The Correlation between Medical Students’ Anxiety and Coping Style in the CET-4

Hua-Jie SUI\textsuperscript{a}, Xun-Bing SHEN\textsuperscript{b} and Guo-Lin NIE\textsuperscript{c,*}

School of Humanity, Jiangxi University of Traditional Chinese Medicine, Nanchang, Jiangxi, China
\textsuperscript{a}510563704@qq.com, \textsuperscript{b}16071620@qq.com, \textsuperscript{c}47253362@qq.com
*Corresponding author

Keywords: College English·CET-4-test, Anxiety coping style

Abstract. Objective: To assess the correlation between the medical students’ CET-4 test anxiety and coping style. Methods: 1. We extracted 300 subjects in Jiangxi University of Traditional Chinese Medicine with random sampling. The Chinese version of the Test Anxiety Scale (TAS) was used to assess anxiety, and the Copying Style Questionnaire (CSQ) was used to assess the coping style. 2. All the data was analyzed by SPSS (version 19.0). Results: The difference of anxiety level between genders and native place were significant (P< 0.05), and the difference between genders were significant (P<0.01). Conclusions: About 40% medical students developed CET-4 anxiety before CET-4; Native place is the important factor of the remarkable correlation between CET-4 anxiety and rationalization; Gender, native place are the important factors of remarkable correlation between CET-4 anxiety and retreat, gender is the important factor of remarkable correlation between CET-4 anxiety and seeking help.

Introduction

CET-4 is the abbreviation of the College English Test Band 4. It’s hosted by Higher educational department of the Ministry of Education. The purpose is to test college students’ English ability with an objective and accurate measurement, to improve the quality of English teaching in our country. In one hand, CET-4 belongs to the highest performance tests; therefore, it requires the participants to show their English ability as much as possible. In the other hand, CET-4 plays a quite important role in applying for a job when the college students graduate from school. Many employers treat it as a hard threshold for recruitment.

Test anxiety is a high concern of negative emotions which are caused by individuals who are too nervous about the exam, worried about their test failure will damage their self-esteem. It’s one of serious psychological problems. It’s caused by individuals’ cognitive appraisal ability, personality tendency and other factors of body and mind. It’s concerned as the basic characteristics of defense and escaping behavior. It’s also considered as a state of mind in the different levels of emotional response.\textsuperscript{[1]} CET-4 Test anxiety is especial to college students who take part in national CET-4.\textsuperscript{[2]} It often appears in different periods: before the test, during the test or even after that. It’s influenced by individuals’ cognitive evaluation skills, personality tendency, and other physical and mental factors. It’s also influenced by many factors such as family, school and social relationship. Test anxieties of different level have different effects on learning and exam inaction. Study showed that only moderate intensity of anxiety can achieve the best learning efficiency.\textsuperscript{[3]} College students are in a critical period of individual growth, the incidence of psychological problems is higher than the general population. The test anxiety not only directly affects students’ learning efficiency, but also affects the physical and mental health of students.\textsuperscript{[4]} It keeps the memory center suppressed, and causes a decline in memory, then fail in recalling the familiar knowledge.\textsuperscript{[5]} As the mediation mechanism of stress and health, coping style affects the nature of the stress and strength, and then adjust the stress relations with people’s physical and mental health. Medical students as a special group, they have heavier learning
tasks and higher learning pressure, so they may have more serious test anxiety.[6][7]

In recent years the study of college students' English level 4 test anxiety has emerged, but it’s not enough, the specific study of medical students anxiety in the CET-4 is even less, the guidance to the healthy growth of the medical students is extremely unfavorable. So further study of medical students of the college English test band 4 examination anxiety is necessary, not only for work of medical students' psychological education but also for the reform of college English test band 4 provide empirical basis.

The study on the relationship between the anxiety of college English test band 4 and the lack of the coping styles is important. This study used the test anxiety scale (TAS) and the Copying Style Questionnaire (CSQ) to survey the participants. We selected 300 college students in Jiangxi University of Traditional Chinese Medicine with the method of random sampling. All the participants were investigated for the correlation between test anxiety and coping styles of study, aimed to study the relationship between medical students' anxiety of CET-4 and coping styles, gender, native place (urban or rural), then put forward the countermeasures.

**Objects and Methods**

**Objects**

This study was conducted in the fall of 2016. All the participants were the students in Jiangxi University of Traditional Chinese Medicine who participated in the CET-4 or the first time. 300 participants (male-female) were investigated, including 142 from the town, 168 from the countryside. The investigation was made through scene answer sheet. There were 300 questionnaires distributed and a total of 275 of valid samples were collected with the 91.7% effective rate. Conform to the requirements of the statistics and analysis.

**Measuring Tool**

Measuring tools included Test Anxiety Scale (TAS) and Coping Style Questionnaire (CSQ)

**Test Anxiety Scale**

Test Anxiety Scale, TAS: It was edited by Irwin G. Sarasin, a clinical psychologist from the Department of Psychology at the University of Washington. Chinese version was translated by Wang Caking in 1999. It was a self rating scale which was used to test or assess individuals at ordinary times. There are 37 items, including all kinds of feelings and body's discomfort of individuals before and after the test, etc. Each entry required subjects to do "yes" or "no" answer according to their usual exam experience. Calculated the score of each entry point, then determine the anxiety level classification: test anxiety under 12 points belongs to a lower level, 12 points to 20 points belongs to moderate, more than 20 points belongs to a higher level. 15 points or more shows that the subjects felt discomfort considerably able when they thought of taking an examination. Scale has good reliability and validity, a week interval weight measuring reliability is 0.60, the internal consistency coefficient is 0.64.

**Copying Styles Questionnaire, CSQ**

Copying Styles Questionnaire (CSQ) was edited by Jihad Xiao as a self rating scale, which is used to test the individuals’ strategies to stress events. There are 62 projects in the questionnaire, each entry requires subjects to do "yes" or "no" answer according to their own exam experience. There are four reverse scoring title, in addition, the score of each scale is: choose "yes" to score a point, choose “whether” to 0. The questionnaire is composed of six subscales: problem solving, self-accusation, for seeking help, fantasy, retreat and rationalization. The questionnaire has good reliability and validity, the factors of load values are above 0.35, 6 factors dealing with the weight measurement correlation coefficient respectively are: r1= 0.72, r2= 0.62, r3= 0.69, r4= 0.72, r5= 0.67, r6= 0.72. This scale has good reliability.
Method

Investigation was carried in one month before the CET-4, by the strict psychological training assistant, using the same instructions, in the same place, at the same time. The participants were not required to sign their names on the test. Test time of completing the two questionnaires is about 10 ~ 20 mines.

Statistical Analysis

All data were analyzed by SPSS 19.0, including descriptive statistics, correlation analysis and variance analysis.

Results

Medical Students Anxiety Incidence of CET-4

One month was conducted among 275 students, the participants with TAS < 15 points were 165, and 110 participants were in high anxiety with TAS≥ 15 points.

Anxiety Level Score Compared under Different Conditions

As shown in table 1, the average score of anxiety level of college CET-4 for male medical students was 16.98±4.56, for female medical students was 14.80±4.52. There was significant difference between them (t = 4.747, P < 0.05). The average score of anxiety level for the medical students from the town was 16.68±4.56, while for that from the countryside was 14.17±4.68, there was significant difference between them (t = 6.59, P < 0.05).

<table>
<thead>
<tr>
<th>Variables</th>
<th>number</th>
<th>Anxiety points</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>male</td>
<td>135</td>
<td>14.80±4.52</td>
<td>4.747</td>
<td>0.02*</td>
</tr>
<tr>
<td>female</td>
<td>140</td>
<td>16.98±4.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Native place</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>town</td>
<td>137</td>
<td>16.68±4.56</td>
<td>6.59</td>
<td>0.012*</td>
</tr>
<tr>
<td>countryside</td>
<td>138</td>
<td>14.17±4.68</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** significant in .01 level (two-tailed), *significant in .05 level (two-tailed)

The Coping Way under Different Conditions

Under the Condition of Different Gender

As shown in table 2, for female medical students, the average score of "problem solving" was .69±.20, the "self-accusation" score was .40±.27, for "seeking help" score was .53±.17, "fantasy" score was .49±.23, "retreat" score was .50±.23. For male medical students, "problem solving" score was .64±.18, "self-accusation" score was .44±.25, the "seeking help" score was .51±.20, "fantasy" score was .51±.22, "retreat" score was .51 +.19. There was no significant difference between them (P > 0.05); The "rationalization" score was .39±.21 for female medical students but it was .54±.19 for male medical students; there was a highly significant difference between them (P < 0.01).
Table 2. The coping way score under different conditions (x ± s).

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Problem solving</th>
<th>Self-accusation</th>
<th>Seeking Help</th>
<th>Fantasy</th>
<th>Retreat</th>
<th>Rationalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>275</td>
<td>.66±.17</td>
<td>.38±.23</td>
<td>.52±.22</td>
<td>.50±.21</td>
<td>.53±.20</td>
<td>.47±.20</td>
</tr>
<tr>
<td>Female</td>
<td>140</td>
<td>.69±.20</td>
<td>.40±.27</td>
<td>.53±.17</td>
<td>.49±.23</td>
<td>.50±.23</td>
<td>.39±.21</td>
</tr>
<tr>
<td>Male</td>
<td>135</td>
<td>.64±.18</td>
<td>.44±.25</td>
<td>.51±.20</td>
<td>.51±.22</td>
<td>.51±.19</td>
<td>.54±.19</td>
</tr>
<tr>
<td>Town</td>
<td>137</td>
<td>.66±.21</td>
<td>.43±.25</td>
<td>.52±.19</td>
<td>.52±.22</td>
<td>.53±.21</td>
<td>.50±.20</td>
</tr>
<tr>
<td>Countryside</td>
<td>138</td>
<td>.68±.17</td>
<td>.40±.26</td>
<td>.52±.18</td>
<td>.49±.23</td>
<td>.48±.21</td>
<td>.43±.23</td>
</tr>
</tbody>
</table>

Table 3. The correlation of test anxiety and coping ways (r).

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Problem solving</th>
<th>Self-accusation</th>
<th>Seeking Help</th>
<th>Fantasy</th>
<th>Retreat</th>
<th>Rationalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>140</td>
<td>-.157</td>
<td>.727**</td>
<td>.330*</td>
<td>.258*</td>
<td>.077</td>
<td>.045</td>
</tr>
<tr>
<td>Male</td>
<td>135</td>
<td>-.027</td>
<td>.352*</td>
<td>.146</td>
<td>.239*</td>
<td>.387*</td>
<td>.061</td>
</tr>
<tr>
<td>Town</td>
<td>137</td>
<td>-.104</td>
<td>.560*</td>
<td>.343</td>
<td>.302</td>
<td>.406*</td>
<td>.200</td>
</tr>
<tr>
<td>Countryside</td>
<td>138</td>
<td>.513*</td>
<td>.040</td>
<td>.067</td>
<td>.203</td>
<td>.008</td>
<td>-0.002</td>
</tr>
<tr>
<td>Total</td>
<td>275</td>
<td>-.128</td>
<td>.547*</td>
<td>.195</td>
<td>.250</td>
<td>.196</td>
<td>.122</td>
</tr>
</tbody>
</table>

**significant in .01 level (two-tailed), *significant in .05 level (two-tailed)

Under the Condition of Different Students

As shown in Table 2, the CSQ average score for medical students of CET-4 from the town was that: "problem solving" score (.66±.21), "self-accusation" score (.43±.25) the "seeking help" score (.52±.19), "fantasy" score (.52±.22), "retreat" score (.53±.21), "rationalization" score (.50±.20), the CSQ average score for medical students of CET-4 from the town was that: "problem solving" score (.68±.17), "self-accusation" score (.40±.26), "seeking help" score (.52±.18), "fantasy" score (.49±.23), "retreat" score (.48±.21), "rationalization" score (.43±.23). There was no significant difference between them (P > 0.05).

The Correlation between Test Anxiety and Coping Styles

As shown in Table 3, we analyzed the correlation between test anxiety and coping styles. We found that for the female students, there was a significant positive correlation between test anxiety and "seeking help" "fantasy" (P < 0.05), There was a highly significant positive correlation between "self-accusation" and test anxiety (P < 0.01). The other two factors have no significant correlation with test anxiety. As for the male medical students, there was a significant positive correlation between test anxiety and "self-accusation", "fantasy" and "retreat" (P < 0.05).

We also could see that for the students from the town: "rationalization" there was significant positive correlation between test anxiety and "self-accusation" "retreat" score (P < 0.05). For the students from the countryside, there was significant positive correlation between "Problem solving" and test anxiety (P < 0.05). There were no differences between the remaining five factors.

Discussion

Medical Students Anxiety Incidence of CET-4

This study used the Test Anxiety Scale (TAS) and the Copying Style Questionnaire (CSQ). 275 participants for the first time to participate in the CET-4 medical students were investigated. Result showed that test anxiety incidence was 40% before one month and this result is similar to scholars Li Dugong’s basic research result. We may safely draw the conclusion: test anxiety is common in CET-4 for medical students.
Demographic Factors and Medical Students' Anxiety in the CET-4

**Gender and CET 4 Test Anxiety**

This research showed that, the CET - 4 test anxiety level for male medical students was significantly higher than female students (P < 0.01), there were highly significant differences between gender.

**Origin of Students and CET - 4 Test Anxiety**

This research showed that there were significantly different between CET - 4 test anxiety scores for medical students from different places (urban or rural). This conclusion was consistent with the existing domestic research results. CET - 4 test anxiety score for medical students in cities and towns of was highly significantly higher than that of rural medical students (P < 0.01).

**Demographic Factors and Medical Students’ Coping Style in CET – 4**

There was significant difference between gender (P < 0.01), The average score for male medical students on the "rationalization" is higher than that of female students. This means that the male medical students tend to use "rationalization" when they got stressed. There was significant difference between different native places. The medical students who were from the countryside were more inclined to "problem solving" (P < 0.05), While the medical students from town were more inclined to "self-accusation" and "retreat" (P < 0.05). This might mean that the crisis awareness of the students from town was relatively weaker than the medical students from the rural areas.

**The Correlation between Test Anxiety and Coping Style**

Data showed that test anxiety is a kind of anxious state, it always produced when people faced the anxious things. And way of coping style is a kind of relatively stable patterns of behavior. So the explanation of the current tendency is negative coping styles will make test anxiety more serious, while positive coping styles can reduce anxiety. This study analyzed the demographic characteristics and the correlation between test anxiety and medical students' coping styles. The result showed that the score of "self-accusation" was highly significant positive correlation with test anxiety (P < 0.01) before CET - 4 test. This means that "self-accusation" is an important factor to increase medical students' test anxiety. For female medical students, there was highly significant positive correlation between "self-accusation" and test anxiety (P < 0.01). Analyzing the reason, perhaps because of women unique exquisite, shy, and the influence of dependency, and they care more about others' evaluation. When the evaluation of others do not agree with their own evaluation, they will feel lost and confused. The traditional cultural prejudices against women, have made a lot of female college students' self experience more negative, and their achievement expectancy is too low. And low expectations may frustrate individual’s self-confidence, by deepening the individual tendency of anxiety, and it also deepen the tendency to blame.

**Conclusion**

The incidence of CET - 4 test anxiety among medical students is about 40%, with one-month investigation before the exam. As mentioned, "self-accusation" and "fantasy" "retreat" "rationalization" are important factors to increase medical students' test anxiety. There was significant correlation between test anxiety and coping style. Native place is the important factor of the remarkable correlation between CET-4 anxiety and “rationalization”; Gender, native place are the important factors of remarkable correlation between CET-4 anxiety and “retreat”, gender is the important factor of remarkable correlation between CET-4 anxiety and “seeking help”.

327
Acknowledgement

This research was financially supported by the Displine Foundation of psychology of traditional Chinese medicine, And it was also supported by the project of Jiang Xi province Education Department (NO: GJJ150885).

References


