



## Exploring the method of evaluating the effectiveness of peer counseling based on affective computing

Yifei Du<sup>1</sup>, Liwei Jia<sup>1,\*</sup> and Yantao Du<sup>2</sup>

<sup>1</sup> Henan Medical College, Zhengzhou, Henan, 451191, China

<sup>2</sup> Henan Quality Institute, Pingdingshan, Henan, 467000, China

**SUMMARY:** *Peer counseling is the help of trained or supervised non-professionals with the function of psychological counseling, which has the advantages and characteristics of mutual assistance, acceptability and extensiveness, and has been highly valued by colleges and universities in recent years, however, less attention has been paid to the evaluation of the effect of peer counseling and the empirical research is still in a gap. In this regard, this paper makes an innovative attempt to integrate affective computing technology into peer counseling, aiming to improve the competence, interpersonal ability and psychological adaptation quality of peer counselors through affective identification, affective analysis and affective feedback. The effectiveness of the integration design of affective computing and peer counseling was empirically examined with 73 freshman peer counselors as the research subjects. The empirical results showed that the peer counselors supported by affective computing technology significantly outperformed the traditional peer counseling effects in the dimensions of competence, interpersonal competence, and psychological adaptive quality ( $P > 0.05$ ). The results of this study not only provide a new tool for peer psychological counseling in colleges and universities, but also provide valuable experience for the application and validation of affective computing technology in complex, real-world human-computer interaction scenarios.*

**KEYWORDS:** *peer counseling; affective computing; integration design; competency; interpersonal skills*

## 1 Introduction

Since the reform and opening up of China, China's politics, economy and culture have undergone tremendous changes, and in the increasingly transformed social environment, some psychological problems have emerged in the college student population. In recent years, the mental health of college students has attracted special attention from all walks of life, especially from the education sector. Universities and colleges have generally set up institutions for mental health education, but relative to the dramatic increase in the number of students due to the expansion of colleges and universities, the number of professionals in psychological counseling and psychological counseling is still very insufficient, which is difficult to meet the requirements of mental health education in institutions of higher education as well as the needs of college students' psychological counseling [1-3]. In addition, a survey report shows that when college students have psychological problems, more than 80% of students first choose to confide in their close friends, followed by family members, other, teachers, and only about 10% choose to seek help from professional psychological counseling teachers [4]. This result shows

\*hamcjlw@163.com

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that when college students encounter psychological problems, friends are the best people to confide in. This shows that a new model of mental health education, “peer counseling”, has a broad space for development in the field of college students' mental health education and will play an immeasurable role [5-7].

Peer counseling refers to the process of listening to, understanding and helping their peers by lay people who have received certain training among students, and through their work, students with psychological disturbances can deal with problems in learning and life more effectively [8-11]. Peer psychological counseling not only makes up for the shortage of professionals, but also expands the coverage of mental health education by publicizing and popularizing mental health knowledge and carrying out peer psychological counseling activities, so that more students have access to mental health knowledge [12]. At the same time, the model of peer psychological counseling also provides a broad space for college students' self-service and self-education. Therefore, peer psychological counseling meets the objective needs of the psychological development of college students, is an important supplement to the school's professional psychological counseling team, is a good way for college students to help others to help themselves, and is also an important way to improve the psychological quality of college students.

However, at present, China's colleges and universities, the relevant departments of the work of peer psychological counseling of college students have not attracted enough attention, the development of peer psychological counseling is still in the initial stage of exploration, in the process of specific implementation there are still many shortcomings. This is both on the peer psychological counseling in the theoretical level of research and understanding of the shortcomings, but also in the peer psychological counselor selection difficult, difficult to train, difficult to assess the effect of practical problems [13-17]. According to a survey data shows that 30% of the students do not know peer psychological counseling at all, which from one side shows that the publicity of peer psychological counseling work in colleges and universities is insufficient, and the influence of peer psychological counseling in the college and university student groups still needs a long-term process [18]. Therefore, we hope that through this paper's exploration of peer psychological counseling effect assessment methods for college students, to better promote the development of peer psychological counseling work in colleges and universities, to provide some simple and easy to implement methods and techniques, so as to better promote the development of college students' mental health education work.

With the growing popularity and development of peer counseling for college students, the academic research on it has been gradually enriched. Researchers have done deeper research exploration on it mainly from the following two aspects.

The first is the research analysis of the connotation of peer psychological counseling. Literature [19] adopts the method of systematic review research to comprehensively understand the advantages and disadvantages of peer psychological counseling, pointing out that peer psychological counseling plays an important value in alleviating the psychological pressure and negative emotions of college students, and this research lays the foundation for future empirical research and exploration in colleges and universities. Literature [20] examined the impact of peer counselors' participation in the counseling process, and found that 237 participants reported that the process had a positive impact on their lives, and that they experienced improvements in personal growth, communication skills, and self-confidence. Literature [21] constructed an effective peer tutoring model that effectively addresses students' academic and psychological issues, overcomes the limitations of the traditional mentoring services provided by academic tutors and the traditional counseling model, and provides a new approach to meeting student needs in higher education. Literature [22] provided all students with training in the foundational skills of peer counseling (listening and helping others) and concluded that

peer counseling can improve students' mental health issues through self-expression and mutual support, enhance students' social connections, and also help to improve academic performance. As can be seen from the above studies, there is an academic consensus on the connotation of peer counseling, i.e., people of similar age, similar experiences, or the same life circumstances who are selected from a social group, receive specific training and information, and provide psychological assistance to other peers in the group to produce positive behavioral effects [23-25].

Secondly, there are studies on the unique value of peer counseling in higher education. Literature [26] emphasized the importance of peer counselor training, which effectively improves interpersonal communication skills, shapes good attitudes, and masters basic counseling skills, and the study also confirmed that peer counselor training enhances students' ability to support mental health and reduces the stigmatization of psychological problems. Literature [27] suggests that the value of peer counselor training lies in its ability to enhance their pro-social qualities, thereby improving their knowledge and skills, changing their attitudes and behaviors, and ultimately creating a more supportive campus environment for college students with mental health issues. Literature [28] explored the value of peer counseling in alleviating students' academic stress, and the results of multivariate analysis of variance (MANOVA) and Wilcoxon test showed that peer counseling can significantly reduce students' academic stress and burnout. Literature [29] suggests that peer counseling services are easy to use and an alternative to professional counseling services, and the main finding was that students' needs were for support in terms of academic stress, anxiety, and low mood, while peer counseling services were recognized by 81.6% of students. It can be seen from the above study that peer counseling, although providing a non-professional counseling service and not replacing professional counseling services, is one of the most effective strategies in college psychoeducation [30]. The unique value of peer counseling lies in its low-cost and high-efficiency characteristics, while peer counseling helps to improve the self-development of adolescents and the ability to help others, all of which reflects that peer counseling plays an irreplaceable and positive role in mental health education in colleges and universities in China [31, 32].

This study attempts to integrate affective computing technology into the application of peer psychological counseling for college students, through the introduction of objective and continuous technical means such as affective recognition, affective analysis and affective feedback in affective computing technology, to promote peer psychological counseling to evolve from a practice relying on experience and qualitative, to a data-driven, precise and scientifically verifiable professional model. By optimizing the external guarantee mechanism of peer psychological counseling and improving the competence, interpersonal skills, and psychological adaptability of college peer psychological counselors, college students' mental health education can better meet the needs of current students. Finally, the impact of emotional calculation on the effectiveness of peer counseling was empirically examined with the new peer counselors in the freshman year of a higher vocational college as the research object. At the same time, aspects such as the practical operation of carrying out peer psychological support in schools were explored to provide new perspectives for the development of school mental health education.

## 2 Designing for the integration of affective computing and peer counseling

### 2.1 Emotional calculation and peer counseling

#### 2.1.1 Emotional calculations

Emotions are human feedback on things that help individuals understand their preferences, maintain mental health, and build trust in social interactions. Affective computing technology has made remarkable progress since it was first proposed by Professor Rosalind Picard of MIT Media Lab in 1995 in her book *Affective Computing* [33], which defines affective computing technology as responding to the emotions of natural human beings, and categorizes and divides affective computing content into different dimensions. This technical system consists of three layers of technical architecture, namely emotion recognition, emotion analysis, and emotion feedback [34].

As a comprehensive emotion research, the emotion computing technology has the following advantages:

(1) Accuracy

Based on the deep training of massive multimodal data, the emotion computing technology can perform the recognition of behavioral semantics such as mood, speech, and action during the interaction process. It can combine the collected information to perform multimodal sentiment analysis on the detector, which is more accurate and objective than other detection methods.

(2) Adaptability

The adaptability of affective computing technology is mainly reflected in the real-time adjustment of the user's emotional state, which can be accomplished in the interactive process.

(3) Universality

The universality of affective computing technology refers to the reduction of the impact on the detection accuracy by analyzing the personal factors of the detector.

#### 2.1.2 Peer Counseling

Peer counseling, also known as peer counseling or peer support, is an informal psychological intervention under the guidance of professional mental health educators, in which student volunteers with certain psychological knowledge and communication skills provide psychological support, emotional relief, and adaptive guidance to their peers [35]. The key is based on trust and empathy among peers, building a helping relationship of equality, respect, and understanding to create a warm and safe environment for psychological growth. Unlike professional psychological counseling, it places more emphasis on early intervention, emotional accompaniment and experience sharing, and is an important supplement to the mental health education system in colleges and universities.

When specifically implemented, peer psychological counseling has four basic principles [36]:

(1) The principle of equality and mutual support, emphasizing equivalent status in order to facilitate open communication and authentic expression;

(2) The principle of active listening, relying on the concept of empathy counseling object, sorting out emotional distress;

(3) The principle of non-judgmental, non-judgmental of the thoughts and behaviors of the assisted object, cutting down psychological defenses with acceptance and understanding;

(4) The principle of confidentiality, the need to strictly protect the privacy of counseling

clients to enhance their sense of psychological security.

## 2.2 Affective Computing Technology Architecture

### (1) Emotion Recognition

As one of the main functions in affective computing, emotion recognition is of great significance. Good emotion recognition technology can comprehensively and dynamically recognize the user's physiological raw signals and signal fluctuations. The so-called “emotion recognition” does not mean that the machine intuitively measures and feels the user's emotional fluctuations, but rather captures a series of physiological signals related to emotion, including intervening and non-intervening measurement signals. The intervening measurement signals include basic physiological signals such as heart rate, blood pressure, body temperature, blood oxygen, etc., while the non-intervening measurement signals include sound signals, changes in movements, and expressions of emotions in words. The main process of emotion recognition includes physiological signal extraction, emotion modeling, feature classification and judgment, model evaluation and optimization.

### (2) Emotion Analysis

After obtaining the collected signals, it is necessary to analyze the user's emotional state through emotion analysis technology. Sentiment analysis requires a large amount of high-quality data for training, and fusion processing of multiple physiological signals to ensure the accuracy of the detection function. Sentiment analysis technology needs to transfer the sentiment data to the sentiment model, and combined with the information transfer logic to comprehensively analyze the user's input sentiment.

### (3) Emotional feedback

Emotional feedback technology runs through the whole process of human-computer interaction, and builds a two-way communication system through an emotional response mechanism. Its core is based on user behavioral data and physiological signals, actively outputting adapted emotional interaction strategies, rather than relying on the user's subjective emotional dependence on the detection product. The binary attribute of emotional feedback is reflected in decision-making adjustability and subjective understanding.

## 2.3 Counseling integration design

### 2.3.1 Mechanisms for operating the integration system

The operation mechanism of the integration system of emotional computing and peer psychological counseling in this study is based on the interaction model of students' mental health in the campus scenario, and different levels of psychological intervention are adopted according to the severity of students' psychological problems. The mechanism of students' daily mental health detection mainly relies on students' daily activities and physiological status on campus, and tracks students' daily behaviors through peer counseling. The mechanism is based on students' daily activities and physiological status on campus, and through peer psychological counseling, students' daily behaviors are tracked without emotion. After a comprehensive assessment of the two types of data, according to the severity of mental health problems, they are categorized into three levels: primary (prompting), intermediate (guidance), and advanced (intervention), with different levels of severity differentiating the degree of intervention for the population:

(1) If a student is judged to have a “primary” mental health problem, the peer counseling model is used to provide psychological support, emotional relief, and adaptive guidance to the student, which is an informal psychological intervention.

(2) If the student is judged to have “intermediate” mental health problems, peer counseling

and professional counseling are used to provide targeted psychological guidance to the student. Among them, the integration of peer counseling mode makes it easier to identify the students' psychological problems, and the psychological counseling is more targeted, so that the counseling process is more humane and effective.

(3) If a student is judged to have a more “serious” mental health problem, the mental health intervention mechanism will be activated directly, and the school administrator will carry out timely psychological intervention for the problem students.

The mental health intervention framework based on the integration of affective computing and peer counseling is shown in Figure 1. In the diagnosis and intervention stage of mental health, students need to wear testing devices and combine them with the corresponding assessment scales to obtain their physiological data during the testing process and the assessment results of the scales as the data support for the assessment of students' mental health status.

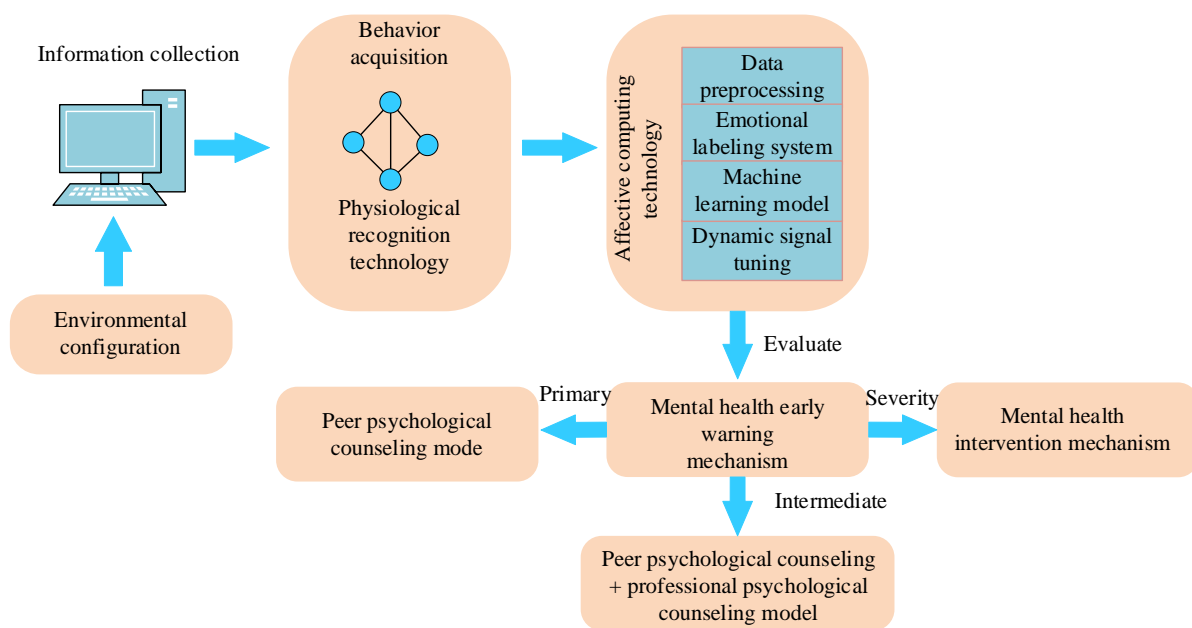


Figure 1: The operating mechanism of the mental health integration system

### 2.3.2 Validation and Optimization of Converged Systems

After completing the design of the integration of affective computing and peer counseling and applying it in practice, it needs to be evaluated to verify the validity and feasibility, and the validation method used in this study is usability testing. The testing samples were provided with different usage tasks and the usage process was recorded, and finally the testing samples were invited to evaluate the model for subsequent optimization.

A scientific user screening method is utilized to classify users into different categories to achieve comprehensive sample coverage. Ultimately, the main categorization methods in this study include three different bases, i.e., students' grade level, psychological state, and psychological background.

### **3 The impact of affective computing on the effectiveness of peer counseling**

#### **3.1 Subjects of study**

The object of this study is a higher vocational college freshman major new peer counselors, through the school counselor recommendation, mental health education center publicity, students voluntarily enroll in the principle of a total of 73 people to participate in the freshman, all have not participated in the systematic group counseling, divided into the experimental group and the control group, and complete the test, which one person did not complete the series of training due to illness in the middle of the day, and the other student excluded because of the invalid answer to the question, the There were 71 valid subjects. Among them, 35 were in the experimental group and 36 were in the subject group. The experimental group adopted the previously proposed design method based on the integration of affective computing and peer counseling, and the control group used the traditional method to provide systematic training for 71 new peer counselors. Through the survey research, we comprehensively understand and analyze the current situation and characteristics of freshmen, and then for the later stage to explore whether the affective computing technology has a significant effect on the competence, interpersonal skills, and the level of psychological adaptive qualities of the peer counselors of the freshmen, so as to explore a new method to solve the mental health education of the freshmen. In the second half of September, 2025, the experimental group and the control group were provided with 2-month training .

A total of 72 questionnaires were distributed in this experimental study, a total of 72 questionnaires were recovered, and the valid questionnaires were 71 after excluding invalid questionnaires, with a recovery rate of 98.6%.

#### **3.2 Research tools**

##### **3.2.1 Competency Questionnaire for Peer Counselors in Colleges and Universities**

The Competency Questionnaire for Peer Counselors in Colleges and Universities contains a total of 25 questions containing six dimensions: professional personality traits, interpersonal communication and coordination, self-growth traits, professional attitudes and qualities, extensive relevant knowledge and experience, and achievement orientation. It has high reliability and validity, in which the reliability analysis shows that the Cronbach  $\alpha$  coefficients of each factor are between 0.651-0.784, and the split-half reliabilities are between 0.618-0.779, and the final reliability reaches 0.859. In addition, the study shows that the questionnaire has good content validity, structural validity, and school standard validity, and can be used in the competency of peer counselors in colleges and universities. Assessment.

##### **3.2.2 Interpersonal skills questionnaire**

The Interpersonal Competence Questionnaire was developed by psychologists at the University of California, Los Angeles, U.S.A. In this paper, the questionnaire was adapted according to Chinese college student subjects to obtain the reliability and validity of the questionnaire for application in China. The Cronbach coefficient  $\alpha$  of the questionnaire is 0.812, the retest reliability of the questionnaire is 0.753-0.826, and the correlation value of the questionnaire with the total score of the Interpersonal Reactivity Indicator (IRI) (validity scale validity) is 0.816. Validated factor analyses indicate that the overall five-dimensional model is an acceptable fit for the questionnaire to be borrowed for assessing the level of interpersonal

communication skills in China. The questionnaire consists of 40 questions, including Active Interaction, Appropriate Rejection, Self-Representation, Conflict Management, and Emotional Support, which are five dimensions with six questions in each dimension, and the higher the score, the stronger the competence, and the weaker the competence.

### 3.2.3 Scale of Psychological Adaptive Qualities

In this paper, the adaptive quality subscale of the Youth Mental Health Quality Questionnaire compiled by the Youth Mental Health Quality Research Group was used to administer the test to the subjects, analyze the data, and screen the maladjusted students as the subjects. The scale consists of eight subscales, and using the adaptive quality subscale, the level of scores is directly proportional to the level of individual psychological adaptation. The internal consistency coefficients  $\alpha$  coefficients and retest reliabilities ranged from 0.503-0.877, 0.564-0.883, respectively. The validity scale validity of each subscale ranged from 0.195-0.806. The questionnaire has good reliability and validity and can be used as a psychological measurement tool. The questionnaire consists of six dimensions which are academic adaptation, physical adaptation, emotional adaptation, interpersonal adaptation, life adaptation, and social adaptation.

## 3.3 Analysis of experimental results

### 3.3.1 Impact of affective computing on competence

Independent samples t-test was conducted on the pretest data of peer counselor competency of the experimental and control groups, and the specific results are shown in Table 1. It can be seen that there is no significant difference ( $P>0.05$ ) between the two groups of subjects in the pre-test on the factors of competence and the total score of competence, and the subjects have good homogeneity.

Table 1: The difference test of two groups of competencies (pre-test)

Measurement index	Experimental Group (N=35)	Control group (N=36)	<i>T</i>	<i>P</i>
	M±SD	M ± SD		
Professional personality traits	16.79±2.33	16.85±2.42	-0.021	0.871
Achievement-oriented	16.45±3.01	16.82±2.76	-0.305	0.735
Interpersonal communication and coordination	14.08±2.38	13.85±2.21	0.281	0.799
Self-growth traits	16.18±2.12	16.35±2.08	-1.235	0.242
Professional attitude and quality	15.86±2.16	15.71±2.51	1.066	0.307
Knowledge reserve	15.72±1.34	15.56±1.98	0.181	0.876
Total	95.08±7.99	95.14±8.86	0.006	0.905

The difference between the posttest and the corresponding pre-test scale scores of the experimental group and the control group was made to derive the mean of the value-added scores of the two groups  $\Delta$ , and a t-test was carried out on the value-added scores of the two groups, and the results are shown in Table 2. It can be seen that the value-added scores of the experimental group and the control group differ significantly in terms of occupational personality traits, achievement orientation, interpersonal communication and coordination, occupational attitudes and qualities, knowledge reserve and total competence score, and the difference is not significant in the dimension of self-growth traits. Among them, on the total

competency score, the value-added scores of the experimental group and the control group were 13.82 and 4.79, respectively, which showed a significant difference between the two groups ( $T=3.85$ ,  $P\leq 0.000$ ).

Table 2: Difference Test of Competency

Measurement index	Experimental Group (N=35)	Control group (N=36)	<i>T</i>	<i>P</i>
	M±SD	M ± SD		
Professional personality traits	1.77±2.03	0.41±2.58	2.41*	0.025
Achievement-oriented	2.42±1.18	1.21±1.76	2.27*	0.041
Interpersonal communication and coordination	2.85±2.35	0.33±1.71	3.37*	0.003
Self-growth traits	1.99±1.84	1.51±1.86	0.72	0.375
Professional attitude and quality	1.88±1.95	0.89±1.38	3.01*	0.021
Knowledge reserve	2.91±2.56	0.44±1.83	4.75*	0.001
Total	13.82±7.94	4.79±5.94	3.85**	0.000

Note: \*\* Significantly correlated at 0.01 level (bilateral); \* Significantly correlated at 0.05 level (bilateral).

### 3.3.2 Impact of affective computing on interpersonal skills

Independent samples t-test was conducted on the pre-test data of peer counselors' interpersonal competence in the experimental and control groups, and the specific results are shown in Table 3. It can be seen that there is no significant difference between the two groups of subjects in the factors of interpersonal competence and the total score before the intervention ( $P>0.05$ ), and the subjects have good homogeneity.

Table 3: Test for Differences in Interpersonal Communication Skills (Pre-test)

Measurement index	Experimental Group (N=35)	Control group (N=36)	<i>T</i>	<i>P</i>
	M±SD	M ± SD		
Take the initiative to interact	28.13±5.19	27.36±4.03	0.134	0.543
Appropriate refusal	29.66±4.97	29.83±5.37	0.307	0.739
Self-disclosure	29.58±5.51	29.44±4.54	0.276	0.744
Conflict Management	28.14±4.06	28.34±4.22	-0.113	0.808
Emotional support	30.83±5.18	31.78±5.86	0.384	0.791
Total	146.34±16.83	146.75±15.54	0.019	0.853

The posttest of the experimental group and the control group were differed from the scores of the corresponding pre-test scales to derive the mean of the value-added scores of the two groups  $\Delta$ , and the value-added scores of the interpersonal competence of the peer counselors of the two groups were subjected to an independent samples t-test, and the specific results of which are shown in Table 4. It can be seen that there is a significant difference between the value-added scores of the experimental group and the control group in the three dimensions of appropriate rejection, self-expression and conflict management, and the difference is also very obvious in the dimension of total interpersonal competence score ( $T = 4.38$ ,  $P\leq 0.000$ ), while in the dimensions of proactive interactions and emotional support, the difference between the two groups is not significant.

Table 4: Difference Test of Interpersonal Skills

Measurement index	Experimental Group (N=35)	Control group (N=36)	T	P
	M±SD	M ± SD		
Take the initiative to interact	28.13±5.19	27.36±4.03	1.53	0.152
Appropriate refusal	29.66±4.97	29.83±5.37	2.11*	0.042
Self-disclosure	29.58±5.51	29.44±4.54	2.42*	0.018
Conflict Management	28.14±4.06	28.34±4.22	3.12**	0.005
Emotional support	30.83±5.18	31.78±5.86	1.53	0.152
Total	146.34±16.83	146.75±15.54	4.38**	0.000

Note: \*\* Significantly correlated at 0.01 level (bilateral); \* Significantly correlated at 0.05 level (bilateral).

### 3.3.3 The effect of affective computing on the quality of psychological adaptation

To examine whether the affective computing technique can have an effect on the psychological adaptive quality of the new senior peer counselors, it is necessary to first test whether the experimental class and the control class are homogeneous, and after finishing the pre-test, an independent samples t-test was carried out on the two classes, and the results of the test are shown in Table 5. From the table, it is known that the difference between the experimental class and the control class in the psychological adaptive quality scale and the scores on the factors is not significant ( $P>0.05$ ). This shows that the experimental and control classes are homogeneous.

Table 5: Comparison of the pretest results on the Psychological Adaptation Quality Scale

Measurement index	Experimental Group (N=35)	Control group (N=36)	T	P
	M±SD	M ± SD		
Physiological adaptation	11.24±1.61	11.45±2.63	-0.872	0.376
Emotional adaptation	16.06±2.72	15.72±3.03	-0.705	0.424
Interpersonal adaptation	13.48±2.05	13.45±2.82	-1.733	0.117
Learning adaptation	12.56±2.81	12.42±2.46	-0.342	0.729
Social adaptation	10.04±1.98	10.38±1.72	-0.743	0.406
Life adaptation	9.46±1.72	9.87±1.89	-0.307	0.721
Total	72.84±11.40	73.29±9.87	-0.586	0.414

In order to examine the validity of this intervention study, i.e., whether the difference between the pre and post-tests is a function of natural variation or a result of the intervention, an independent samples t-test was conducted on the mean of the value-added scores of the experimental and control classes on the Mental Health Qualities Scale and on each of the factors  $\Delta$ , and the results are shown in Table 6. The difference between the experimental class posttest and the control class posttest was highly significant ( $P>0.01$ ) on total adaptation score, emotional adaptation, interpersonal adaptation, academic adaptation and life adaptation. And the difference in social adaptation was significant ( $P>0.05$ ), and the increase of the experimental class in these dimensions was higher than the average of the control class, which indicates that the intervention of this experiment is effective, i.e., the affective computing technology in peer counseling significantly improves the quality of the psychological adaptation of the new peer counselors, and accelerates the speed of the first-year freshmen adapting to the new environment. While in the physical adaptation dimension, the difference was not significant ( $P=0.76>0.05$ ).

*Table 6: Comparison of the post-test results of psychological adaptation quality*

Measurement index	Experimental Group (N=35)	Control group (N=36)	<i>T</i>	<i>P</i>
	M±SD	M ± SD		
Physiological adaptation	1.09±2.34	1.13±3.03	-1.515	0.076
Emotional adaptation	0.71±3.01	0.07±0.76	4.834	0.000**
Interpersonal adaptation	1.81±1.38	0.91±1.27	2.906	0.003**
Learning adaptation	1.03±1.42	0.89±0.86	3.433	0.000**
Social adaptation	1.69±0.96	0.15±0.34	2.224	0.031*
Life adaptation	2.13±1.49	0.20±1.25	3.715	0.000**
Total	8.46±5.69	3.35±0.63	4.001	0.000**

Note: \*\* Significantly correlated at 0.01 level (bilateral); \* Significantly correlated at 0.05 level (bilateral).

## 4 Conclusion

Currently, mental health education in colleges and universities is an important part of college students' quality education, which plays an important role in cultivating college students' healthy personality and good psychological quality. By introducing affective computing technology, this study solves the dilemma of strong subjectivity and difficulty in quantifying the traditional peer counseling effect assessment, and opens up a window into the inner mechanism of counseling interaction. The results of the empirical study show that affective computing technology can be used as an effective means of training peer counselors' competence, interpersonal skills, and psychological adaptive qualities, and that a peer counselor's interpersonal skills reflect his competence to a certain extent. From the theoretical level, the interdisciplinary integration of affective computing and peer counseling is designed to provide a theoretical basis for constructing a more solid model for assessing the effectiveness of peer counseling. On the practical side, the application of this method will directly improve the professionalization of peer psychological counselors and build a technical guarantee for personalized intervention.

In the future, this study is not only expected to optimize the training, management and supervision of the existing peer counseling system, but also provides a new path for its sustainable development. In addition, the sample size is relatively small in the research process, and the conclusion lacks a certain degree of universal validation, which will be supplemented in future research to enhance the reliability and validity of the study. At the same time, it is also necessary to strengthen the theoretical research, and strive to combine theory and practice, and in practice to integrate the theory learned and then put it into practice.

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## About the Author

Yifei Du was born in Ruzhou, Henan, P.R. China, in 1979. She received the Master degree from

Henan University. She works in the Henan Medical College, her research interests include mental health, psychological counseling and school psychology.

Liwei Jia was born in Zhoukou, Henan, P.R. China, in 1981. He received the Master degree from Zhengzhou University. He works in the Henan Medical College, his research interests include Information Security, Algorithm Design and Artificial Intelligence.

Yantao Du was born in Ruzhou, Henan, P.R. China, in 1982. He received the Master degree from Guizhou University. He works in the Henan Quality Institute, his research interests include management.

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