

Study on The Effect of Running on Positive Emotions of College Students

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Abstract

The purpose of this study was to investigate the relationship between aerobic running and positive mood of college students, and to initially explore the effect of aerobic running on the positive mood of college students. This study used the Daily Running Habit Questionnaire and Positive Negative Affect Scale (PANAS) to investigate college students in Langfang Normal College. The relationship between demographic variables and aerobic running and positive emotion was explored by independent sample t-test and one-way ANOVA, and the correlation between aerobic running and positive emotion was explored by correlation analysis. The results concluded that: the overall level of aerobic running and emotional state of college students were roughly the same; the level of negative emotion of college students in higher grades was generally higher than that of college students in lower grades; the level of positive emotion of college students who ran frequently was generally higher than that of college students who ran occasionally; there was a significant correlation between aerobic running and positive emotion of college students, and aerobic running played an important role in the cultivation of positive emotion.

Keywords

College Student; Running; Positive emotion.

1. Introduction

Emotions, as the outward expression of people's inner feelings, not only reveal their inner feelings, but also affect all aspects of their lives. Positive emotions give people hope and light, teaching them to face life and the world with an optimistic and positive attitude, while negative emotions make people feel disappointed and frustrated, making them lack strength and confidence when facing life, and making them get by without thinking.

As a special group in the society, college students are burdened with the future of the motherland, the hope of their parents, the teachings of their teachers and their own future destiny, which makes them physically and mentally exhausted and stressed. In addition, in the study and life of university, they will face academic problems, friendship problems, love problems, employment problems, etc. If they cannot solve them in time, they may cause psychological burdens and pressure, which will make them anxious, irritable and negative, which will have a negative impact on their physical and mental development. Therefore, it is urgent to help college students channel their negative emotions and cultivate positive emotions in a timely and effective manner.

In recent years, the research on college students' mental health has also generally increased, but most of the studies only focus on the psychological conditions of college students, and there are fewer studies on the intervention of college students' mental health. Some studies have shown that participation in some non-competitive or rhythmic physical activities can produce significant emotional effects, resulting in a good emotional state[1]. Although there are few direct studies on the relationship between running and positive mood of college students, it can

be seen from the available studies that running has an effect on positive mood of college students [2][3][4]. There are also some studies by domestic and foreign scholars that have shown the good emotional benefits of physical activity[5].

In the existing studies, it can be seen that physical exercise has a positive effect on the psychological state of people, but there is no specific research on the mechanism of the influence of running on positive emotions. Therefore, this study will use the research method of quantitative analysis based on the results of the questionnaire survey based on the analysis of the existing literature to initially explore the effect of running on the positive emotions of college students, aiming to find an effective way to help college students to resolve negative emotions and cultivate positive emotions.

2. Methods

2.1. Participants

The study was conducted on 200 college students, including freshman to senior year students of different majors, using simple random sampling method to examine the dimensions of gender, grade, and type of major. A total of 200 questionnaires were distributed, and 195 were actually collected, with a return rate of 97.5%. Among them, 191 questionnaires (59 men, 132 women) were valid, and the effective recovery rate was 95.5%. The numbers of freshmen to seniors are 58, 45, 30, 58. The number of students in the arts and history and science categories are 88, 103.

2.2. Apparatus/Materials

Aerobic running and its measurement

Regarding aerobic running, a questionnaire on daily running habits was used, which focused on a series of questions about the gender, grade, and major of school students, as well as the frequency and duration of their usual aerobic running. According to the criteria for determining the sports population in China, students who ran aerobically three times a week or more and for a duration of 30 minutes or more each time were identified as regular runners, while the opposite was considered as occasional runners [6].

Emotional state and its measurement

Regarding emotional status, the Positive Negative Affect Scale (PANAS) was used, which consists of 20 emotional adjectives, half of which are positive and half of which are negative, and subjects were asked to rate the frequency of the emotion described by each word they experienced in the last week (1. almost none; 2. relatively little; 3. moderately; 4. more 5. extremely much). The scale is divided into two subscales: positive and negative emotions, where a high score on the positive emotions subscale indicates an energetic, emotionally stable individual who is able to give full attention and a happy emotional state; a low score indicates apathy. A high score on the negative emotion subscale indicates an emotional condition in which the individual feels subjectively confused and distressed; while a low score indicates sedation[7]. In their study, Huang-Li et al. reported Cronbach's alpha coefficient of 0.82 for all PANAS items. the Cronbach's alpha coefficients for positive and negative emotions were 0.85 and 0.83, respectively. the retest reliability for positive and negative emotions were 0.47 and 0.47, respectively[8].

2.3. Data analysis

This study used Excel sheets and SPSS 17.0 statistical software to perform detailed statistical analysis of the collected data. This study used descriptive statistics to analyze the current situation of aerobic running and positive emotions among college students; independent sample t-test and one-way ANOVA to test the differences on different demographic variables

between aerobic running and positive emotions; and correlation analysis to discuss the relationship between aerobic running and positive emotions among college students.

3. Results

3.1. A descriptive analysis of aerobic running and emotional state of college students

The median value of this dimension of aerobic running is 1.5, and the mean value of subjects on this dimension is slightly above the median value of 1.56, indicating that college students are generally in the middle to upper level of aerobic running. The standard deviation of the subjects on aerobic running is small, which shows that there is less variation among the subjects on this dimension. The median value of this dimension of emotional state is 30, and the mean value of 29.16 is close to the median value of 30 in the dimension of positive emotion, which is in the middle level.

3.2. A test for differences in college students' aerobic running on demographic variables

One-way ANOVA and independent samples t-test were used to test for differences in the three demographic variables of grade, gender, and type of major to understand the status of differences in daily aerobic running among college students. The results found that the differences in aerobic running among college students were not significant in terms of grade, gender, and major ($p > 0.05$).

3.3. Examination of differences in college students' emotional states on demographic variables

In this study, one-way ANOVA and independent sample t-test were used to test for differences in three demographic variables: grade, gender, and major category to understand the differential status of college students' emotional states. It was found that on the dimension of emotional state, the difference in positive emotions was not significant ($p > 0.05$) and the difference in negative emotions was significant ($p < 0.05$) on grade level, but the difference in both positive and negative emotions was not significant ($p > 0.05$) on gender and major.

3.4. Examination of differences in college students' emotional states in terms of running types

An independent sample t-test was conducted on the emotional state of college students with respect to the type of running, and it was found that on the dimension of emotional state, the positive emotion of frequent runners was higher than that of occasional runners, and the difference was highly significant ($p < 0.001$), and the negative emotion of frequent runners was lower than that of occasional runners, and the difference was also highly significant ($p < 0.01$).

3.5. Analysis of the correlation between aerobic running condition and emotional state of college students

In this study, the correlation between aerobic running conditions and emotional states was analyzed, and from the results it was found that aerobic running was significantly correlated not only with positive emotions ($p < 0.01$), but also with negative emotions ($p < 0.01$).

4. Discussion

4.1. Discussion of the general status of aerobic running and emotional state of college students

The results of the study showed that the subjects were generally in the middle to upper level on the dimension of aerobic running, and the difference between the subjects on this dimension was not significant, indicating that college students usually have the habit of running and exercising. The mean value of the subjects' scores on positive emotions was close to the middle value, which was in the middle level, while the subjects' scores on negative emotions were high, which indicated that college students had too many negative emotions and too few positive emotions in general. The reasons for this result may be: (1) College students have encountered a series of problems in their study and life, such as academic problems, dating problems, and love problems, which are not solved or cannot be solved, resulting in negative emotions. (2) Newly enrolled college students have different degrees of problems and difficulties in adapting to the new study and life because they have left their close parents and familiar environment, so it may lead to negative emotions, and the positive emotions will be reduced. (3) For college students who are about to graduate, the problems of graduate school and employment are the causes of their negative emotions.

4.2. Discussion of differences in college students' aerobic running status on demographic variables

The results of the study showed that there was no significant difference between grades in the dimension of aerobic running, probably because college students usually have the habit of running, so the difference between grades in running was not significant. In the dimension of aerobic running, there was no significant difference between men and women, probably because of the imbalance in the distribution of the number of male and female students in the sample. The number of female students was more than the number of male students, which had an impact on the results. In the dimension of aerobic running arts students are better than science students, but the difference is not significant, probably because there are more female students and fewer male students in teacher training colleges, while male students are mainly involved in ball games in their daily life and do not often participate in running activities.

4.3. Discussion of differences in college students' emotional states on demographic variables

The results of the study showed that the differences in positive emotions were not significant by grade level, while the differences in negative emotions were significant by grade level. This may be due to the fact that the positive emotions of college students in general are at an intermediate level, so the difference in grade level is not significant, while the problems in study and life faced by students in each grade level are not the same, which also causes the significant difference in negative emotions in grade level. This may be related to the character and temperament of male and female students. Boys are generally open-minded, unpretentious, and can handle things properly, while girls are delicate, sentimental, easily influenced by the outside world, and often have pessimistic and sad emotions. Whether positive or negative emotions, arts students are higher than science students, which may be related to the characteristics of the profession itself, arts learning with humanistic colors, learning atmosphere full of warmth, bringing a sense of vitality and hope, while science studies are more boring, over time, easy to make people depressed and slack.

4.4. Discussion of differences in college students' emotional states in terms of running types

From the results of the study, it can be seen that in the dimension of emotional state, the mean value of positive emotion of regular runners is higher than that of occasional runners, and the difference is very significant, and the mean value of negative emotion of regular runners is lower than that of occasional runners, with a very significant difference. This is similar to the study of Jiang Qin [9], which showed that regular runners could not only improve their physical health but also improve their mental health to a certain extent through their daily running activities.

4.5. Discussion on the correlation between aerobic running condition and emotional state of college students

The results of the study showed that there is a correlation between aerobic running situation and emotional state, not only that, there is also a significant correlation between aerobic running situation and positive emotion, which was also mentioned in the study of Xingfeng and Xu Haiyan [10], which indicates that aerobic running plays a significant role in relieving one's stress, venting bad emotion, reducing negative emotion and cultivating positive emotion.

5. Conclusion

This study investigated the current situation of aerobic running and emotional state of college students in Langfang Normal College by questionnaire, and explored the effect of aerobic running on positive emotions of college students, and came to the following conclusions: (1) The overall level of aerobic running and emotional state of college students is roughly the same. (2) The levels of aerobic running among college students were roughly the same in terms of grade, gender and major type. (3) The level of negative emotion among senior college students was generally higher than that of junior college students. (4) The level of positive emotion was generally higher among college students who ran regularly than those who ran occasionally. (5) There was a significant correlation between aerobic running and positive mood among college students, but the effect of different types of running on positive mood was different, and occasional running was less effective than regular running in improving mood.

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