



# The Study of On the emotional impact of music played in schools on students of different ages

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**Abstract.** This study examines the relationship between the stress level and the healing effects of class break music in a study of 56 adolescents of various ages. A questionnaire is used to measure the level of stress in school, the level of emotional stress, and the self-assessment of the healing effects of music. Older students generally show higher levels of emotional stress and lower healing effects from music. The paper also explores the thinking patterns of older students, who display more emotional stress and a difficulty of embracing the effect of music played during class breaks.

**Keywords:** developmental psychology, the effect of music, students' stress levels

## 1 Introduction

Many schools and parents in China are overly concerned about their student's grades and performance. According to a survey conducted in a class of high school seniors, most classmates claim that they feel stressed and their performance fluctuate to their moodswings. However, they also feel relatively better and more relaxed when listening to the music played during the class breaks. When the researcher brings the same survey to her young brother, a junior school student, he claims that he does not care about the music his school plays during the noon break and does not see any strong impacts.

According to the CAREGIVER GUIDELINE, a music promotion related pagethey state that "In seniors, music can transform emotions, allowing the body and brain to deal with isolation, depression, grief, and even pain." Generally speaking, music has the effect of calming down people's moods as they are exposed to certain types of music. According to PsycholoGenie, "Music is frequently played in the background at restaurants, bookstores, and shopping centers. The type of audience they aim for determines the type of music they play. Customers report that music improves their experience. Customers' spirits are improved by music in restaurants and shopping malls. People frequently spend more time in hotels or shopping centers that play relaxing music. Music lifts your spirits and enhances the environment around you. Music has an immediate effect on your mood; it can make you cry or grin. What you relate a piece of music

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to will also influence how it makes you feel. A melody or a certain song that is connected to your early years can jog your memory. You may be reminded of someone or something by a song that you associate with them. Yehuda(2011) notes that music helps in “restoring both the soul and the body to a state of equilibrium, arousing or soothing as needed, to temper excess or deficient emotion and creating the sensation of pleasure through movement” as well.

Music therapy was once used in the eyes of the ancient Greeks as a means of communication between man and the gods, serving as a great outlet for emotional expression and transmission through emotion. By the Middle Ages, Europeans used the form of dancing to music as a means of entertainment and rejuvenation of the spirit. During the Renaissance, music was considered to entertain and rejuvenate people throughout their lives. By the 18th and 19th centuries, a great deal of research material on the psychological effects of music began to appear, and many physicians began to use music as an adjunct to therapy.

When several Western hospitals began experimenting with the use of music to promote sleep, help with anesthesia and pain relief, and lower surgical patients' worry and anxiety in the late 20th century, a systematic study of the clinical utility of music in medicine was launched. Music was utilized to help wounded soldiers recover their physiological functioning and settle their emotions during the two world wars. To prepare qualified music therapists, Michigan State University and the University of Kansas both provided specialized courses in the field in 1944 and 1946. The first national music therapy association in the world was established in the US in 1950. In several nations, specialist music therapy programs were developed during the 1960s and the 1970s, and many universities offered music therapy degrees. The World Music Therapy Academic Exchange Conference is held every two years by the more than 200 music therapy associations that have been founded to far in various nations. Numerous mental hospitals, rehabilitation centers, and general hospitals in China have established music therapy clinics. To investigate novel music therapy ideas and techniques, medical professionals in China are also attempting to merge music with meridian and acupuncture therapy in conventional Chinese medicine.[1]

All of these previous theories show to some extent, that music has a moderating and influencing effect on mood changes, and there is a great deal of interest in the topic of studying the effect of music on people's emotions. This paper will next examine the emotional stress of students of different ages, and the soothing effect of instrumental music plays in schools in relation to their age.

Suppose the following hypotheses:

Senior students tend to have a higher mental stress level compared with junior students, and the healing effect of the music played in the school is weaker in the upper grades compared to those of lower grades.

## 2 Literature Review

In an exploration at the Union Hospital of Tongji University in Wuhan, scholars studied the effects of music therapy on relieving patients' preoperative anxiety.[6] Surgery in

hospitals may cause patients to suffer from anxiety reactions to some extent and has a tendency to become a common phenomenon. In order to ensure that the surgery goes smoothly, the research scholars explored the analysis of music therapy on patients' pre-operative anxiety. A questionnaire was designed and distributed to a total of 120 inpatient surgical patients of different ages, genders, different types of diseases and different levels of education. The questionnaire was designed to be easy to answer and was rated and statistically analyzed according to the anxiety section of the Mikazono Anxiety and Depression Inventory. After basic routine care, the study randomized patients into three groups for general treatment (explaining the principles of music therapy), active music therapy (regulating emotions by having patients actively rap and compose music), and passive music therapy (having patients listen to music). The results of the study showed no significant difference in patient anxiety in the general treatment group, while there was a more significant difference in patient anxiety after music therapy. The researchers thus concluded that music can improve the mental state of patients, relaxing and calming nervous patients and making depressed patients lively and cheerful, which can effectively relieve patients' anxiety and create a good start for a successful surgery.

In a study conducted by the Psychology Experimental Center of Anhui Normal University, scholars investigated the effect of suggested self-relaxation hypnosis on the relief of study fatigue.[2] The researchers divided three grades of a local high school into experimental and control groups to test the experiment separately and used the decoding WISC to measure the ability of cognitive processing speed and short-term memor (the shorter the speed and memory time reflect the relief of learning fatigue) and obtained 382 valid data. The statistical results showed that there was a significant difference in students' performance after simple self-hypnosis than before hypnosis in all grades of high school, which proved that relaxation hypnosis could effectively relieve study fatigue and restore students' information processing level, and the effect of relaxation hypnosis was generally the same for students of different genders and students with different permanent residence in different households, so it has universal applicability. The experimental results show that relaxation hypnosis has a positive effect on relieving fatigue and that the hypnosis method can be self-operated for high school students. The students themselves can control the intensity and length of relaxation hypnosis so that the hypnosis can adjust to their specific level of fatigue and other psychological discomforts to achieve a more desirable experience.

Scholars at Liaodong College School of Medicine explored the impact of a new approach to careful care on teachers' emotions and the quality of instruction.[4] Thirty teachers in the school were observed, and their proud performance and favorite music were collected as pleasant factors in their experience. The pleasant factors were repeatedly stimulated by talking and playing music during class, and the teachers' psychological and psychological responses were observed before and after receiving the stimulation, and the quality of teaching was assessed. The results showed that after the pleasant factor stimulated 30 teachers, they showed significant responses and improved the quality of teaching ( $p < 0.01$ ). It was concluded that the pleasant factor intervention is a simple and effective new method to enhance teachers' mood and quality of instruction.

Scholars from Anhui Normal University studied the effects of mental health exercises on students' relief of study fatigue.[3] A pre-test-post-test experimental design was used to investigate the degree of impact of self-tuned psychological relaxation on the level of cognitive reversion to study fatigue in college students using the Wechsler Admitted Governance Test in translation as a reasonable standard for relieving study fatigue and restoring cognitive levels. Learning fatigue is a state of reduced learning ability and physical and mental discomfort caused by people's high-intensity or prolonged continuous learning, which belongs to a natural reaction and is also self-protection produced after excessive expenditure and consumption of intellectual or physical strength. Many previous studies have shown that most mental health problems are caused by the destruction of self-regulatory functions. If the autonomic function of the nervous system can be restored in time, then many mental health problems can be prevented in time. Activities such as physical exercise and massage relaxation are effective in relieving study fatigue, but they have limitations in terms of time and space, making it difficult to solve the widespread study fatigue problem among students. The study adapted mental health exercises suitable for students or clients by integrating hypnosis studies by German brain physiologists and American scholars, as well as tai chi and certain yoga poses. The experimental results show that the overall data processing of the pre-decoding of the salt city is significantly lower than the post-decoding test results, and the huge difference indicates that the fatigue relief effect is better. As a result of the cognitive self-adjustment psychological relaxation technique, the students' cognitive fatigue level was significantly reduced, and their cognitive level was somewhat restored. In addition, students of different ages and genders could obtain significant effects of learning fatigue elimination with the application of self-tuning psychological relaxation techniques, which proved that self-tuning psychological relaxation has a great degree of universal applicability and can be widely used.

### 3 Method

To study the emotional impact of music plays in schools on students of different ages, a questionnaire is created through an online program designed to develop questionnaires that are distributed randomly to 56 teenagers of various ages through social media. The questionnaire is categorized by age and gender into male juniors, female juniors, male seniors, and female seniors. Juniors and seniors are classified according to whether they were currently enrolled in junior middle school or high school. To prevent the youths who complete the questionnaire from being unable to answer accurately on this important consideration, the question options are followed by an approximate numerical age range.

The questionnaire focuses on emotional issues and levels of consideration and tries to set the questions on a sliding scale that students can understand and answer more quickly. The questionnaire asks about students' perceived stress, depression, and agitation in school, and also asks at the end about the type of music played at school and students' approval of it. The data from the questionnaire is organized in Table 1.

**Table 1.** Students' perceived stress and satisfaction with the music played in school at different ages,

Data number	Age	Perceived level of stressful schoolwork	The usual level of emotional stress felt	The degree of emotional relaxation felt while listening to music
1.	3	3	4	3
2.	3	0	1	4
3.	2	3	3	4
4.	1	3	4	4
5.	1	3	3	5
6.	2	5	5	5
7.	1	4	5	5
8.	1	3	4	5
9.	1	3	2	4
10.	2	3	3	3
11.	1	1	0	5
12.	2	5	2	5
13.	2	4	5	3
14.	2	4	4	2
15.	2	5	5	5
16.	2	2	2	1
17.	2	4	2	3
18.	2	3	1	5
19.	2	1	4	0
20.	2	2	1	5
21.	3	4	3	3
22.	2	3	5	3
23.	2	3	1	3
24.	2	3	1	5
25.	2	5	5	0
26.	2	5	3	5
27.	2	3	2	5
28.	2	3	4	4
29.	2	3	2	4

30.	2	4	4	4
31.	2	4	3	3
32.	2	3	1	4
33.	2	5	1	5
34.	2	5	5	5
35.	2	5	3	5
36.	2	2	3	4
37.	2	3	2	4
38.	2	3	3	3
39.	2	5	5	2
40.	2	4	4	3
41.	3	2	2	3
42.	1	3	3	3
43.	1	2	3	0
44.	2	4	4	5
45.	2	2	5	3
46.	2	3	3	1
47.	2	5	5	3
48.	2	2	3	4
49.	2	4	4	1
50.	2	2	0	4
51.	2	5	5	5
52.	3	4	4	4
53.	3	4	3	4
54.	1	4	3	0
55.	1	3	2	5
56.	2	3	2	2

\*1. In the gender column, number 1 represents male respondents, and 2 represents female respondents.

\*2. In the age column, number 1 represents junior respondents(13-15 years old), 2 represents senior respondents(16-18 years old), 3 represents adult respondents(18 years old and above)

## 4 Results and Discussion

This study focuses on age as the independent variable and calculated the students' stress levels in schoolwork, emotional stress levels, and the soothing effect of the music played at school. Age is set as only an approximate interval (three years), so the age data for the same student is taken as the median over three years. Using the Pearson Coefficient formula, the study calculates the relationship between the independent variables and the study factors. The results show that age had a Pearson Coefficient of 0.3037 about classroom stress, 0.0337 about emotional stress, and -0.0251 in relation to the soothing effect of music. Positive correlation coefficients indicate that classroom and emotional stress increased with age. The negative correlation coefficients indicate that the soothing effect of music decreases with age.

Previous research has shown that academic as well as test stress is becoming a source of worry and anxiety for students and that these rankings and excessive fears can overwhelm a student, while a seven-year-old can feel the pressure.[5] As students get older and move into higher grades, the knowledge they learn becomes more complex. It is hardly possible to avoid feeling the aggression of stress when the students cannot adjust their state properly.

## 5 Evaluation

This paper further investigates the relationship between emotional stress and soothing music played at school for students of different ages based on the above-mentioned questionnaire. This survey is administered according to a prescribed process, but there are some flaws and areas of improvement in the process.

The questionnaire is administered to students and posted online, so it is not possible to confirm that each student was very careful in filling out the questionnaire. In addition, most of the questions ask students to select a range of specific question levels, but the range available is only 0-5, and only six integers are available. The inability to fill in specific numbers after the decimal point may have some influence on the accuracy of the survey results. Therefore, future research studies should try to select a large sample of students in the same school for offline questionnaire distribution and completion, in order to minimize the differences caused by the different situations of students in different regions, as well as to be able to monitor the completion of the survey respondents.

## 6 Conclusion

There is a positive correlation between students' emotional stress index and age, but there is a negative correlation between the degree to which the music played in school brought healing to students and age. Senior students will inevitably have greater emotional stress, but given that music is less effective in bringing them healing, it is possible

to find alternative ways for them to relax, such as more physical education classes, to divert their attention and thus relax emotionally.

Future research might need to delineate age more delicately and explicitly to investigate student populations in specific areas and categorize external factors such as family into consideration of external factors may have limitations. Follow-up projects can focus their studies more on the influence of external factors on students' emotions or the result of physiological structures, such as the different degrees of emotional perception of music in males and females.

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