 10 items like "Nervousness while taking an exam hinders me from doing well." The scores for each item range from 0-4, meaning NOT AT ALL, A LITTLE, MEDIUM, A LOT, ALWAYS respectively. Therefore total scores range from 0 to 36 for the facilitative subscale, and 0 to 40 for the debilitating subscale; higher scores indicate higher level of test anxiety for both facilitative and debilitating subscales.

According to Sapp (1993), AAS has excellent validity and reliability. Its facilitating scale correlates 0.37 with grade point averages, and the debilitating scale correlates -0.35 with grades. The test-retest reliabilities over a ten-week period were reported to be 0.83 for the facilitating scale and

0.87 for the debilitating scale (Alpert and Haber, 1960). In this research, the scale is translated into Chinese to exclude any misunderstanding by the students, and participant's personal information such as age, gender, major and CET Band 4(CET-4) score are added.

3.3 Procedures of data collection

Three hundred and seven non-English major graduate students in a graduate university were recruited to fill out the questionnaire, which is a Chinese version of AAS scale to test the students' level of facilitative and debilitating test anxiety in view of all English tests that they have experienced. To remove any misunderstanding caused in translation on account of word choice and sentence organization, the questionnaire survey was made after a pilot test on eight students, who are not part of the sample. During the pilot test, each of the eight students was asked about their understanding of each item of the questionnaire. Afterwards, amendments were made according to their feedback to reduce ambiguity and ensure correct and uniform understanding among the students.

4. Data Report and Analyses

In this research, data are processed for analysis through SPSS 11.5. Descriptive statistics, distribution graphs, and correlation study results are presented in data report.

4.1 Descriptive statistics

Altogether 307 students took part in the questionnaire survey, and all returned valid data. Here data are regarded as valid as long as responses to all items regarding facilitative and debilitating test anxiety are available. For the AAS scale part, responses are transformed to numeric scores according to the scale of 0-4. The higher score is, the high level of test anxiety is. Facilitative test anxiety is symbolized by FA, and debilitating test anxiety is symbolized by DE. CET-4 score is symbolized by CET. A descriptive statistics on the participants' age, facilitative and debilitating test anxiety levels, and CET-4 score is shown in Table 1.

Table 1: Descriptive statistics on the participants' age, CET-4 score, facilitative and debilitating test anxiety levels in EFL testing contexts

	N	Minimum	Maximum	Mean	Std. Deviation
AGE	289	20	36	24.24	1.923
CET	273	45.0	92.0	71.097	8.5098
FA	307	1	32	13.87	5.260
DE	307	0	35	15.59	6.961

Table 1 shows the average level of the participants' debilitating and facilitative test anxiety in EFL testing contexts. The mean facilitative test anxiety level is 13.87, and the debilitating anxiety level is 15.59. The maximum of the debilitating and facilitative test anxiety level is 35 and 32 respectively, while the minimum of debilitating and facilitative test anxiety level is 0 and 1 respectively.

4.2 Facilitative and debilitating test anxiety distribution

The following two figures show the distribution of debilitating and facilitative test anxiety among the 307 participants. Results display that Chinese graduate students' debilitating test anxiety and facilitative test anxiety levels are both of normal distribution. From Figure 1, one can see that the facilitative test anxiety levels of more than 40 students, 13.0% of the total participants, score lower than 6.25. Only 60 students, 19.5% of the total participants show facilitative test anxiety levels above 18 (half of the total score). Figure 2 shows less than 0.3% of participants are exempt from the negative effect of debilitating test anxiety, and 105 participants, 34% of the total participants, have a debilitating test anxiety level above 20 (half of the total score). About 15.5% of the total participants have a debilitating anxiety level above 30.

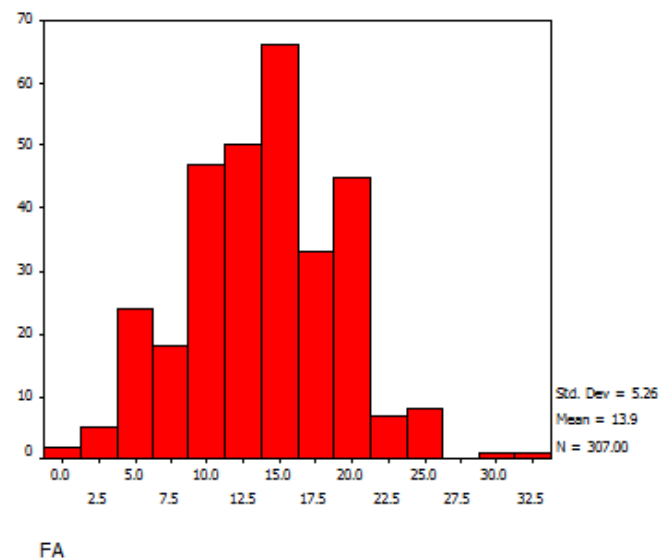


Figure 1: Histogram graph of facilitative test anxiety distribution

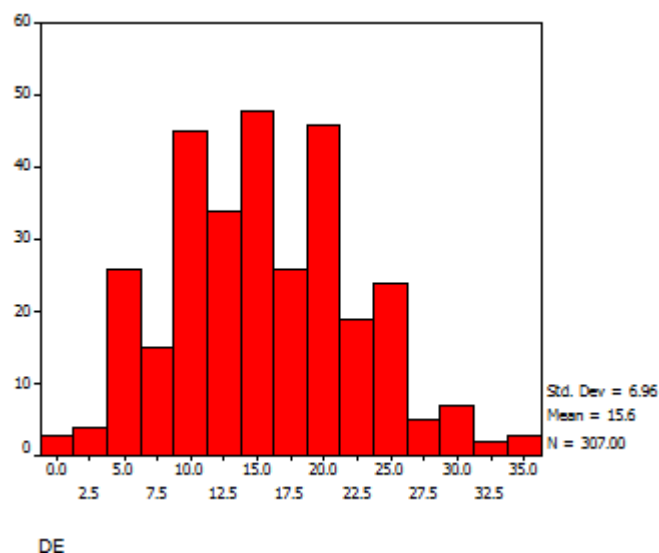


Figure 2: Histogram graph of debilitating test anxiety distribution

4.3 Grouping of low and high facilitative and debilitating trait test anxiety levels

As mentioned in Section 3.3, the total score of the five-point Likert facilitative subscale (9 items) ranges from 0 to 36, and 0 to 40 for the five-point debilitating subscale (10 items). Higher scores indicate higher level of test anxiety for both facilitative and debilitating subscales. In this study, total score of facilitative anxiety subscale lower than 9 (1*9) is regarded as low facilitative anxiety, and total score higher than 27 (3*9) is regarded as high facilitative anxiety; total score of debilitating anxiety subscale lower than 10 (1*10) is regarded as low debilitating anxiety, and total score higher than 30 (3*10) is regarded as high debilitating anxiety. The score ranges of low and high debilitating and facilitative test anxiety are described in the following Table 2:

Table 2 rating scale of high and low facilitative and debilitating test anxiety

	Low facilitative anxiety	high facilitative anxiety	Low debilitating anxiety	high debilitating anxiety
score range of facilitative or debilitating subscale	0-9	27-36	0-10	30-40

According to the above rating scale of high and low facilitative and debilitating test anxiety, the 307 participants' facilitative and debilitating anxiety levels are examined to

obtain the numbers of participants that fall into each of the following 4 groups. Results are demonstrated in Table 3:

Table 3: high and low facilitative and debilitating test anxiety groups

	Low facilitative anxiety	high facilitative anxiety	Low debilitating anxiety	high debilitating anxiety
score of facilitative or debilitating subscale	0-9	27-36	0-10	30-40
Number of participants	45	2	49	14
Percentage of total participants	14.70%	0.70%	16.00%	4.60%

From Table 3, it can be found that a relatively large number of students show low facilitative anxiety in EFL testing contexts, accounting for 14.7% of the total participants in the study; in contrast, only 2 students fall into the group of high facilitative test anxiety, accounting for 0.7%. There are

14 students exhibiting high debilitating test anxiety, accounting for 4.6%, and 49 students fall into the low debilitating anxiety group, accounting for 16.0%.

4.4 Correlation study of graduate students' trait test anxiety and English proficiency in EFL testing

A correlation study of debilitating and facilitative test anxiety with CET-4 score is made to examine how graduate students' facilitative and debilitating test anxiety is related to their English ability or proficiency level. In this study, facilitative and debilitating test anxiety levels are measured

by AAS scale, and English ability is measured by the participant's CET-4 score. Three hundred and seven participants returned valid data about their debilitating and facilitative level, and 273 participants provided their CET-4 scores. SPSS processing shows the correlation study results in the following Table 4:

Table 4: Correlation of CET-4 score with facilitative and debilitating test anxiety level

		CET	FA	DE
CET	Pearson Correlation	1	.139(*)	-.166(**)
	Sig. (2-tailed)	.	.022	.006
	N	273	273	273
FA	Pearson Correlation	.139(*)	1	-.168(**)
	Sig. (2-tailed)	.022	.	.003
	N	273	307	307
DE	Pearson Correlation	-.166(**)	-.168(**)	1
	Sig. (2-tailed)	.006	.003	.
	N	273	307	307

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

The above Table 4 shows the participant's facilitative test anxiety has a significant positive correlation with their CET-4 score ($r=0.139$), and the debilitating test anxiety has a significant negative correlation with the CET score ($r=-0.166$). The results indicate students' trait test anxiety towards English tests has a significant relationship with their English proficiency level. The higher the debilitating anxiety and the lower the facilitative anxiety a student has, the lower the student's English proficiency level is; the lower the debilitating anxiety and the higher the facilitative anxiety a student has, the higher English proficiency the student has achieved. Therefore, it can be inferred that Chinese graduate students' debilitating and facilitative test anxiety levels significantly predict their English proficiency level.

5. Conclusions and Implications

The study attempts to investigate Chinese graduate students' debilitating and facilitative trait anxiety levels in EFL testing contexts, and examine the correlation between the trait anxiety and students' English proficiency or ability level. Major findings of the research on test anxiety in EFL testing contexts in China are summarized as follows:

First, though it is reasonable to assume Chinese graduate students who have obtained many English test taking experiences may not suffer from test anxiety, almost all Chinese graduate students exhibit debilitating test anxiety towards EFL tests, and quite a number of students even demonstrate high debilitating anxiety level or low facilitative anxiety level. Since debilitating test anxiety will inhibit test taker's working efficiency and decrease their performance, it is suggested that test anxiety be taken into consideration in EFL test design as well as EFL teaching.

EFL teachers and test designers need to be aware of the existence of debilitating and facilitative test anxiety in students, the possible effects of test anxiety on student's performance, and the necessity of preventing test anxiety from working negatively on students of high test anxiety, and find solutions to diminish such negative effects.

Second, it is discovered that the correlation coefficients of debilitating and facilitative trait test anxiety with CET-4 score among the 307 participants are both significant, which implies student's debilitating and facilitative trait test anxiety levels both significantly predict their English proficiency level, and students exhibiting higher facilitative test anxiety and lower debilitating anxiety perform better in EFL tests. Therefore, EFL teachers are suggested to guide students to improve their facilitative test anxiety and lower debilitating test anxiety towards English tests. For example, students should constantly be encouraged to look forward to and enjoy taking tests, well prepare for tests and be self-confident about test results. Besides, test taking training is desired to be included in classroom activities to help students get accustomed to working under pressure and work effectively under pressure, and special training to help students concentrate on tasks should also be involved in classroom teaching.

6. Limitation

The research is a tentative study of non-English major graduate students' trait test anxiety in EFL testing contexts, and it has used a relatively small sample size and has been confined to the graduate students of one university. Thus, the sample size is a major limitation of this study, and the findings should be confirmed with a large sample and wide range of participants.

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