

## An insight into the relationships between English proficiency test anxiety and other anxieties

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**ABSTRACT:** Each year more than 100 million Chinese students take part in English proficiency tests, such as TOFEL, IELTS and the college English tests in China. This has aroused serious anxiety among those test takers. In order to look for ways to alleviate their anxiety, correlation analysis was conducted to investigate the relationships between English proficiency test anxiety and test anxiety, state anxiety, trait anxiety, English listening anxiety, English speaking anxiety, English reading anxiety and English writing anxiety. The findings revealed that English proficiency test anxiety was significantly correlated to all the above-mentioned anxieties. It was closely related to the English listening anxiety, English reading anxiety and test anxiety ( $r = 0.59, 0.58, 0.53, p < 0.01$ ) and moderately correlated to the state anxiety and trait anxiety ( $r = 0.50, 0.47, p < 0.01$ ). English proficiency test anxiety was only correlated to English speaking anxiety and English writing anxiety to a small extent ( $r = 0.47, 0.43, p < 0.01$ ). The results seemed to imply that measures that help reduce English listening and reading anxieties might also be effective for relieving English proficiency test anxiety of test takers.

### INTRODUCTION

Investigation has revealed that 22 percent of test takers have reported symptoms of anxiety relevant to English proficiency tests in mainland China, which includes tension, distress, apprehension, nervousness and worry associated with an arousal of the automatic nervous system [1]. Since more than 100 million Chinese students have to take part in English proficiency tests, such as TOFEL, IELTS and college English tests in China in their aim for a better life or career promotion, English proficiency test anxiety has become an ubiquitous problem that cannot be neglected any more.

English proficiency test anxiety (EPTA) refers to anxiety that occurs prior to, in the middle of and after any high-stake English proficiency test [2]. A principal component analysis on EPTA, Dong disclosed that it was a comprehensive construct that mainly consisted of six sub-constructs; namely, EPTA-listening, EPTA-speaking, EPTA-reading, EPTA-writing, interpersonal skill and lack of practice [3]. Correlation analysis of the six sub-constructs did not find any significant relationship among them, which proved that there were possibly six distinct constructs [3]. However, no further research has yet been conducted.

Although knowledge about EPTA is still very limited, progress regarding the identification of different kinds of anxiety has been made. For example, Spielberger made a distinction between state and trait anxiety [4]. According to him, state anxiety is an unpleasant emotional arousal in face of threatening demands or dangers. Cognitive appraisal of a threat often forms a prerequisite for the experience of this emotion [5]. Trait anxiety demonstrates the existence of stable individual differences in the tendency to respond with state anxiety in the anticipation of threatening situations.

Sarason has offered a clear definition of test anxiety [6]. According to Sarason, test anxiety is a complex state that involves cognitive, emotional, behavioural and bodily reactions to situations when people are evaluated [6]. Hembree has found that test anxiety is related directly and strongly to general anxiety proneness, more in grades 1-12 ( $r = 0.56, p < 0.01, n = 7271$ ) than at college ( $r = 0.48, p < 0.01, n = 3586$ ) [7]. Similar strong correlations have also been discovered between test anxiety, state anxiety and trait anxiety ( $r = 0.45, 0.53, p < 0.01, n = 790, 961$ ).

Research undertaken by Cheng, Horwitz and Schallert on 433 English major students at four universities in Taiwan in the spring of 1997 has demonstrated that English writing anxiety has a significant correlation with language learning anxiety ( $r = 0.65, p < 0.01$ ) [8]. In addition, all the components of language learning anxiety, including the low self-confidence in speaking English and general English classroom performance anxiety have significant moderate correlations with second language writing anxiety ( $r = 0.72, 0.69$ , respectively;  $n = 433$ ) as do the sub-components of English writing anxiety with language learning anxiety ( $r = 0.55, 0.28, 0.24$ , respectively). The sub-components of English writing anxiety here refer to low self-confidence in writing English, aversiveness to writing in English and evaluation apprehension. Among the correlations between the sub-components of language learning anxiety and those

of English writing anxiety, the general English classroom performance anxiety (one of the sub-components of the foreign language classroom anxiety) has the strongest correlation with low self-confidence in writing English, one of the sub-components of English writing anxiety, ( $r = 0.47$ ), indicating the possible existence of an element of concern about personal inadequacy [8].

According to Saito, Garza and Horwitz, English reading anxiety actually refers to second language reading anxiety when the second language involved is English [9]. With the foreign language classroom anxiety scale [10] and the foreign language reading anxiety scale [11], Saito, Garza and Horwitz have examined 192 French, 114 Japanese and 77 Russian learners, all of whom were non-native English speakers [9]. Results show that second language reading anxiety is related to, but is distinct from language learning anxiety ( $r = 0.64$ ,  $n = 383$ ,  $p < 0.01$ ). In turn, it also confirms the existence and uniqueness of second language reading anxiety. Sellers investigated 89 university students with Spanish as the foreign language and got the same result [12].

Listening comprehension has been an integral and critical part of language learning processes, and it has proved to be anxiety-provoking, even though it is a receptive skill [13]. It has been found that several sources may trigger anxiety in listening, which include the nature of the speech, level of difficulty, lack of clarity, lack of visual support and lack of repetition [14]. Besides listening, speaking is also one of the main sources of anxiety [10]. In the literature on anxiety, second language speaking anxiety is usually regarded as one of the key elements of language learning anxiety with the other two elements being test anxiety and fear of negative evaluation [15]. However, no research has been found yet with regards to the relationships between second language listening, speaking anxiety and other kinds of anxiety.

Clearly, research about the identification of different kinds of specific anxiety has been fairly successful so far, and such research is surely to continue. However, before allowing more and more new forms of anxiety to dazzle our eyes, it seems desirable to stop to get a clear picture about the relationship between them. Accordingly, in the study presented here, the author carefully examined the correlations between EPTA and state anxiety, trait anxiety, test anxiety, as well as English listening, speaking, reading and writing anxieties. The primary aim was to help people better understand the EPTA, so as to find effective ways to alleviate it.

## METHOD

### Participants

254 college students (58 females, 196 males, mean age 21 years, range 20-24 years) were recruited from universities based in West China. All of them had reported experiences in College English Test-IV, a high-stake and anxiety-arousing English proficiency tests for non-English major college students, the certificate of which was required for smooth graduation.

### Instruments

The English proficiency test scale: the scale particularly deals with test anxiety associated with English proficiency tests and has been proved to be of acceptable reliability and validity ( $\alpha = 0.748$ ; the split-half coefficient = 0.563) [1]. It was designed as a four-point Likert format (1 = hardly-ever, 2 = sometimes, 3 = often 4 = always so), because this could help to provide normally distributed data. The scale consisted of 20 items, all of which are negative in content. Thus, the higher the score is, the more anxious a person will be. Before formal administration, the scale was translated into Chinese by the researcher and double-checked by an experienced translator in Beijing.

The state trait anxiety inventory (STAI): it contains 38 items, with 18 items for the state sub-scale and 20 for the trait sub-scale [4]. The inventory is a widely accepted standardised scale that was first developed by Spielberger in 1977 (version X) and, then, revised in 1983 and 1985 (version Y). The version used for the present research was the Y version and it has been found to be of high validity and reliability. It is highly correlated with the anxiety scale questionnaire (ASQ) and manifest anxiety scales (MAS) with their correlation coefficients being 0.73 and 0.85, respectively. The test-retest reliability of the inventory is 0.54 for the state sub-scale and 0.86 for the trait sub-scale. It has been used in hundreds of studies by psychologists, and medical and educational researchers. Dreger stated that the STAI was one of the best standardised measures of anxiety [16]. The first sub-scale of the inventory measures state anxiety and the second measures trait anxiety.

The Westside test anxiety scale: it is a ten-item instrument designed to identify students with anxiety impairments [17], which has been used by school counsellors and researchers over several years. All of the items are about anxiety impairment and cognition that can weaken performance. It has been proved to be of reasonable validity and reliability [17]. Using the correlation between anxiety reduction measured by the scale and performance improvements as the validation criteria, Driscoll found that their correlation was 0.44 ( $p < 0.01$ ,  $n = 57$ ), indicating a strong correspondence between anxiety-reduction and objective test gains. Such a test was repeated twice based on different samples and their respective correlations were  $r = 0.49$  ( $df = 23$ ,  $p < 0.01$ ) and  $r = 0.40$  ( $df = 32$ ,  $p < 0.01$ ). The renowned cognitive test anxiety scale by Cassady and Johnson attained  $r = 0.25$  correlations to course test scores, accounting for a respectable 7-8% of the test variance [18]. Taken together, these numbers proved that the Westside test anxiety scale was a reliable and valid measure.

The English listening anxiety scale: it has been adapted particularly for measuring English listening anxiety from Saito, Garza and Horwitz, foreign language reading anxiety scale (FLRAS) [9]. This is the first time that this scale has been used for testing listening. The word *reading* in the FLRAS was replaced with the word *listening*. The words *French*, *Russian*, *Japanese* were replaced by *English*. The scale consisted of 20 items. Higher score indicated higher anxiety. An acceptable level of internal consistency was reported by Saito, Garza and Horwitz, which was 0.86 ( $n = 383$ ,  $p < 0.01$ ) [9]. As for the reliability of the English listening anxiety scale, related calculation will be conducted in the later part of this research.

The English reading anxiety scale: the English reading anxiety scale adopted in the current research has also been adapted from the FLRAS [9], just mentioned. The words *French*, *Russian*, *Japanese* were replaced by *English*. As with the English listening anxiety scale, the English reading anxiety scale contains 20 items, which elicit students' self-reports of anxiety over various aspects of reading, their perceptions of reading difficulties in their target language, and their perceptions of their relative difficulty of reading as compared to the difficulty of other language skills [9]. Saito, Garza and Horwitz have compared the foreign language classroom anxiety scale (FLCAS0 [10]) and the FLRAS and found them to be significantly correlated ( $r = 0.64$ ,  $n = 383$ ,  $p < 0.01$ ). This number indicated that foreign language classroom anxiety and foreign language reading anxiety shared approximately 41% of the variance, and 59% of the variance was not shared between the two constructs. Such a result helps to prove the validity of the FLRAS [9].

The second language writing anxiety test: it was revised by Cheng, Horwitz and Schallert, based on Daly and Miller's writing apprehension test [8]. According to comments collected from university students, two items were added. One of the items was related to one's worry about making grammatical mistakes and the other was related to one's anxiety about the lack of ideas. They computed the internal consistency reliability of the second language writing test (SWAT) [8]. The Cronbach's alpha for the SWAT was 0.94 ( $n = 428$ ,  $p < 0.01$ ). Results indicated that the SWAT was satisfactorily reliable in terms of internal consistency [8]. Principal components analysis of the SWAT revealed that three principal components existed, which were self-derogation in relation to English writing, aversiveness of writing in English and evaluation apprehension [8].

The English speaking anxiety scale: it is actually part of the FLCAS. In fact, all the items in it are the items that belong to the speaking component of the FLCAS. The speaking component of the FLCAS was extracted by Cheng, Horwitz and Schallert, based on results of a principal component analysis [8]. Through the analysis, two key components were found, which accounted for 43.5% of the total variance. The 10 items loaded high on the first component, which accounted for 38.1% of the total variance. Since most of them were related to low self-confidence with respect to speaking English, it was also labelled as low self-confidence in speaking English. Among the ten items loaded high on the component of the low self-confidence in speaking English, items 1 and 18 had the highest loadings (loadings = 0.77 and 0.75, respectively) [8]. They addressed one's lack of confidence in speaking English. Items 7 and 23 related to low personal estimates of English competence in comparison with others. The remaining items reflected worry about poor performance (Items 2, 13 and 31) and anxiety reactions to speaking English. A reliability and validity survey over the ten items was conducted after data for the current research was collected [8].

## Procedures

The above eight scales (Chinese version) were administered to the 254 randomly chosen students, who were arranged in two classrooms. Immediately before the administration, recordings about how to fill in these scales were played simultaneously in the two classrooms, to avoid any misunderstanding. All the students, along with the staff and teachers involved, were required to sign an informed consent document to ensure that they were better informed of the information about the research. The whole process lasted about 45 to 60 minutes. After that, 254 answer sheets were collected. Information about the valid rates of the administration is presented in Table 1:

Table 1: The valid rates of the eight scales.

Scales	Total number pieces	Valid	Valid rate (%)
English proficiency test anxiety scale	254	243	95.67
State anxiety inventory	254	245	96.46
Trait anxiety inventory	254	242	95.28
Westside test anxiety scale	254	240	94.49
English listening anxiety scale	254	251	98.82
English speaking anxiety scale	254	243	95.67
English reading anxiety scale	254	254	100
English writing anxiety test	254	240	94.49

## Data Analysis

Using SPSS 17.0, a series of correlation analysis were conducted. Correlation analysis was employed in this study to examine the extent to which two variables were dependent on each other. Here, dependence was synonymous

with correlation. The Pearson correlation coefficient was in fact the covariance of the two variables divided by the product of their standard deviations. It could be used as a measure of the linear correlation between two variables. It has a value between +1 and -1, where 1 is total positive linear correlation, 0 is no linear correlation, and -1 is total negative linear correlation.

## RESULTS

### Reliability of the Eight Instruments

Internal consistency and test-retest reliability coefficients were computed on all eight of the instruments employed in the current research. Results are presented in Table 2.

Table 2: The reliability of the eight scales.

Instrument	Cronbach's alpha	Test-retest coefficient	Sample size
English proficiency test anxiety scale	0.75	0.56	243
State anxiety inventory	0.83	0.81	245
Trait anxiety inventory	0.82	0.81	242
Westside test anxiety scale	0.81	0.77	240
English listening anxiety scale	0.71	0.097	251
English speaking anxiety scale	0.62	0.65	243
English reading anxiety scale	0.78	0.53	254
English writing anxiety scale	0.65	0.55	240

Table 2 demonstrates that except in the case of the English listening anxiety scale, the test-retest reliability of which was extremely small (0.097), the reliability of the other scales were fairly satisfactory, indicating that all of them are reliable in terms of their internal and external consistency.

### Relationships between English Proficiency Test Anxiety and other Anxieties

The results of the series of Pearson product-moment correlation coefficients are reported in Table 3.

Table 3: Correlations between the English proficiency test and other anxieties.

	Pearson product-moment correlation coefficient	Sample size
State anxiety	0.50**	245
Trait anxiety	0.47**	242
Test anxiety	0.53**	240
English listening anxiety	0.59**	251
English speaking anxiety	0.47**	243
English reading anxiety	0.58**	254
English writing anxiety	0.43**	240

\*\* $p < 0.01$  level (2-tailed)

## CONCLUSIONS

The research indicates that English proficiency test anxiety is significantly correlated with state anxiety, trait anxiety, test anxiety, as well as English listening, speaking, reading and writing anxieties. It is closely related to the English listening anxiety, English reading anxiety and test anxiety ( $r = 0.59, 0.58, 0.53, p < 0.01$ ) and moderately correlated with state anxiety and trait anxiety ( $r = 0.50, 0.47, p < 0.01$ ). In addition, English proficiency test anxiety is only correlated with English speaking anxiety and English writing anxiety to a small extent ( $r = 0.47, 0.43, p < 0.01$ ). The results seemed to imply that measures that help reduce English listening and reading anxieties might also be effective for relieving English proficiency test anxiety of test takers.

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