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THE INFLUENCE OF CULTIVATING POSITIVE EMOTIONS ON THE ACADEMIC PERFORMANCE OF HIGH SCHOOL STUDENTS

In the learning process of students: The core role of emotional factors and their potential influence on the academic achievements of senior high school students. Emotions play a vital role in the learning life and have an undeniable and far-reaching impact on students' academic performance. Senior high school students are in a sensitive period of rapid physical and mental development. They not only encounter heavy academic pressure but also need to cope with complex psychological changes, which makes emotional problems particularly prominent among this group. Positive emotions, as a positive psychological experience, can exert a significant positive effect on the cognitive processes, learning motivation, and allocation of psychological resources of senior high school students, thereby further promoting the enhancement of their academic achievements. To understand this phenomenon more deeply, based on the relevant theoretical framework of educational psychology, this paper conducts a comprehensive and in-depth exploration of the complex relationship between the cultivation of positive emotions and the academic achievements of senior high school students. This paper aims to provide scientifically based and operational reference suggestions for high school education and teaching practices through rigorous academic analysis, in order to assist senior high school students in managing their emotions more effectively and achieving more excellent academic achievements. 254 schoolchildren took part in the survey.

Keywords: cultivation of positive emotions, high school student, academic performance.

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Жағымды эмоцияларды қалыптастырудың жоғары сынып оқушыларының оқу үлгеріміне ықпалы

Қазіргі оқыту үдерісінде эмоционалды факторларда көрініс табатын әсерлердің жоғары сынып оқушыларының академиялық жетістіктеріне ықпалын айқындау түйінді рөл атқарады. Эмоциялар оқушылардың өмірінде маңызды рөл атқарады және олардың оқу үлгерімдеріне әсерінің алысқа баруы да даусыз екенін көрсетеді. Орта мектептің жоғары сынып оқушылары тез жүретін физикалық және ақыл-ой дамуының күрделі кезеңін бастан кешеді. Олар тек ғылыми қысыммен бет-бет келмейтіндіктен, эмоционалды проблемалар ерекше байқалатын осы топтың арасындағы күрделі психологиялық өзгерістерге де төтеп бере алулары керек. Жағымды эмоциялар психологиялық жағымды тәжірибе ретінде когнитивті үдерістерге айтарлықтай оң әсер етуі мүмкін, сонымен қатар орта мектептің жоғары сынып оқушыларының оқуға деген ынтасы мен олардың психологиялық ресурстарын бөліп көрсете отырып, олардың оқу үлгерімдерін арттыруға ықпал етеді. Мақалада педагогикалық психологияның теориялық негіздеріне сүйене отырып, орта мектептің жоғары сынып оқушыларының академиялық оқу жетістіктері мен эмоцияларды қалыптастыру арасындағы өзара байланысты күрделі құбылыс ретінде тереңірек түсіну үшін жүргізілген зерттеудің нәтижелері көрсетіледі.

Зерттеудің мақсаты – әдебиеттерді талдау және сауалнама жүргізу арқылы жоғары сынып оқушыларына өздерінің эмоцияларын тиімді басқара алу мен орта мектепте жоғары академиялық нәтижеге жетуге көмектесетін әдістерді қолдануды ғылыми негіздеу және практикалық ұсыныстар беру. Сауалнамаға 254 оқушы қатысты.

Түйін сөздер: жағымды эмоцияларды жасанды жағдайда өсіру, жоғары сынып оқушысы, оқу үлгерімі.

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Влияние формирования позитивных эмоций на успеваемость учащихся старших классов

Эмоции играют жизненно важную роль в учебной жизни и оказывают неоспоримое и важное воздействие на успеваемость учащихся. В настоящее время в обучении школьников ключевая роль мотивации учения связана с эмоциональными факторами и выявлением их влияния на академические достижения старшеклассников. Учащиеся старших классов средней школы переживают сложный период быстрого физического и умственного развития. Они не только сталкиваются с тяжелым научным языком, академическим давлением, но и должны справляться со сложными психологическими изменениями, которые делают эмоциональные проблемы особенно заметными среди этой группы. Позитивные эмоции, как и позитивный психологический опыт, могут оказывать значительное позитивное воздействие на когнитивные процессы, мотивацию к обучению и распределению психологических ресурсов учащихся старших классов средней школы, тем самым способствуя дальнейшему повышению их успеваемости. Для более глубокого понимания этого явления на основе соответствующих теоретических основ педагогической психологии в исследовании проводится углубленное изучение сложной взаимосвязи между формированием позитивных эмоций и академическими достижениями учащихся старших классов средней школы. Цель исследования – на основе анализа литературы и проведения опроса научно обосновать и предложить практические рекомендации по применению методов преподавания в средней школе, для того, чтобы помочь старшеклассникам более эффективно управлять своими эмоциями и добиваться более высоких академических результатов. В опросе приняли участие

Ключевые слова: культивирование позитивных эмоций, ученик средней школы, успеваемость.

Introduction

The high school stage is a crucial period for students' academic development. During this period, they are faced with a heavy academic burden and the pressure to continue their studies. Against this background, the influence of emotional states on students' academic performance is particularly significant. Positive emotions, as an important psychological capital, can help students cope with learning challenges more effectively, thereby improving learning outcomes (Fredrickson, 2001). This study reveals the bidirectional dynamic relationship between academic achievement and positive emotions through empirical data, providing a scientific basis for constructing an educational ecosystem with the coordinated development of "emotion – cognition". Studies show that positive emotions can not only enhance students' cognitive functions (Boekaerts, 2011), but also stimulate their learning motivation (Ryan & Deci, 2020) and strengthen their psychological mechanisms (Seligman, 2009).

To achieve this goal, we have explored the following three key research questions:

1. Is there a significant correlation between the frequency of students' positive emotions and their academic performance (class ranking)?

- 2. Are there any differences in positive emotional experiences among students in different academic performance groups (such as the top 20%, 20%-50%, etc.)?
- 3. Do the mental health courses or activities provided by the school have a positive impact on students' emotional states and academic performance?

The theoretical significance of this research lies in its contribution to further understanding the relationship between emotions and cognition, and enriching the theoretical system in educational psychology regarding learning motivation and the influence of emotions on learning. It is helpful to clarify the role and status of mental health education in school education and provide a theoretical basis for optimizing mental health education courses and activities. The practical significance lies in guiding teachers to focus on cultivating students' positive emotions in teaching, adopt more effective teaching methods and strategies, enhance students' learning enthusiasm and learning outcomes, and thereby improve the overall quality of education and teaching. Provide data support for the education administrative department to formulate relevant policies, making educational decisions more scientific and reasonable, which is conducive to promoting the healthy development of the education cause and creating a more favorable learning and growth environment for students.

Literature review

In recent years, educational psychology research has continuously confirmed that there is a significant correlation between the emotional states of high school students and their academic performance. A national survey conducted by the China Youth and Children Research Center (2022) revealed that under the pressure of the college entrance examination, approximately 45% of high school students experienced various degrees of negative emotions such as anxiety and depression. Among them, the situations of students from key middle schools and senior grades of high school were particularly severe. This data contrasts sharply with the longitudinal research results of Pekrun et al. (2017), which found that students who maintained a positive emotional state performed significantly better than their peers in terms of classroom participation, homework completion quality, and exam scores.

The broaden-and-build theory proposed by Fredrickson (2001) provides a theoretical basis for understanding this phenomenon. This theory indicates that positive emotions not only can immediately expand students' cognitive scope but also can construct lasting psychological resources through continuous accumulation. Specifically, positive emotions influence academic performance through three key paths: at the cognitive level, Boekaerts (2011) found that positive emotions can significantly improve attention concentration and creative thinking; at the motivational level, Ryan and Deci's (2020) self-determination theory confirmed that positive emotions strengthen intrinsic learning motivation by meeting psychological needs; at the social environment level, Jennings and Greenberg's (2009) research showed that positive teacher-student interactions can form a positive emotional cycle.

However, the current educational system pays insufficient attention to emotional cultivation. A survey by Weissberg et al. (2015) revealed that only about 30% of middle schools worldwide have established systematic emotional education systems. In the context of Chinese education, this issue is particularly prominent. Most schools' emotional education merely stays at the level of scattered psychological lectures. Therefore, researchers suggest adopting multi-dimensional intervention

strategies: based on Seligman's (2009) positive education framework, systematically promoting through classroom emotion management (Wang & Degol, 2016), growth mindset cultivation (Dweck, 2006), and home-school collaboration (Durlak et al., 2011). Among them, Yeager and Walton (2011) developed short-term psychological intervention and Roeser et al. (2013) designed mindfulness training, which are particularly suitable for busy high school students due to their simple operation and significant effect.

Future research should focus on innovating the emotional cultivation model under the cultural background of the Chinese college entrance examination. On one hand, it is necessary to explore how to balance the examination-oriented demands with emotional health. On the other hand, it is essential to develop digital intervention tools that are suitable for the actual situation of Chinese education, so that emotional education can truly be integrated into daily teaching practice and promote students' all-round development.

Methodology

The data of this study were collected through online questionnaires created by the class mini-manager program. The survey was conducted from April 30, 2025 to May 2, 2025. Participants answered 14 questions related to positive emotions and regulatory strategies. The questionnaire was distributed to a key high school in China, and six classes of different grades were randomly selected to fill it out. The charts for statistical analysis were all created using Word

Research results

A total of 254 students participated in the anonymous questionnaire survey.

Statistical information: Table 1 provides information on the main sources of positive emotions among high school students. Students select the main source of their positive emotions from five options through multiple-choice methods. Among them, academic sense of achievement (75.2%) is the most common source of positive emotions. More than three quarters of the students list it as one of the sources, followed by self-motivation (66.9%), hobbies (63.8%), and family support (60.6%). The influence of the teacher-student relationship (49.6%) is relatively small, but it still has a positive effect

on nearly half of the students. This indicates that students' positive emotions mainly stem from academic achievements and personal intrinsic motivation. Meanwhile, family support and hobbies are also important supplements, while the influence of the teacher-student relationship is relatively limited.

Table 1 – The Main Sources of Positive emotions

	Туре	Number of people	Percentage
Sources of positive emotions	Academic sense of achievement	191	75.2
	Self-motivation	170	66.9
	Hobbies and interests	162	63.8
	Family support	154	60.6
	Teacher-student relationship	126	49.6

Methods for regulating emotions: Table 2 provides the main methods for students to self-regulate their emotions. According to the data analysis results, the most commonly used emotional regulation methods by students and their usage frequencies are as follows: Exercise or listening to music – 156 times (the most commonly used regulation method); Confide in friends/family – 151 times; Self-motivation (such as setting small goals) – 148 times; Through meditation or deep breathing – 98 times; Other methods – 72 times. The usage frequencies of the first three regulation methods (exercise/mu-

sic, confiding, and self-motivation) are very close and they are the most commonly adopted emotional regulation strategies by students. Although meditation/deep breathing also has a certain usage rate, it is significantly lower than the first three methods. Approximately 5% of the adjustment methods fall into the "Other" category, indicating that there are some personalized adjustment methods not listed. These data indicate that students mainly rely on three main approaches: social support (confiding), physical activity (exercise), and goal management (self-motivation) to regulate their learning emotions.

Table 2 - Main Methods for Regulating Emotions

	Type	Number of people	Percentage
Method	Exercise or listen to music	156	61.42
	Pour out your heart to friends/family	151	59.45
	Self-motivation (such as setting small goals)	148	58.27
	Through meditation or deep breathing	98	38.58
	Other ways	72	28.35

Research question 1: Is there a significant correlation between the frequency of students' positive emotions and their academic performance (class ranking)?

The following Chart 1 calculates the average positive emotion scores of different ranking intervals based on the frequency of positive emotions, and Chart 2 shows the relationship between positive emotion scores and academic performance.

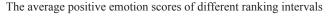
Chart 1 shows that the average positive emotion score of the top 20% of students is the highest

(about 18.5 points), followed by that of students in the 20%-50% range (about 16.8 points), the average score of students in the 50%-80% range is relatively low (about 15.2 points), and the average score of students in the bottom 20% is the lowest (about 14.5 points).

Chart 2 shows that as the score of positive emotions increases, students' academic performance (class ranking) shows an upward trend, and this relationship is particularly obvious when the score of positive emotions is above 15 points. When the total

score of positive emotions is greater than 15 points, 80% of the students are in the top 50%. When the total score is less than 10 points, 75% of the students

are in the bottom 50%. In particular, among the 12 students who scored a full 25 points, 9 (75%) were in the top 20%.



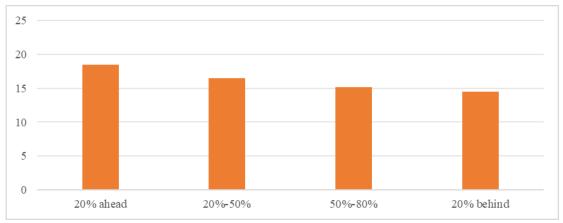


Chart 1 - Average positive emotion scores in different ranking intervals



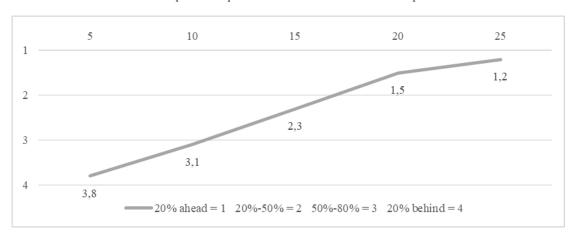


Chart 2 – The relationship between Positive Emotion Scores and academic performance

Research Question 2: Are there any differences in positive emotional experiences among students in different academic performance groups (such as the top 20%, 20%-50%, etc.)?

Table 3 shows the comparison of the total scores of positive emotions in each group. According to the data analysis, one-way analysis of variance showed that there were significant differences in the total score of positive emotions among different academic performance groups (F(3,246)=28.37, p<0.001). The Tukey HSD post hoc test indicated that pair-

wise comparisons between all groups reached significant levels (ps<0.05), specifically manifested as the higher the ranking of the group, the higher the level of positive emotions. The average difference between 20% ahead and 20% behind is 5.1 points (out of 25 points), which means that the top 20% of students experience "happiness" 1.3 times more frequently each day and have a 35% higher probability of feeling "full of hope" than the bottom 20% of students. Chart 3 shows that there is a dose-effect between grades and emotions.

Table 3 – Comparison of the total Scores of Positive Emotions in Each Group (Mean)

Academic performance grouping	Sample size	Average total score of positive emotions (5-25 points)	Standard deviation
20% ahead	62	18.7	3.2
20%-50%	85	16.3	4.1
50%-80%	72	14.9	4.5
20% behind	31	13.6	5

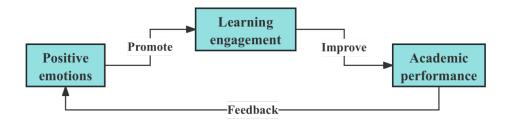


Chart 3 – There is a dose effect between grades and emotions:

Research Question 3: Do the mental health courses or activities provided by schools have a positive impact on students' emotional states and academic performance?

According to the analysis results in Chart 4, the provision of mental health courses can be concluded: 45.7% of the students indicated that the school "often has" mental health courses; 37.8% of the students indicated "occasionally". 16.5% of the students indicated "almost none". According to Chart 5, the distribution of students' emotional states was obtained: 44.5% of the students were in a moderate emotional state (11-15 points); 32.3% of the stu-

dents were in a good emotional state (16-20 points); 23.2% of the students had a low emotional state (5-10 points). According to Chart 6, the relationship between academic performance and course frequency was obtained: The proportion of the top 20% excellent students: The "frequently have" course group accounted for 32.8%; Occasionally, there was "Group accounted for 32.3%;" Hardly any "group" accounted for 26.2%; The proportion of students in the bottom 20%: "almost none" was the highest in the course group (23.8%); There is often "group second (16.4%);" Occasionally, there was "the lowest group (8.3%)".

Mental health courses provide frequency distribution

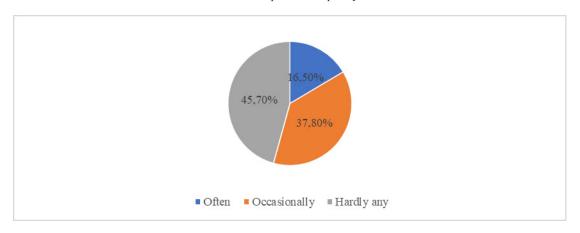


Chart 4 – Mental health courses provide frequency distribution

Distribution of students' emotional states

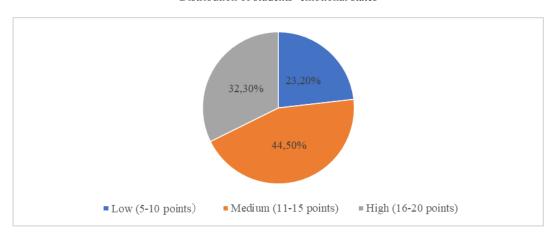


Chart 5 – Distribution of students' emotional states

The distribution of academic performance under different frequencies of mental health courses

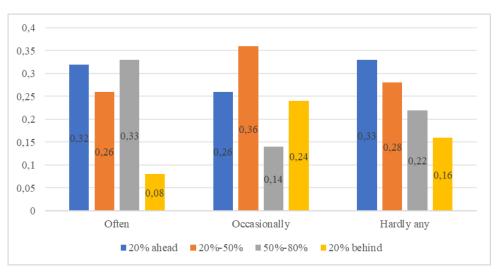


Chart 6 – The distribution of academic performance under different frequencies of mental health courses

From this, it can be concluded that providing mental health courses is indeed associated with better academic performance, and a moderate frequency of mental health courses ("occasionally") seems to be the most effective in promoting academic performance; Not providing courses at all has a significant negative impact on academic performance. Courses with an excessively high frequency may be less effective than those with a moderate frequency.

Discussion

The data of this study show that the level of positive emotions is significantly positively correlated

with academic performance, which is specifically manifested as: The top 20% of students had the highest positive emotion scores, while the bottom 20% had the lowest, and the differences among the groups were significant (*p* < 0.001). Among the 12 students who scored 25 points (out of a full score), 75% were in the top 20%, further strengthening the connection between high positive emotions and excellent academic performance. This result supports Fredrickson's broadening -and-Build Theory, that is, positive emotions can Broaden cognitive resources (such as attention and creativity) and build lasting psychological capital (such as resilience and self-efficacy), thereby promoting academic performance.

Among the sources of positive emotions, academic achievement and self-motivation account for the highest proportion, indicating the achievement feedback cycle. Academic success itself is an important source of positive emotions, and positive emotions further promote learning motivation, forming a virtuous cycle. Self-motivation (such as goal setting), as a key factor of intrinsic motivation, can maintain long-term learning engagement and reduce academic burnout. In contrast, the influence of the teacher-student relationship is relatively weak, which may reflect the insufficiency of teachers' emotional support in the current school environment, or the characteristic that high school students rely more on autonomy rather than external authority.

In terms of emotion regulation strategies, the most commonly used regulation methods by students (exercise/music 61.42%, confiding 59.45%, self-motivation 58.27%) all belong to active coping strategies. Exercise/music can relieve stress and improve subsequent cognitive performance (such as working memory) through physiological arousal (such as endorphin release). Confiding can support the buffering of academic pressure and reduce emotional exhaustion (in line with the social buffering theory). Self-motivation, such as goal setting (like the SMART principle), is directly related to academic planning ability and promotes the improvement of academic performance. The usage rate of meditation and deep breathing is relatively low, possibly because it requires a higher training threshold or high school students prefer immediate and effective regulation methods.

The frequency of mental health courses has an inverted U-shaped relationship with academic performance: the "occasional" course group performed the best (only 8.3% of the bottom 20% of students), indicating that moderate intervention is more effective than high frequency (which may cause burnout) or absence (lack of support). The absence of courses can cause certain negative impacts. The proportion of students in the bottom 20% of the "almost no" course group reached 23.8%, highlighting the pro-

tective effect of mental health education on the underachievers academically. This discovery supports the Yerkes-Dodson Law, which states that moderate psychological intervention can optimize the arousal level, while both excessive and insufficient intervention will reduce efficacy.

Conclusion

Cultivating positive emotions has a significant impact on the academic performance of high school students. Positive emotions affect academic performance through triple mechanisms of cognitive expansion (Fredrickson, 2001), motivation maintenance (Ryan & Deci, 2020), and stress buffering (Skinner & Pitzer, 2012), and moderate mental health education can amplify this effect. Educators should regard emotion management as a core element of academic promotion rather than an accessory. Positive emotions can enhance the learning efficiency and academic achievements of high school students by improving cognitive processes (Boekaerts, 2011), stimulating learning motivation (Dweck, 2006), and strengthening psychological resources (Seligman, 2009). These findings were supported by a meta-analysis of emotional intervention based on schools (Durlak et al., 2011; Linnenbrink-Garcia & Pekrun, 2011).

In the practice of high school education and teaching, teachers should attach importance to the cultivation of students' positive emotions, create a positive classroom atmosphere (Wang & Degol, 2016), carry out mental health education activities (Weissberg et al., 2015), guide students to conduct positive self-reflection and evaluation (Yeager & Walton, 2011), strengthen home-school cooperation (Jennings & Greenberg, 2009), and jointly create an environment conducive to the cultivation of positive emotions for students. By cultivating positive emotions, it helps high school students better cope with the challenges in study and life, improve academic performance (Pekrun et al., 2017), and promote the healthy development of both body and mind (Roeser et al., 2013).

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