INFLUENCE MECHANISM OF MUSIC EDUCATION ON PSYCHOLOGICAL HEALTH OF NON-MUSIC MAJOR STUDENTS

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Abstract

Music education can guide the emotions and shape the personalities of students, reducing their psychological pressure. This paper aims to clarify the influence mechanism of music education on psychological health of non-music major students. First, a unified psychological health test was carried out among non-music major students of a university in China. Based on the test results, the psychological problems of these students were identified. The students with psychological abnormalities then received music education intervention, and the intervention results were subjected to comparative analysis. The results show that music education can significantly improve the psychological health of non-music major students, thanks to its alleviation of depression, paranoia, somatization, interpersonal sensitivity and psychosis; music education is indispensable to the growth of these students, and beneficial for the formation of good personality. The research results provide a reference for the reform and optimization of music education in colleges.

Key words: Psychological Health, Music Education, Questionnaire Survey, Non-Music Major.

INTRODUCTION

In modern society, the market economy develops rapidly, and the psychological problems of college students in China are becoming more and more obvious and serious (Meltzer, Gatward, Goodman et al., 2003; Mccloskey, Figueredo, & Koss, 2010). As teenagers of this period, they are in a rebellious phase. If we are not careful with their psychological problems, they might influence their whole life (Fredrickson, Roberts, & Roberts, 2010). Children who are psychologically unhealthy (such as anxiety, depression, etc.) would need adult guidance and companionship. If they lack the care of others, they often have extreme thoughts and deeds, and even skip or drop out of school (Petrillo, Capone, Caso et al., 2015).

Therefore, how to make use of the function of music education in colleges to alleviate the psychological pressure of college students is a pressing matter to be coped with; and how to use music to regulate college students’ psychological state has become a direction worthy of exploration for colleges and universities.

Music is an art form that exists from ancient times until today. As an emotional art, it plays a natural role in regulating people’s emotions and psychology (Mays & Cochran, 2001; Hill & Pargament, 2003). Music is very attractive, and spreads in every corner of the world (Spijker, Graaf, Bijl et al., 2004). With its non-traditional expression form, it makes people resonate with music unconsciously (Majno, 2012). Under the influence of music, students can not only feel the beauty, but can also relieve stress, cultivate emotions and improve personality (Li, Huang, Lai et al., 2013). Using music to treat students’ psychological problems can guide and alleviate their different psychological problems in a targeted manner (Tilt, Werner, Brown et al., 2013), and further increase the theoretical value of
The purpose of this study is to start from teaching practice and combine with on-the-spot teaching to explore the psychological regulation function of music education on non-music major students (Phillips, Chen, Diesfeld et al., 2013; Forrester, 2018). This study aims to more objectively understand the psychological state of contemporary college students in music education activities and summarize practical experiences for future teaching practice, so as to lay a foundation for schools to find more suitable teaching methods. The research results of this paper can provide a certain reference for the reform and development of music education.

### STUDENT PSYCHOLOGICAL HEALTH CONDITIONS

In order to fully understand the psychological health conditions of college students, better prevent psychological problems and improve their psychological health, this study proposes to apply psychological theory to practical psychological health education, and conducted a unified psychological health test in XX school, so as to thoroughly master the students’ psychological health conditions, screen, track and control their psychological problems, thereby performing timely intervention on students’ psychological problems, and establishing a psychological health working mechanism combining psychological problem intervention and treatment, and thus protecting students’ psychological health.

Subjects in this field survey used the SCL-90 scale for the psychological health testing, this scale is a psychological health test scale compiled by American psychologist Drex in the mid-1970s (Dong, Yang, Song et al., 2007; Virta, Vedenpää, Grönroos et al., 2008). Wherein the “90” represents 90 kinds of psychological illnesses, each of which corresponds to a question in the SCL-90 scale test questionnaire.

In the SCL-90 scale, (1) when the average score of a particular symptom is between 0 and 1.50, it indicates that the subject does feel the psychological symptom; (2) if the score is between 1.5 and 2.5, it indicates that the subject has one or a series of psychological symptoms described, but the frequency of the symptom is not too high; (3) if the score is above 2.5, it indicates that the subject has one or a series of the psychological symptoms described, and if the score is between 2.5 and 3.5, the symptom is mild, and the frequency is moderate; if the score is between 3.5 and 4.5, the symptom is serious and occurs frequently; if the score is between 4.5 and 5, the symptom is very serious and of high frequency.

The score of a factor can be obtained by dividing the total score of each psychological state corresponding to the factor by the number of items included in the factor. We believe that factor scores can reflect the psychological health conditions of a particular type of subjects. A total of 300 freshmen participated in the test using the SCL-90 scale, 300 copies of the scale were returned, wherein 280 were valid, accounting for 93.3%. The statistical analysis results are shown in Table 1.

| Factors          | M (mean) | SD (standard deviation) |
|------------------|----------|-------------------------|
| Somatization     | 1.33     | 0.33                    |
| Obsessive-compulsive symptoms | 1.86 | 0.51                    |
| Interpersonal sensitivity | 1.89 | 0.57                    |
| Depression       | 1.65     | 0.49                    |
| Anxiety          | 1.75     | 0.46                    |
| Hostility        | 1.66     | 0.55                    |
| Phobia           | 1.38     | 0.42                    |
| Paranoia         | 1.7      | 0.53                    |
| Psychosis        | 1.49     | 0.39                    |

From the above-listed questionnaire data results we can see that, for the students participated in the investigation, their scores in the 6 factors of “Obsessive-compulsive symptom”, “Anxiety”, “Interpersonal sensitivity”, “Hostility”, “Depression” and “Paranoia” were above 1.50, it indicates that the students participated in the investigation had a series of minor psychological symptoms, which are included in above listed factors.

For certain, the above table only shows the average psychological health conditions of some non-music major students in the school. It’s because if the mean value M is equal to 1.5, naturally many students’ factor scores would be higher than the mean value. Therefore, through the questionnaire survey of the subjects, it’s found that 6 symptoms of “Obsessive-compulsive symptom”, “Anxiety”, “Interpersonal sensitivity”, “Hostility”, “Depression” and “Paranoia” were more serious than the average level.
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Psychological abnormal student sample selection

Further, 48 volunteered non-music major students with psychological abnormalities were selected from the freshmen, among whom there were 16 students with typical symptoms of interpersonal sensitivity, depression and anxiety. The basic information of the subjects is shown in Table 2.

Symptom Checklist (SCL) survey tool and SPSS7.0 analysis tool

This study adopted SPSS 7.0 as the analytical software for statistical processing, the experimental results and related data are shown in Table 3.

It can be seen from the experimental data that the difference in the scores measured before and after the experiment is very significant (3.973, P<0.001). This confirms the hypothesis that music aesthetics can significantly improve the psychological health of students. According to the test results of each factor in the experiment, after and after the experiment, the scores of depression factor (t=4.274, P<0.001), paranoia factor (t=2.697, P<0.001), and paranoia factor (t=2.802, P<0.001) had significant differences; while for the factors of somatization, interpersonal sensitivity and psychosis (P<0.05), there were certain differences; as for the rest factors, there was no significant difference (P>0.05), as shown in Figure 1.

Therefore, in general, music education has a significant impact on subjects’ psychological health, especially the changes in the depression factor, followed by the factors of somatization, paranoia, interpersonal sensitivity and psychosis. It can be seen that music education can effectively improve the psychological health of new students and promote their psychology to grow healthily.

Figure 1. Diagrammatic sketch of research method

Table 2. Basic information of the subjects

| Background information | Interpersonal sensitivity | Depression | Anxiety |
|------------------------|---------------------------|------------|---------|
| Gender                 | Male                      | 8          | 8       | 8       |
|                        | Female                    | 8          | 8       | 8       |
| Region                 | City                      | 9          | 6       | 7       |
|                        | Countryside               | 7          | 10      | 9       |
| Major                  | Liberal arts              | 7          | 8       | 9       |
|                        | Science                   | 9          | 8       | 7       |
| Degree of Music Enjoyment| Like it very much         | 8          | 7       | 9       |
|                        | Like it a little.         | 6          | 5       | 5       |
|                        | Common                    | 4          | 6       | 4       |
| Experience in music learning |                    | 5          | 7       | 6       |
| Have a family tradition of music hobbies | 6 | 6 | 5 |
| Consider oneself to have some music talent in self-assessment | 7 | 6 | 5 |
| Considered to have some music talent judged by others | 8 | 7 | 6 |
| Favorite music types | Chinese folk music        | 7          | 6       | 8       |
|                        | Western classics          | 5          | 4       | 5       |
|                        | Pop music                 | 13         | 11      | 12      |
|                        | Modern light music        | 9          | 8       | 10      |
|                        | Play by oneself           | 5          | 4       | 4       |
|                        | Television media          | 7          | 5       | 6       |
|                        | Public place              | 6          | 7       | 7       |
|                        | Play by others            | 5          | 6       | 6       |
Table 3. Comparison of factor differences in experimental subjects

| Factors                     | Pre-test (M±SD) | Post-test (M±SD) | T-Value | P-Value |
|-----------------------------|-----------------|------------------|---------|---------|
| Somatization                | 2.06±0.592      | 1.85±0.527       | 2.266   | 0.046   |
| Obsessive-compulsive symptoms | 2.83±0.791      | 2.59±0.228       | 1.933   | 0.075   |
| Interpersonal sensitivity   | 2.85±0.559      | 2.60±0.694       | 2.422   | 0.036   |
| Depression                  | 2.78±0.617      | 2.32±0.618       | 4.401   | 0.015   |
| Anxiety                     | 2.52±0.504      | 2.34±0.414       | 1.342   | 0.197   |
| Hostility                   | 2.35±0.629      | 2.27±0.779       | 1.022   | 0.347   |
| Phobia                      | 2.14±0.201      | 1.89±0.655       | 1.267   | 0.196   |
| Paranoia                    | 2.55±0.528      | 2.23±0.579       | 2.738   | 0.025   |
| Psychosis                   | 2.39±0.468      | 2.15±0.683       | 2.643   | 0.027   |
| Total score                 | 225.16±38.559   | 197.73±42.356    | 4.028   | 0.015   |

Remarks: ※ represents P<0.05 (indicating there is a difference); ※※ represents P<0.01 (indicating there is a significant difference); ※※※ represents P<0.001 (indicating the difference is very significant).

Comparison of results
To further compare the influence of music on different psychological problems of students, 3 types of students had been selected. Wherein the A type students had obvious panic, anxious and other psychological symptoms; the B type students had obvious psychological symptoms such as inferiority and depression; they type C students were taken as contrast, so they did not have obvious psychological symptoms. Tables 4 and 5 below show the results of the SCL-90 questionnaires of Type A and Type B students before and after the music education.

Table 4. SCL-90 scores of type A students before and after music education experiment

| Factors                | Pre-experiment score | Experimen tal score | Post-experiment score |
|------------------------|----------------------|---------------------|-----------------------|
| Somatization           | 1.77                 | 1.53                | 1.31                  |
| Obsessive compulsive symptoms | 2.04              | 1.76                | 1.47                  |
| Interpersonal sensitivity | 1.80             | 1.58                | 1.40                  |
| Depression             | 2.38                 | 2.00                | 1.61                  |
| Anxiety                | 2.80                 | 2.11                | 1.67                  |
| Hostility              | 1.71                 | 1.48                | 1.25                  |
| Phobia                 | 2.19                 | 1.89                | 1.48                  |
| Paranoia               | 1.88                 | 1.67                | 1.34                  |
| Psychosis              | 1.17                 | 1.03                | 0.97                  |

It can be seen from the above table that with the advancement of music education experiment, in the SCL-90 tables of the type A students, the scores of various factors had been improved significantly. Wherein the scores of 7 factors of somatization, obsessive-compulsive symptoms, interpersonal sensitivity, depression, hostility, Phobia and paranoia had all been decreased to below 1.50.

Although the score of anxiety factor was still greater than 1.50, it’s far lower than that before the experiment. This shows that the symptom of anxiety had been significantly alleviated, as long as the music education continues, the “anxiety” score of type A students might fall below 1.50.

Table 5. SCL-90 scores of type B students before and after music education experiment

| Factors                      | Pre-experiment score | Experim ental score | Post-experiment score |
|------------------------------|----------------------|---------------------|-----------------------|
| Somatization                 | 1.98                 | 1.80                | 1.57                  |
| Obsessive compulsive symptoms | 2.30               | 1.93                | 1.64                  |
| Interpersonal sensitivity    | 2.61                 | 2.13                | 1.71                  |
| Depression                   | 2.47                 | 2.05                | 1.63                  |
| Anxiety                      | 2.93                 | 2.21                | 1.70                  |
| Hostility                    | 1.72                 | 1.51                | 1.39                  |
| Phobia                       | 3.11                 | 2.33                | 1.77                  |
| Paranoia                     | 1.56                 | 1.55                | 1.37                  |
| Psychosis                    | 1.01                 | 0.93                | 0.87                  |

It can be seen from Table 4 that with the advancement of music education, in the SCL-90 tables of the type B students, the scores of various factors had also been improved significantly. Wherein the scores of 5 factors of somatization, obsessive-compulsive symptoms, depression, hostility and paranoia were all lower than 1.50. Although the scores of “interpersonal sensitivity”, “anxiety” and “phobia” were still above 1.50, the score of “interpersonal sensitivity” was far lower than that before the experiment, and the score of “interpersonal sensitivity” was only 0.21 points higher than 1.50, which was lower than the average
score of 1.89 points in the SCL-90 tables for the non-
music major students before the experiment. The
anxiety score was 1.70 points, which was lower than
the average score of 1.75 before the experiment; the
phobia score was 1.77, still the highest.
Before the experiment, the phobia score of type B
students was as high as 3.11, and after one
semester of music education, the score had been
reduced to 1.77. It can be seen that the
psychological regulation function of music had
effectively alleviated the “phobia” psychological
symptom of type B students. If music appreciation
could be applied to alleviating psychological
pressure and other symptoms for longer period,
the students’ corresponding psychological symptoms
could be eliminated more effectively. Therefore,
this paper believes that after a period of music education,
the phobia score of type B students could be
reduced to below 1.50.
For the type C students in the teaching
experiment, although the behaviors of teachers X
and Y did not change significantly before and after
the teaching experiment, according to the scores
of three SCL-90 tables, the scores of type C students
in most factors had presented a gradual downward
trend. The results show that the teaching
experiment of music psychological regulation had
also played a positive role for this type of students.

CONCLUSION
The conclusions of this paper are as follows:
(1) Music education has a significant influence on
the psychological health of college students, it can
alleviate bad mood, regulate psychological state,
and especially has a significant influence on
depression, followed by paranoia, somatization,
interpersonal sensitivity and psychosis, which can
effectively improve college students’ psychological
health.
(2) Music education is an indispensable part of
the growth of students.
(3) Further, music can promote the formation of
perfect personality of college students and it
provides them with a good start for the future
spiritual life.

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