International Journal of Asian Social Science
ISSN(e): 2224-4441
ISSN(p): 2226-5139
DOI: 10.55493/5007.v15i12.5701
Vol. 15, No. 12, 480-493

URL: www.aessweb.com

Ideological and political teaching under educational psychology in colleges and universities in China

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Article History
Received: 18 August 2025
Revised: 6 October 2025
Accepted: 30 October 2025
Published: 14 November 2025

Keywords
China
College student psychology
Creative thinking
Educational psychology
Ideological and political teaching
Questionnaire survey.

ABSTRACT

As social politics, culture, economy, and technology swiftly develop, ideological and political teaching (IPT) in colleges and universities (C&U) in China is confronted with new challenges. Therefore, this study analyzes the relationship between IPT in C&U and students' creative thinking from the perspective of educational psychology and investigates their well-being in daily life on the level of positive psychology. Since well-being affects college students' IPT smoothly or not, it influences their perception and evaluation of innovative thinking. This study adopts a questionnaire survey targeting students in private C&U to collect their suggestions. The results show that: firstly, social security and support factors account for the most significant proportion of the influence evaluation model of college students affected by positive psychology, followed by schooling factors. Secondly, the investigation of creative thinking indicates that 65% of students believe it is necessary to train creative thinking, and 45% consider that the cultivation of creative thinking is very important for their major. The optimization of college students' IPT, coupled with the cultivation of their innovative thinking, should be improved and innovated with the changes of the times, which is worthy of in-depth study by scholars.

Contribution/ Originality: This study draws upon Torrance's framework for assessing creative thinking and integrates Friedman's research findings on the relationship between ideological and political education and innovative capabilities. It constructs a relational model between ideological and political teaching in higher education institutions and the cultivation of innovative thinking, followed by empirical analysis.

1. INTRODUCTION

In the era of informatization and globalization, ideological and political teaching (IPT) in Chinese universities not only takes on the critical task of cultivating students' political identity and shaping their values but also needs to meet the social demand for innovative talents. In recent years, creative thinking, as an important indicator of students' comprehensive quality, has received widespread attention in educational psychology research (Henshon, 2008). However, the current IPT in colleges and universities (C&U) often concentrates on knowledge imparting and value instillation, and pays less attention to how to stimulate students' creative thinking. Historically, IPT modes in C&U have changed. Education scholars are also continually exploring the establishment of a reasonable and complete IPT model (Liu, Huang, Wu, Guo, & Hu, 2022). With the changes of the times, college students' psychological environment, views on things, and choices of things are constantly changing. The traditional

education model is no longer well-suited for students in today's C&U. Under such conditions, how to conduct IPT for college students and enhance students' level of innovative thinking has become a popular research theme (Zhang, Velmayil, & Sivakumar, 2023).

According to relevant educational psychology theories, this study analyzes how IPT in Chinese C&U impacts students' development of creative thinking in different ways. In addition, this study draws lessons from Torrance's evaluation framework of creative thinking, combined with Friedman's related research on ideological and political education (IPE) and innovation ability. Meanwhile, the relationship model between IPT and cultivating innovative thinking in C&U is constructed. It aims to explore a proper road for IPE for college students. Understanding the needs of different students and summarizing ways to improve their creative thinking in terms of each student's psychological setting are also emphasized. This study presents a new analytical perspective. From a psychological standpoint, it explores the source of support for college students' well-being and investigates their cognition and needs for cultivating creative thinking (Im, Cho, Dubinsky, & Varma, 2018). The two survey results propose new ideas for establishing an effective and comprehensive IPE system and a creative thinking training mode. Improving the education system is a common goal of educators, for which they have made several recommendations.

This study facilitates filling the gap in the relationship between IPE and creative thinking while providing theoretical support for reforming the college curriculum. This study's findings offer empirical support for C&U in optimizing IPT modes and improving teaching quality. Thus, it enhances students' innovative ability and guides the cultivation of comprehensive talents with creative spirits and social responsibilities. It offers a new perspective for innovative IPE development in C&U. It furthers the application of educational psychology in IPE, which contributes to the theoretical support and practical guidance for promoting the reform of ideological and political courses.

2. LITERATURE REVIEW

Numerous academics have proposed various recommendations and pedagogical frameworks to enhance IPE. In 2005, the Communist Party of China Central Committee and the State Council jointly issued the Guidelines on Enhancing IPE in C&U under New Circumstances, which significantly elevated the institutional standing of IPE curricula. Nevertheless, the overreliance on formal "ideological and political courses" as the primary IPE delivery mechanism in higher education persists as an unresolved systemic challenge (Xu & Liu, 2021). The Chinese government promulgated two pivotal policy documents - the Guidelines on Strengthening and Improving Ideological and Ministry of Education of the People's Republic of China (2016) and the Directives on Advancing Ideological and Ministry of Education of the People's Republic of China (2019). These directives explicitly characterize the enhancement of collegiate ideological-political work as "a foundational strategic undertaking," mandating both the curricular reinforcement of ideological-political theory courses and the systemic improvement of IPE's pedagogical engagement. Specifically, the policies advocate establishing cross-disciplinary collaborative education mechanisms to augment the affinity and persuasiveness of IPE (Wang, 2019). In this context, C&U around the country, combined with their reality, actively explored the "ideological-political course" model and achieved specific results. However, the existing research focuses more on how IPE can enhance political identity, shape values, and cultivate social responsibility, and less on its influence on students' cognitive ability, especially creative thinking. Creative thinking refers to the uniqueness, flexibility, fluency, and exquisiteness displayed by individuals in their thinking activities (Dedesko et al., 2025). In recent years, research in educational psychology has shown that teaching methods, classroom interactions, learning environments, and other factors significantly impact the development of creative thinking (Dedesko et al., 2025). However, current IPT modes remain dominated by single-way indoctrination, with insufficient classroom interaction and discursive training, failing to stimulate students' creative thinking effectively. In addition, while promoting the reform of "ideological and political courses,"

some C&U still focus on the course content's value-oriented function while ignoring its potential to cultivate students' creative thinking.

Although there have been studies on reforming the IPE teaching modes in C&U and the path of cultivating creative thinking, there is a lack of systematic research on combining the two. How IPE in C&U affects students' creation of creative thinking has also not been explored deeply. Therefore, this study, building upon educational psychology, investigates the relationship between core elements of IPT in higher education institutions (such as teaching methods, classroom interaction, and teacher guidance) and students' creative thinking (fluency, flexibility, originality, and elaboration). This study aims to fill the gaps in existing research and provide theoretical support and practical guidance for optimizing ideological and political lesson reform.

3. RESEARCH MODEL

In recent years, positive psychology has received significant attention. Practicing positive psychology in China, which was developed in the West, and integrating it with the realities of Chinese universities is still in the exploratory stage (Seligman & Csikszentmihalyi, 2000). Therefore, this section takes a group of college students as participants to analyze the influencing factors of positive psychology on their well-being. In addition, a quantitative evaluation model is established. This study can provide a reference for C&U to improve students' well-being.

The scientific basis of this section is rooted in subjective well-being and positive psychology. Drawing on literature that examines factors influencing the well-being of college students, this study investigated the role of IPT within the educational psychology framework in China's C&U. It involved 850 students from two private universities in Shanxi Province, China. These institutions were selected due to their significant influence in the region's private higher education sector and their commitment to integrating IPE into their curricula. Furthermore, the participants represented a variety of academic disciplines, including business, engineering, humanities, and social sciences, ensuring a comprehensive view of how ideological education is perceived across different fields of study. The sample was also stratified by academic year, including freshmen to seniors, to observe how perceptions and impacts of ideological teaching might evolve throughout their university education. This study employs survey questionnaires targeting students in private C&U to establish an evaluation model of how positive psychology affects their well-being (Chakhssi, Kraiss, Sommers-Spijkerman, & Bohlmeijer, 2018). The model reveals the factors and their respective impacts on enhancing well-being among private university students. Universities can use these insights to prioritize and allocate resources toward relevant positive psychology courses and activities.

3.1. Positive Psychology

Positive psychology lays the foundation for cultivating college students' positive psychological qualities. It represents a groundbreaking advancement in psychological science and a significant turning point in societal progress. This innovative field examines conventional psychological concepts through an affirmative lens. The PERMA model, as a foundational framework within positive psychology, was formulated by Martin Seligman (Khan & Jahan, 2012). He believed that there were five core well-being components: positive emotion, engagement, relationships, meaning, and accomplishment (Umashankar & Charitra, 2021). The model offers valuable insights for assessing collegiate mental health and subjective well-being, while simultaneously informing the development of enhanced psychological education curricula in C&U.

3.2. Psychological Well-Being

Psychological well-being encompasses the subjective experience of positive affective states arising from individuals' perceptions of life satisfaction and personal security (Freire, Ferradás, Valle, Núñez, & Vallejo, 2016). From the view of the whole society, well-being is affected by complex factors, such as economic, social, demographic, cultural, psychological, and political factors. However, the following three points are unique and vital.

The first is the psychological frame of reference, the second is the degree of achievement motivation, and the third is the sense of ontological security.

3.3. The Relationship Between Positive Psychology and Well-Being

Positive psychology aims to help people feel happy by affirming their worth. It uses positive psychology to positively interfere with people's psychology, help people perceive beauty, and obtain psychological satisfaction and well-being. In addition, positive psychology can also enhance individuals' affirmation of their values, allow people to understand themselves deeply, and truly gain a sense of well-being from the depths of their hearts (Antoine, Dauvier, Andreotti, & Congard, 2018). Enhanced well-being correlates with increased motivation for diverse activities, thus facilitating undergraduates' academic performance, engagement in IPT, and development of innovative cognition.

Based on this, two groups of experimental investigations are conducted here, focusing on the influence of the first group of positive psychology on the well-being of college students' IPT and the second group on college students' creative thinking awareness and ability. The two experimental models are as follows.

The first group of experimental models is an evaluation model of the impact of positive psychology on the well-being of college students' IPT.

3.4. Factor Analysis (FA)

The main purpose of FA is to extract common factors from a thing or different variables existing in an item. It can identify hidden representative factors among numerous variables, grouping factor variables of the same category into a single factor class. This reduces the number of variables and examines hypothesized relationships between them (Fleck et al., 2018; Kim, 2018).

$X = (X_1, X_2, \dots, X_P)^T$. FA is a statistical method for simplifying and analyzing high-dimensional data. Assuming that the p-dimensional random variable satisfies Equation 1.

$$X = \mu + A\bar{f} + \bar{e} \quad (1)$$

In Eq. (1), $\vec{f} = (f_1, f_2, \dots, f_q)^T$ denotes a q-dimensional random variable. $q \le p$, μ, and A are parameter matrices. $\bar{e}$ is a special factor. $(f_1, f_2, \dots, f_q)^T$ satisfies Equations 2-3.

$$E\bar{f} = 0 \quad (2)$$

$$E\vec{f}\bar{f}^T = \vec{I}_q \quad (3)$$

E is the sum of the e vectors. $\vec{f}$ and $\bar{f}^T$ are the f vector and the transposed vectors corresponding to the f vector, respectively. Its components f_i are common factors that impact each component of X. $\vec{I}_q$ is the q-unit vector values.

$\vec{e} = (e_1, e_2, \dots, e_p)^T$ represents a p-dimensional unobservable random vector, which meets Equations 4-5.

$$E\vec{e} = 0 \quad (4)$$

$$E\vec{e}\vec{e}^T = diag(\sigma_1^2, \sigma_2^2, \dots, \sigma_p^2) \stackrel{\text{def}}{=} \sum 1 \quad (5)$$

Additionally, $E\vec{f}\vec{e}^T = 0$. The component of $\overrightarrow{e_\iota}$ is termed a special factor, affecting only the component $\overrightarrow{X_\iota}$ of X. If X satisfies the above equations, the random variable X has a factor structure. In this case, Equation 6 can be derived.

$$Var(X) = \vec{A}\vec{A}^T + \sum 1 \quad (6)$$

The matrix A is called the factor loadings, where its element a_{ij} represents the loadings of the ith component $\overrightarrow{X_\iota}$ on the jth factor f_j. It is expressed as:

$$h_i^2 = \sum_{j=1}^{q} a_{ij}^2 \quad (7)$$

There is:

$$Val(X_i) = h_i^2 + \sigma_i^2 \quad (8)$$

h_i^2 reflects the impact of the common factor on $\overrightarrow{X_\iota}$, called the "contribution" of the common factor to $\overrightarrow{X_\iota}$.

$$h_i^2 \ge \sigma_i^2 \quad (9)$$

The influence of the common factor on $\overrightarrow{X_\iota}$ is greater than that of the special factor $\overrightarrow{e_\iota}$, with σ_i^2 representing the variance. In Equation 9, h_i^2 reflects the degree to which the component $\overrightarrow{X_\iota}$ depends on the common factor f_j.

Furthermore, a specified common factor f_j can be written as:

$$g_j^2 = \sum_{i=1}^{p} a_{ij}^2 \quad (10)$$

g_j^2 denotes the contribution of the common factor f_j to X. The larger the value of g_j^2, the greater the influence of the common factor f_j on X; thus, g_j^2 measures the importance of the common factor.

3.5. Principal Component Analysis (PCA)

PCA is a statistical dimensionality reduction technique that converts correlated variables into orthogonal, uncorrelated components through linear transformation (Bożek, 2018). The standard PCA procedure involves the following key computational stages.

$$F_p = a_{1i}Z_{x_1} + a_{2i}Z_{x_2} + \cdots + a_{pi}Z_{x_p} \quad (11)$$

In Equation 11, $a_{1i}, a_{2i}, \ldots, a_{pi} (i = 1, \ldots, m)$ represent the matrix of eigenvectors associated with the eigenvalues of X's covariance matrix. $Z_{x_1}, Z_{x_2}, \ldots, Z_{x_p}$ denote the original variables' normalized values. In applied settings, varying measurement scales across indicators necessitate data normalization before computational analysis to ensure dimensional consistency.

$$A = (a_{ij})pm = (a_1, a_2, \ldots, a_m) \quad (12)$$

$$R_{a_i} = \lambda_i a_i \quad (13)$$

In Equations 12-13, R refers to the correlation coefficient matrix. λ_i and a_i are the corresponding eigenvalues and unit vector features, $\lambda_1 \geq \lambda_2 \geq \cdots \geq \lambda_p \geq 0$. Specific steps are as follows: (1) standardized normalization of indicator data (automatically computed by SPSS); (2) correlation matrix analysis between indicators; (3) determination of the number m of principal components; (4) derivation of principal component expressions (F_I); (5) semantic interpretation of F_I.

This study constructs an evaluative model to assess how positive psychology interventions enhance well-being among private university students. A questionnaire on "Factors Affecting College Students' Well-being in Private Colleges" was distributed to the college students. The students scored the four indicators included in the questionnaire: "physical and mental health factors, family factors, school education factors, and social security and support factors," on a five-level scale, with the degree of influence increasing from one to five. SPSS software was used for factor analysis (FA) to calculate the weights of mental health factors, family factors, school education factors, social security, and support factors. The second group of experimental models investigates college students' creative thinking awareness and ability.

Innovative thinking is creative thinking. Thinking is a generalized reflection of the human brain's objective reality and can analyze and process knowledge (Putra, Erita, Habibi, & Ningsih, 2021). Creative thinking is formed and developed based on conventional thinking. Creative thinking can acquire new knowledge and produce novel and unique thinking results, and creative thinking training can stimulate the potential creative talents of college students, exert their subjective initiative, expand the breadth, depth, and height of thinking, and optimize the thinking space of college students (Çakır, Korkmaz, İdil, & Erdoğmuş, 2021).

This study investigates the cognitive situation of creative thinking awareness across all aspects among freshman to senior students in two private universities in Shanxi Province, China. It seeks to explore how students from various academic years from freshmen to seniors perceive and apply creative thinking in the context of their education. This study selected universities based on their significant role in Shanxi's private higher education sector. Both have integrated innovative teaching methods and strongly emphasized developing students' critical thinking and problem-solving skills.

4. EXPERIMENTAL DESIGN AND PERFORMANCE EVALUATION

4.1. Methods, Sample, and Data Collection

Both groups of experiments were conducted using questionnaires. The study distributed 400 questionnaires in the first phase, obtaining 377 valid responses (validity rate: 94.25%). The second phase yielded 434 valid responses from 450 distributed questionnaires (validity rate: 96.4%).

The experimental equipment version is as follows:

PC side model Intel(R) Core (TM) i5-9300H CPU @ 2.40GHz, 2.40 GHz, 64-bit operating system.

Windows Specifications: Windows 11 Home Chinese Edition, Version 21H2.

The first group of experiments, SPSS version SPSS22.0, Chinese version.

Two groups of experiments, Office 2021.

The survey data of two groups of questionnaire survey experiments were designed and generated based on the above experimental tools and software, which were entered into the client for subsequent analysis of all the collected data using the analysis software.

4.2. Instrumentation

The first group of experimental environments takes students from a specific university as the research subjects and focuses on the students' well-being scores. The study period spans two semesters. The first semester involves students who have not participated in courses or activities related to positive psychology education. The second semester involves students who have participated in classes and activities related to positive psychology education.

The second experimental group investigated the cognition and cultivation of college students' creative thinking and consulted the teachers of the "Creative Thinking Training" quality education elective course in two universities. Under this course, there are 24 majors on campus, with 201 undergraduates in School A and 250 undergraduates in School B. According to the proposition of "study on creative thinking awareness and ability of college students," a questionnaire survey was conducted on these students during the teaching period. In this survey, a total of 200 questionnaires were distributed to School A, 197 of which were valid, and the recovery rate was 98.5%. There were 250 copies of School B and 237 valid questionnaires, and the recovery rate was 94.8%.

4.3. Data Analysis Procedure

The first group of experiments collected and summarized the evaluation indicators that affected college students' well-being using literature and materials: physical and mental health factors, family factors, school education factors, and social security and support factors. A five-level scale was adopted; a higher score indicates a better influence degree. The weight of each influencing factor was determined by the mathematical statistics method. The well-being scores of students were collected, counted, and calculated before and after participating in positive psychology education activities for two semesters to verify that positive psychology education was indeed beneficial in improving students' well-being. The second group of experiments had no special parameter values, with a total of 434 participants.

5. RESULTS

The experimental research results (Positive Psychology Evaluation Model Research Results) of the first group are as follows.

A questionnaire on "Factors Affecting College Students' Well-being in Private Colleges" was distributed to college students. Students scored the four indicators included in the questionnaire, "physical and mental health factors, family factors, school education factors, and social security and support factors," on a five-point scale, and the degree of influence increased from one to five (Yan, 2022). The various parameter values used in the initial operation of the model are shown in Tables 1 to 3.

Before FA, the KMO and Bartlett tests should be performed on data. The KMO test evaluates variable suitability for factor analysis by measuring sampling adequacy through correlation (0-1 scale). Values approaching 1 indicate stronger inter-variable correlations and weaker partial correlations, suggesting appropriate conditions for factor analysis. In such circumstances, FA yields reliable results. In practical applications, if the final KMO value exceeds 0.7, the experiment achieves a good effect. When the KMO value is below 0.5, the problem is not appropriate for FA. Bartlett's sphericity test determines that the independent FA method for each variable is invalid

if the correlation matrix is an identity matrix. The standard is satisfied when the SPSS test results indicate Sig.<0.05, meaning the data follow a spherical distribution and the variables are to some extent independent. The results of Bartlett's sphericity and KMO tests of the positive psychology model are exhibited in Table 1.

Table 1. KMO and Bartlett tests.

Bartlett's test of sphericity			
KMO metric for sampling adequacy	**Approximate chi-square**	**Df**	**Sig.**
0.761	1146.859	6	0.000

In Table 1, the KMO value of this model is greater than 0.7, which indicates a good factor analysis (FA) effect. The approximate chi-square value is 1146.859. The significance (Sig.) value is less than 0.05. df refers to the degrees of freedom, representing the number of variables with unlimited values.

Table 2. Total variance explained.

Factor		Physical and mental health factors	Family factors	School education factors	Social security and support factors	Extraction method: PCA
Initial eigenvalues	Total	2.754	1.002	0.150	0.194	
	Variance /%	68.847	25.062	3.753	2.338	
	Total /%	68.847	93.909	97.667	100.00	
Extract the sum of squares and load	Total	2.754	1.002			
	Variance /%	68.847	25.062			

Table 2 shows the initial eigenvalues of the PCA for each factor and the percentage of variance after extraction and loading. The variance of the physical and mental health factors is approximately 68.8%. The variance of the family factor is approximately 25.1%. The variance for the schooling factor is approximately 3.8%. The variance of social security and support factors is approximately 2.3%.

The component matrices of the first and second principal components of the four factors after PCA are outlined in Table 3.

Table 3. Component matrix.

Factor	Physical and mental health factors	Family factors	School education factors	Social security and support factors	Extraction method: PCA	a. Two components have been extracted.
1	0.958	-0.17	0.949	0.967		
2	-0.039	1.000	0.029	0.028		

Table 4 is derived from calculating each indicator's coefficients in the linear combination of the two principal components.

Table 4. Coefficients of each indicator in the linear combination of the two principal components.

Coefficients in linear combinations				
Factor	**Physical and mental health factors**	**Family factors**	**School education factors**	**Social security and support factors**
The first principal component	0.557	-0.010	0.572	0.583
The second principal component	-0.039	0.999	0.029	0.028

Two linear combination models can be directly obtained from Table 4.

$$F_1 = 0.557X_1 - 0.010X_2 + 0.572X_3 + 0.583X_4 \quad (14)$$

$$F_2 = -0.039X_1 + 0.999X_2 + 0.029X_3 + 0.028X_4 \quad (15)$$

The principal component's variance contribution rate is calculated. A higher variance contribution rate indicates a greater degree of importance of the principal component. The comprehensive score is presented in Figure 1.

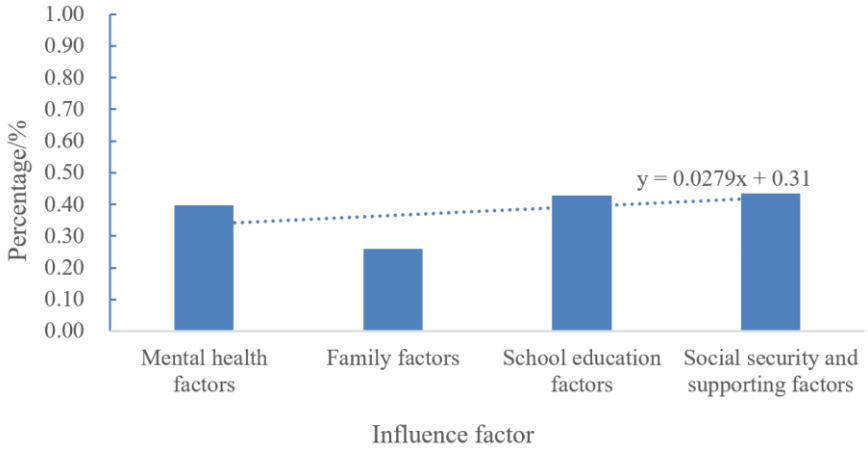

Figure 1. The proportion of influence.

Factors: The comprehensive scoring model is obtained as:

$$Y = 0.398X_1 + 0.259X_2 + 0.427X_3 + 0.435X_4 \quad (16)$$

The weights are normalized to obtain a model as in Equation 17.

$$Y = 0.262X_1 + 0.171X_2 + 0.281X_3 + 0.286X_4 \quad (17)$$

College students believe that social security and support account for the largest factors affecting well-being (43.5%). School education is the second factor (42.7%), and the third is physical and mental health (39.8%). The last is the family factor (accounting for 25.9%).

SPSS is used to analyze the weights of mental health, family, school education, and social security and support factors. The KMO value is 0.761 by running SPSS, P<0.001, indicating that the questionnaire has good construct validity. The results of the experimental research, including the survey on students' innovation consciousness and ability, of the second group are as follows. Among the 434 valid questionnaires collected, the results of the awareness of college students' creative thinking are depicted in Figures 2 to 6.

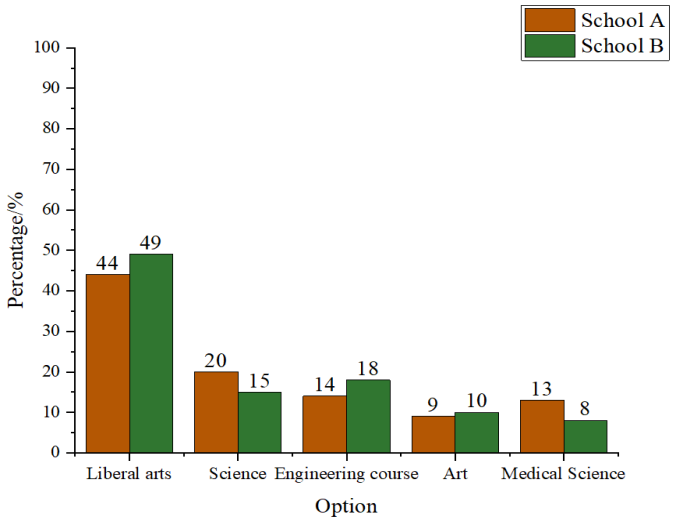

Figure 2. Professional distribution of respondents.

In Figure 2, schools A and B in private universities are selected as specific survey objects. Among these, approximately 44% (49%) of students in school A are from liberal arts disciplines, such as law schools, business schools, history schools, foreign languages schools, public administration schools, and others. School A is followed by science disciplines, including the School of Mathematics and Statistics, School of Public Health, School of Management Engineering, School of Life Sciences, School of Chemistry and Molecular Engineering, among others, accounting for 20% (15% in School B). The engineering courses include Power College, Electrical Engineering College, Civil Engineering College, Chemical Engineering and Energy College, Mechanical Engineering College, Water Conservancy and Environment College, and Materials Science and Engineering College, with a proportion of 14% (18% in school B). The medical classes constitute 13% (8% in school B), comprising the College of Pharmacy, School of Basic Medicine, School of Stomatology, and other departments. The smallest proportion is in the art category, mainly the Academy of Fine Arts, accounting for only 9% (10% in school B). The third category is engineering, which includes the School of Mechanics, School of Electrical Engineering, School of Civil Engineering, School of Chemical Engineering and Energy, School of Mechanical Engineering, School of Water Conservancy and Environment, and School of Materials Science and Engineering, with a proportion of 14% (18% in school B). Similarly, the proportion of medical students is 13% (8% in school B), including the School of Pharmacy, School of Basic Medicine, School of Stomatology, and other departments. The smallest proportion is in the art category, mainly the Academy of Fine Arts, accounting for only 9% (10% in school B).

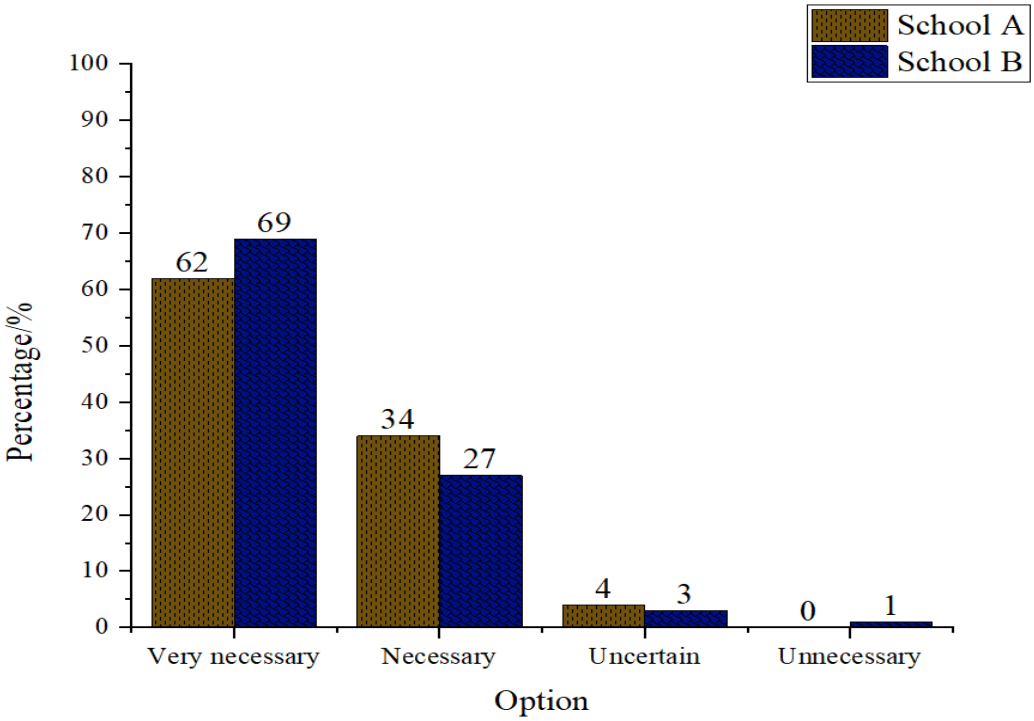

Figure 3. The necessary degree of modern college students receiving creative thinking training.

In Figure 3, 62% of college students in school A believe that it is very necessary to receive creative thinking training. About 34% of college students believe it is required to receive creative thinking training, and zero think it is unnecessary, while 69% of college students in school B believe that it is very necessary to receive creative thinking training. About 27% of college students believe it is needed to receive creative thinking training, and the number of college students who think it is unnecessary to receive creative thinking training is one. Therefore, for most college students, it is indispensable to strengthen their creative thinking ability.

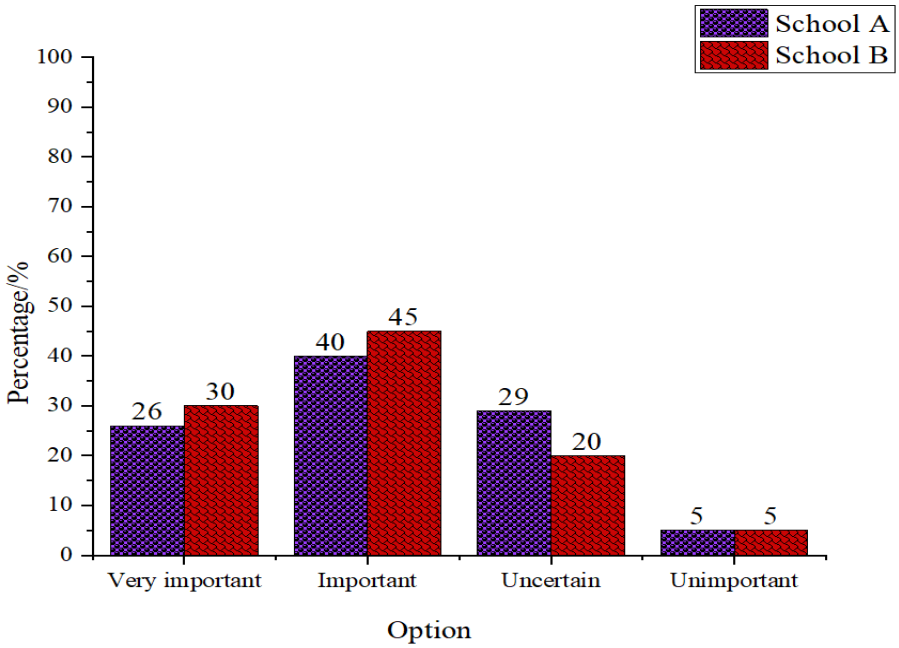

Figure 4. The degree of influence of creative thinking training on professionalism.

In Figure 4, on average, about 42.5% of college students believe that the cultivation of creative thinking ability is essential to their majors, followed by students with uncertain views and critical attitudes, accounting for an average of 24.5% and 28%, respectively. Only 5% of college students feel less urgent about their major. From the data obtained above, the vast majority of students believe there are deficiencies in creative education in the modern higher education system and have the awareness to take the initiative to obtain such education. This course can help expand thinking and tap personal potential through a novel teaching style. It helps to solve practical problems and improve college students' employability and entrepreneurial capabilities. Therefore, cultivating creative thinking ability plays an important role and function in university education, and it is an indispensable high-quality methodological course.

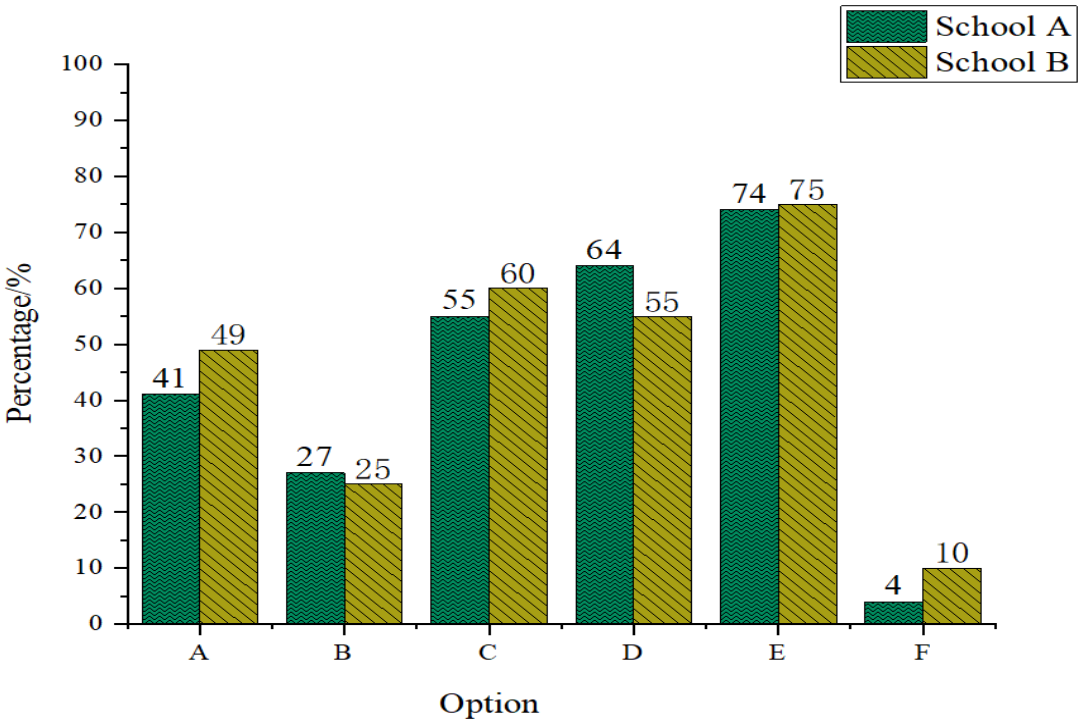

Figure 5. Distribution of aspects to be learned through creative thinking training.

Figure 5 shows the votes of college students on creating creative thinking ability training courses and the knowledge they hope to learn. Item A is to understand the role and importance of creativity in the majors studied. Item B is the basic knowledge about creative thinking. Item C is the cultivation method of creative thinking. Item D is practical, creative skills. Item E is how to apply creative thinking to majors and future careers. Item F is other.

In Figure 5, through this course, about 74% of college students are very concerned about the knowledge they have learned now and hope to apply it to their future careers and majors as much as possible. About 64% and 55% of college students want to learn practical, creative skills and thinking methods. Furthermore, 41% and 27% want to understand the role and importance of creativity in their majors and the basics of creative thinking, respectively.

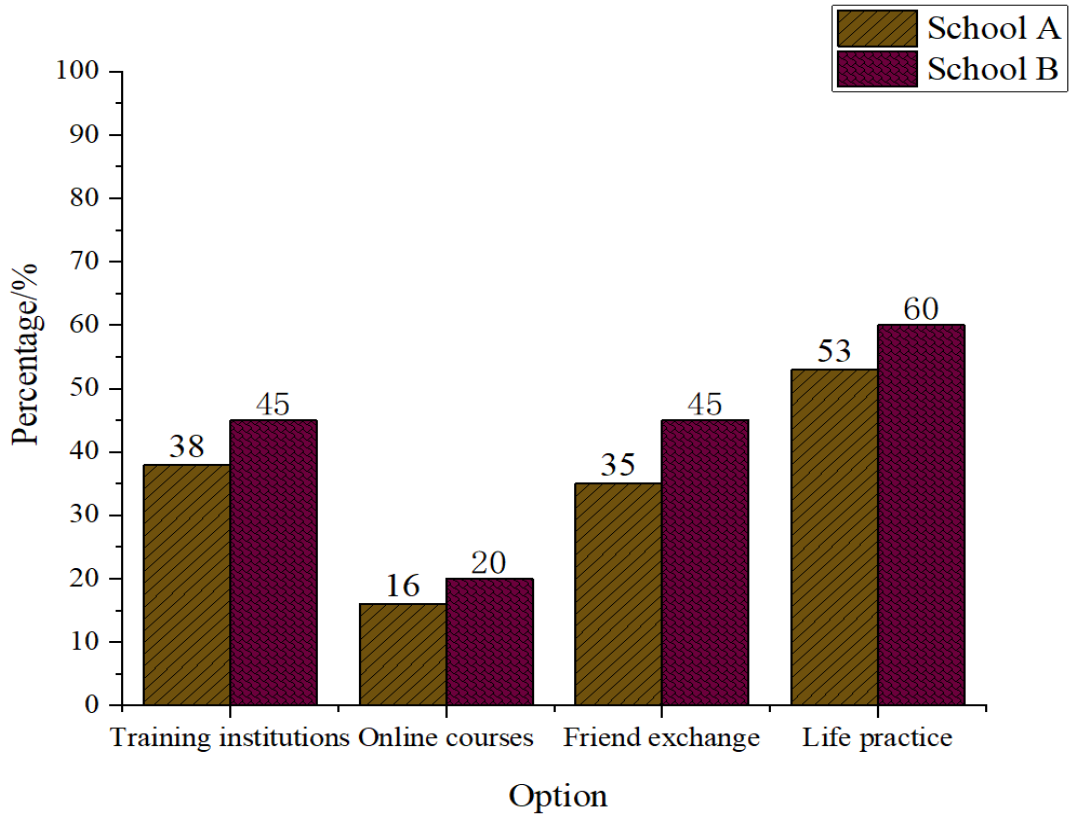

Figure 6. Distribution of Willingness of college students to learn creative thinking channels.

In Figure 6, 53% of college students are willing to increase their creative thinking awareness in life practice, and 38% are eager to follow professional teachers through institutions for face-to-face communication and learning. In addition, 35% of college students hope to communicate and learn with like-minded friends, while only 16% will self-learn creative thinking training through online courses.

6. DISCUSSION

This study investigates college students' perceptions and requirements for enhancing well-being in IPT and developing innovative cognition using educational psychology. It also puts forward some suggestions based on these results. Compared with previous related research, current studies have certain differences in specific measures.

First, positive psychology well-being education courses are added (Kimura, Yano, & Oishi, 2021). Second, an optimistic attitude is developed. Third, an excellent academic atmosphere should be created to foster college students' creative thinking ability (Berestova, A., Ermakov, D., Aitbayeva, A., Gromov, E., & Vanina, E., 2021). Fourth, it comprehensively reforms teaching-research integration to elevate creative competencies. Finally, interactions and communication between teachers and students should be enhanced to cultivate college students' spirit of independent innovation.

In addition, compared with traditional research, this study comprehensively deepens teaching and scientific research reform to improve the creative quality of college students. Traditional studies often attribute the cultivation of creative thinking to teachers' teaching methods. However, this study finds that strengthening the interaction and communication between teachers and students' thinking in C&U, allowing students to explore and participate in real innovation projects independently in practice, is helpful to cultivate their independent innovation spirit. This is because contemporary college students emphasize individualized development. Under the mode of "autonomous learning+interactive communication," they can better exert their subjective initiative and improve their creative thinking ability. To sum up, this study is consistent with the basic conclusions of previous studies, while proposing more targeted improvement suggestions in specific strategies to adapt to the variations in college students' current psychological environment and educational models. These findings are of great practical significance for C&U to design plans for improving well-being and cultivating creative thinking in the future.

7. CONCLUSION

The current significant challenge is how to effectively influence the psychological environment of contemporary college students, enabling them to navigate college life comfortably. This includes, but is not limited to, engaging in good IPE and creative thinking training. In this study, a comprehensive analysis was conducted on the well-being of IPT in C&U, grounded in positive psychology, along with the cognition and evaluation of creative thinking among college students. The study achieved satisfactory results, identifying the sources of support for students' well-being, their perceptions of creative thinking, and the types of assistance they require, based on survey data from two experimental groups. The detailed findings are as follows:

From the perspective of educational psychology, social security and support factors exert the greatest influence on college students' well-being, followed by school education factors. In college students' IPT, their well-being level significantly impacts the effectiveness of IPE. The positive psychology education approach can effectively enhance students' well-being and further promote their participation and interest in IPT. To improve students' well-being, attention should be paid to the comprehensive influence of mental health, family support, and social security. Additionally, regarding the cultivation of creative thinking, survey results indicate that most students believe that creative thinking training is necessary and that creative thinking holds great significance for professional learning. This underscores the importance of cultivating creative thinking for college students' academic performance and personal growth. The integration of IPE and creative thinking stimulates students' innovative potential and fosters creative development. Therefore, C&U should explore educational models that combine creative thinking training with IPT to promote the comprehensive development of students' thinking skills.

Generally speaking, this study shows that under the dual role of educational psychology and creative thinking education, IPE in C&U can more effectively promote students' mental health and innovative thinking ability. In the future, educators should optimize the contents and methods of IPT from a psychological viewpoint, thus cultivating students' well-being and creative thinking ability, and supporting their overall development.

8. LIMITATIONS AND FUTURE STUDIES

Education is endless. The times are changing, and technology is developing. The psychological environment of the younger generation of students is also changing. In the future, the demand for education will only continue to increase, especially the innovation in IPE and the cultivation of creative thinking, which will certainly pose higher challenges to educators. Therefore, researchers should continue to work hard to explore more efficient educational channels and create more high-quality IPE models and creative thinking training methods for college students.

These two groups of studies still have limitations due to the limited research scope. The survey scale is not large enough, and the survey results are not universally applicable. There are also some deviations in the data

analysis results. The scale should be expanded in the future. College students' suggestions on IPT and creative thinking training should be adopted to optimize the existing education model continuously.

Future work could increase the sample size and gather more diverse perspectives from college students to refine the existing educational models, ensuring they better meet student needs and development. In addition to expanding the sample scope, longitudinal studies are also essential, as they can provide a more comprehensive understanding of students' growth and changes in IPE and creative thinking development. Moreover, future research should pay attention to interdisciplinary collaboration within educational models and integrate emerging technologies, such as big data and artificial intelligence, to advance personalized teaching. In this way, educators can more accurately identify and meet student needs, continuously improving educational quality. Concurrently, exploring the relationships between IPE, creative thinking, and other related educational outcomes, such as problem-solving skills, critical thinking, and emotional intelligence, can help build a more comprehensive educational system that provides richer support for students' academic and personal growth.

Funding: This study received financial support from the Shanxi Provincial Science and Technology Strategic Research Special Project 'Research on the Construction of an Intelligent Party Building Ecosystem in Higher Education Institutions in the Era of Big Data' (202404030401030) and the Shanxi Provincial Federation of Social Sciences Key Project 'Research on the Transformation of Xi Jinping's Thought on Ecological Civilization into Traditional Ecological Culture' (SSKLZDKT2024115).
Institutional Review Board Statement: The study involved minimal risk and followed ethical guidelines for social science fieldwork. Formal approval from an Institutional Review Board was not required under the policies of Universiti Sains Malaysia. Informed verbal consent was obtained from all participants, and all data were anonymized to protect participant confidentiality.
Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.
Competing Interests: The authors declare that they have no competing interests.
Authors' Contributions: All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

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