IMPROVEMENT EFFECT OF MUSIC APPRECIATION ON MENTAL HEALTH OF AUDIENCE: AN ANALYSIS BASED ON COGNITIVE PSYCHOLOGY

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Abstract

Today's people are faced with increasingly fierce competition, and subjected to enormous mental pressure. It is difficult for them to keep a healthy mental state. To solve the problem, this paper explores the improvement effect of music appreciation on the mental health of audience. Based on the theories of cognitive psychology and mental health, the author designed a contrastive experiment for two groups of subjects. One of the groups received the intervention of soothing music. The mental health data of the subjects before and after the experiment were analysed through paired t-test, and the effects of gender and age on mental health were evaluated by independent sample t-test. The results show that male subjects are more anxious than their female counterparts, but similar in depression with the latter; anxiety and depression are not severely affected by age; music appreciation can significantly alleviate the anxiety and depression. The research findings shed new light on how to improve mental health and cure mental illnesses.

Key words: Cognition, Mental Health, Music Appreciation, Anxiety, Depression.

INTRODUCTION

In the 21st century, with the rapid development of science and technology, the entire society has grown fast, and the pace of human life has gradually accelerated, which results in the increasingly fierce competition among people. This also poses a huge threat to human mental health. It not only affects the individual’s own survival and development, but also the development and competitiveness of the nation and the country on how human beings respond to the challenges of mental health.

Music has a certain influence on human physiological and psychological features. It has a positive guiding effect on human emotions (Hargreaves, 1986; Butler, 1987; Krumhansl, 1991). The music psychology can be traced back to the 19th century. Scholars first studied the process of music creation which was found to be influenced by the creator's own psychological state (Meyer, 1903). In the development process of music psychology, different disciplines such as music, psychology and brain science began to merge, and the whole subject system gradually tended to be more complete (Jones, Sahbaz, Schram et al., 2017; Cohen, 2002). The research methods of music psychology are mainly divided into qualitative research and quantitative research. The qualitative research mainly analyses the influence of music works on human psychological processes from the perspectives of cognitive theory, psychology and sociology (Dura, 2010; Macnamara, 2008); quantitative research mainly uses statistical methods to analyse the data obtained from the questionnaire or the experimental data, and the analysis results are more accurate, which is conductive to drawing more useful conclusions.
COGNITIVE PSYCHOLOGY AND MENTAL HEALTH

Human's mental health is affected by many factors. Cognitive psychology believes that cognition is one of the most important aspects of human behaviour. It plays the intermediating role, which may influence human individuals on whether or not ultimately deciding to take action. The cognitive psychological process is influenced by human automatic thinking, i.e., the individual's cognitive process and cognitive level are affected by his own solidified thinking mode and behavioural pattern.

An important manifestation of the decline in mental health is the negative emotions. People's mental health level is affected by their cognitive level and ability. The study shows that human negative emotions are not directly caused by the event or other factors. On the contrary, it is often because of human cognition level that leads to their wrong judgments and evaluation on things. The same event has different effects on different people, which often results from the difference in human cognition levels. Thus, cognitive psychology is the basis of mental health. The mental health of individuals can be achieved by adjusting their cognitive level. The mutual relationship between cognitive level, cognitive process and cognitive outcomes, the relationship between these factors and mental health, and the overall adjustment process of negative emotions are shown in Figure 1.

Music appreciation can improve the individuals’ aesthetic taste and level, thus improving their cognitive ability. Figure 1 indicates that the improvement of cognitive level can affect their cognitive process and cognitive outcomes to a certain extent, while the consistency between the cognitive results and events affects the generation of positive emotions and negative emotions. Therefore, music appreciation has a certain impact on human’s mental health.

EXPERIMENTAL DESIGN

Subjects

Through the recruitment and screening, a total of 30 subjects were selected for the experiment, including 17 females and 13 males (Figure 2), aged from 17 to 55. Considering that the age may have a certain impact on the psychological state of the subjects, the subjects were divided into two groups: one group at 30 or above, and the other group below 30. The distribution of the two types of subjects is shown in Figure 3.
Choice of music materials
Different music materials may have different effects on the mental health status of the subjects. In terms of the choice of music materials, this study tends to choose the calm, clear, peaceful, quiet and rhythmic soothing music. Based on this, Turning, Still Waters, Pour Chopin, Summer and Love were chosen as the musical materials, and they were played randomly in the experiment.

Experimental procedure
The experimental process consists of 4 steps:
(1) Experimental preparation: recruitment and screening of the subjects; selection and preparation of musical materials;
(2) Pre-experimental test: Before the music appreciation experiment, the Self-rating Anxiety Scale (SAS) form was used to test the anxiety level of the subjects, and the Self-rating Depression Scale (SDS) form was used to test the depression degree of the subjects;
(3) In-experiment: a one-week music appreciation course was organized; each course lasted for half an hour, and the tracks were played randomly in the course;
(4) Post-experimental test: After the one-week music appreciation course, the SAS and SDS forms were used again to test the anxiety level and depression degree of the subjects respectively.

ANALYSIS OF EXPERIMENTAL RESULTS
Influence of gender and age factors on mental health
Before comparing the pre-experimental data with the post-experimental data, this paper first analyses whether gender and age factors influence the anxiety and depression of the subjects. The SAS and SDS values of the subjects in different genders are shown in Figures 4-5.

In terms of gender factor, an independent sample t test was conducted in this paper to analyse the mean values of SDS and SAS of the subjects in different genders. The results are shown in Table 1. In the SAS test, the p value was <0.05, that is, at the confidence level of 0.05, the males and female are different in SAS, with the difference of about -3.235; in the SDS test, the p value was >0.05, so there was no significant difference in SDS between males and females. Thus, it can be concluded that there is a certain difference between males and females in anxiety, mainly because in Chinese society, males are generally more stressed than women; in terms of depression, the two genders do not show significant differences.

Table 1. Independent sample t test of gender

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<th></th>
<th>t</th>
<th>p-value</th>
<th>Mean difference</th>
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<tbody>
<tr>
<td>SAS</td>
<td>-2.238</td>
<td>0.033</td>
<td>-3.235</td>
</tr>
<tr>
<td>SDS</td>
<td>1.051</td>
<td>0.303</td>
<td>1.516</td>
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Figures 6-7 show the SAS and SDS values of the two ages groups of subjects.
In terms of age factor, an independent sample t test was conducted to analyse the mean values of SDS and SAS of different age groups. The results are shown in Table 2. In the SAS test, the p value was >0.05, indicating that there was no significant difference in SAS between different age groups; in the SDS test, the p value was >0.05, also indicating that there was no significant difference in SDS. In other words, the subjects of different ages have no significant differences in terms of anxiety and depression.

Table 2. Independent sample t test of age

<table>
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<th>t</th>
<th>p-value</th>
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<tr>
<td>SAS</td>
<td>-0.811</td>
<td>0.424</td>
<td>-1.250</td>
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<tr>
<td>SDS</td>
<td>-0.771</td>
<td>0.447</td>
<td>-1.116</td>
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Music effect analysis

This paper draws a box plot of the changes in SAS and SDS values before and after the experiment for comparative analysis, as shown in Figures 8-9.

In order to understand the influence of music appreciation experiment on SAS and SDS, the paired sample t test was used to analyse the mean values of subjects' SDS and SAS before and after the experiment. The analysis results are shown in Table 3. In the SAS test, the p value was <0.001, indicating that the music appreciation experiment had a significant effect on the subject's SAS, with the difference of about -3.667; in the SDS test, the p value was <0.001, indicating that the music appreciation...
experiment had a significant effect on the SDS of the subjects, with the difference of about -3.667. It can be seen that the music appreciation experiment reduced the values of SAS and SDS by 3.567 and 3.667, respectively, and successfully improved the anxiety and depression of the subjects. Thus, the music appreciation has a remarkable effect on improving the mental health of the audience, which is of great significance to promoting the cognitive level and the whole cognitive psychology process of the audience.

Table 3. Paired t-test of data before and after the experiment

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<th>t</th>
<th>p-value</th>
<th>Mean difference</th>
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<tbody>
<tr>
<td>SAS</td>
<td>5.887</td>
<td>&lt;0.001</td>
<td>-3.567</td>
</tr>
<tr>
<td>SDS</td>
<td>5.236</td>
<td>&lt;0.001</td>
<td>-3.667</td>
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</table>

CONCLUSIONS

This paper analyses the influence of gender and age factors on mental health of subjects through comparative analysis for their SAS and SDS values before and after the music appreciation experiment. The following conclusions have been drawn:

(1) Gender factor has a certain influence on SAS. The SAS of male subjects was generally higher than that of female subjects, indicating males’ anxiety was more serious than females. But gender had no significant influence on SDS, and there was no significant difference in depression between the subjects of different genders;

(2) Age factor doesn’t significantly affect SAS and SDS. The subjects aged 30 and over and those below 30 did not show significant differences in anxiety and depression;

(3) From the Paired t-test results, it can be seen that the SAS and SDS values before and after the music appreciation experiment showed significant changes, indicating that music appreciation had certain improvement effects on individual anxiety and depression. Thus, music appreciation can improve the mental health status of the individuals.

REFERENCES