

Implicit personality, psychological resilience and emotional regulation among college students

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Abstract

This study took 812 Chinese college students as samples and adopted the questionnaire survey method, using a variety of statistical analysis methods to explore the relationships among implicit personality, psychological resilience, and emotional regulation. The results showed that females, students majoring in humanities and social sciences, those from rural areas, and non-only children accounted for a relatively large proportion in the sample. The implicit personality, psychological resilience, and emotional regulation abilities of college students were all at a moderate level. Gender, grade, major, and whether they were only children had significant effects on these three aspects, while the place of origin had no significant impact. There were significant positive correlations among all dimensions of implicit personality, psychological resilience and its dimensions, and emotional regulation and its dimensions. The entity view, incremental view, hardiness in psychological resilience, and overall psychological resilience had significant positive predictive effects on emotional regulation. Based on this, it is recommended that schools strengthen the education of emotional regulation and psychological resilience, enhance the guidance of implicit personality concepts, pay attention to the differences of different groups, and build a support system to promote the mental health development of students.

Keywords: college students, implicit personality, psychological resilience, emotional regulation, influencing factors

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1. Introduction

In the context of today's rapid social development, college students, as a crucial group in society, are facing increasingly complex and diverse psychological challenges and emotional troubles. The college stage is a critical period for an individual's growth and development. During this stage, college students not only have to cope with academic pressures, such as the increasing difficulty of courses, the stress of exams, and the confusion about future career planning, but also have to deal with interpersonal relationship issues, like getting along with roommates, classmates, and teachers. At the same time, they need to adapt to a new living environment. These factors combined have a significant impact on their mental health and quality of life. In the process of dealing with these challenges and troubles, the strength of emotional regulation ability is particularly crucial, as it is directly related to whether college students can maintain a good psychological state and smoothly spend their college years.

Implicit Personality refers to an individual's implicit belief in the variability or fixity of personality traits. That is, whether an individual believes that personality traits can change through their own efforts and experiences, or if these traits are fixed and unchanging. For college students, this implicit personality view plays an important role in their daily lives and studies. College students with a growth - oriented implicit personality view believe that through effort and learning, their abilities and personality traits can be changed and enhanced. This belief makes them more resilient when facing difficulties in learning, exam failures, or setbacks in interpersonal relationships, and they can actively deal with these situations. There is also a close connection between implicit personality view and the next variable, Psychological Resilience. College students with a growth - oriented implicit personality view tend to believe that their abilities can be changed, and this belief helps to enhance their psychological resilience, making them more adaptable when facing stress and setbacks.

Psychological Resilience refers to an individual's ability to adapt and recover when facing stress, adversity, and trauma. For college students, psychological resilience is an important guarantee for them to deal with various difficulties in college life. When facing heavy academic tasks, a competitive environment, and unexpected situations in life, college students with high psychological resilience can better adjust their states and maintain a positive attitude. Psychological Resilience is closely related to Emotional Regulation. College students with high psychological resilience can maintain a positive emotional state when facing stress and adversity and can quickly recover from negative emotions. This is due to their strong emotional regulation ability. They can use positive emotional regulation strategies, such as positive reappraisal and problem - solving strategies, to cope with stress and negative emotions, thereby improving the efficiency and effectiveness of emotional regulation.

Emotional Regulation is an important part of an individual's mental health. It refers to the process in which an individual manages and controls their own emotions, aiming to maintain psychological balance and adapt to the social environment. For college students, good emotional regulation ability helps them better cope with various challenges in college, maintain good interpersonal relationships, improve learning efficiency, and thus enhance the quality of life. Emotional Regulation is closely linked to Implicit Personality and Psychological Resilience. The implicit personality view affects the emotional regulation strategies chosen by college students. College students with a growth - oriented implicit personality view are more likely to adopt positive emotional regulation strategies, while those with a fixed - oriented implicit personality view may adopt negative strategies. Psychological Resilience provides the basis and support for emotional regulation. College students with high psychological resilience perform better in emotional regulation. They can more effectively use various emotional regulation strategies to better cope with stress and negative emotions.

Although there are already some research results on the relationships among implicit personality view, psychological resilience, and emotional regulation, there are still some research gaps. On the one hand, most existing studies only explore the relationships between implicit personality view and emotional regulation, and between psychological resilience and emotional regulation separately. There is a lack of research on the interaction between implicit personality view and psychological resilience in the process of emotional regulation, and the complex mutual influence mechanism among the three has not been deeply revealed. On the other hand, in the research on college students as a specific group, there may be differences in these psychological factors among college students from different regions and majors. However, relevant research pays insufficient attention to this, and there is a lack of comprehensive and targeted research.

Based on the existing research gaps, this study aims to deeply explore the specific impact mechanisms of implicit personality view and psychological resilience on college students' emotional regulation. The personal research motivation stems from the concern about the mental health problems of college students. Seeing that many classmates around are troubled by emotions when facing various pressures in college, which affects their studies and lives, I realize that a deep understanding of the relationships among these psychological factors is of great significance for helping college students better cope with stress and enhance their emotional regulation ability. I hope that through this study, new ideas and methods can be provided to solve the mental health problems of college students. This study has multiple important significances. At the theoretical level, by deeply exploring the impact mechanisms of implicit personality view and psychological resilience on college students' emotional regulation, it can further enrich and improve the relevant theories in the field of psychology, providing a new theoretical basis for subsequent research. In practice, the research results can provide strong empirical support and practical guidance for mental health education and intervention in colleges and universities. Colleges and universities can carry out targeted mental health education courses and counseling activities based on the research results, helping college students better understand their own implicit personality views and psychological resilience, master effective emotional regulation methods, improve their emotional regulation ability, and thus enhance their mental health level, enabling them to face college life and future challenges in a better state.

Objectives of the Study - This study aims to comprehensively understand the relationships among implicit personality, psychological resilience, and emotional regulation, as well as the impacts of different demographic variables on these psychological characteristics by investigating the personal backgrounds and psychological traits of college students. Specifically, this study collected the basic personal information of the respondents, including variables such as gender, grade, major, place of origin, and whether they are only children. It determined the implicit personality, psychological resilience, and emotional regulation of the respondents. It also examined the differences between psychological resilience and emotional regulation. Finally, based on the research findings, targeted and practical psychological intervention measures were proposed, prompting schools to strengthen education on emotional regulation and psychological resilience, enhance guidance on the concept of implicit personality, pay attention to the differences among different groups, and establish a support system to promote the mental health development of students.

2. Methods

Research Design - This study adopts quantitative research methods, a widely - recognized approach in the academic and research fields. Quantitative research methods involve the systematic empirical investigation of social phenomena through the use of statistical, mathematical, or computational techniques (Creswell, 2024). It focuses on quantifying variables, collecting numerical data, and applying statistical methods to analyze relationships between variables. The key characteristics include the use of structured data collection instruments like questionnaires, objective measurement of variables, and the application of statistical procedures to test hypotheses and draw conclusions. In this study, data is collected through questionnaire surveys. This method is chosen because it allows for the efficient gathering of a large amount of data from a diverse sample. By using carefully designed questionnaires, we can standardize the data collection process and ensure that each participant

provides comparable information.

Statistical analysis methods such as t-test, F-test, correlation analysis, and regression analysis are employed to verify research hypotheses. The t-test is useful for comparing the means of two groups, helping to determine if there are significant differences between them. The F - test is often used in analysis of variance (ANOVA) to test the significance of the overall model in regression analysis or to compare variances between multiple groups. Correlation analysis examines the strength and direction of the relationship between variables, while regression analysis is used to predict the value of a dependent variable based on one or more independent variables.

Quantitative research methods have several distinct advantages. As mentioned, they possess strong objectivity. Since data is collected and analyzed in a standardized manner, personal biases of the researcher are minimized. The data processing is highly standardized, following well-established statistical rules and procedures. This ensures that the results are reliable and can be replicated by other researchers. The reproducibility of results is a crucial aspect as it allows for the verification and validation of research findings across different studies and contexts. These characteristics make quantitative research methods highly suitable for large - scale sample surveys and analysis, enabling us to generalize the findings to a broader population and draw meaningful conclusions about the research questions at hand.

The quantitative correlation study of this study utilizes correlation analysis and regression analysis to explore the mediating effect of psychological resilience on implicit personality and emotional regulation. This study used demographic variables, Implicit Personality Questionnaire (IPQ), the Psychological Resilience Scale (CD-RISC), and the Emotional Regulation Questionnaire (ERQ) to explore the relationship between implicit personality and psychological resilience on emotional regulation among Chinese university students in the context of Chinese culture.

Participants of the Study - Subject selection criteria: to ensure the representativeness and reliability of the research results, Chinese university students were randomly selected as the research subjects. The specific selection criteria are as follows: First, regarding the research on gender, it is essential to ensure a balanced gender ratio. This is crucial as it allows for a comprehensive analysis of the impact of gender differences on the research results. A balanced ratio enables a more accurate understanding of how male and female participants might vary in their responses and behaviors within the scope of the study. Secondly, the source of graduate students should be diverse. It should include students born in different regions such as rural areas, cities, and urban - rural fringe areas. By incorporating students from these various areas, we can account for any potential differences in experiences, perspectives, and backgrounds that might influence the research findings. Thirdly, research on only children is an important aspect. This should include both students who are only children and those who are not. Understanding the characteristics and responses of these two groups can provide valuable insights into how family structure might impact the variables under study. Fourthly, the research grade is a key factor. The sample should include students from freshmen to seniors. This ensures sample diversity and coverage, as students at different academic levels may have different levels of knowledge, experience, and psychological states, all of which can affect the research results. Finally, research major also needs to be taken into account. The sample should cover students from different majors. This helps to avoid the influence of professional background on the research results. Different majors may cultivate different ways of thinking and skills, and by including a wide range of majors, we can obtain a more comprehensive and accurate understanding of the research topic.

Recruitment method for participants: the study adopts complete random sampling: students who meet the conditions are randomly selected from the school student list to ensure the randomness and representativeness of the sample. Students who are interested in participating in the study voluntarily fill out the questionnaire. Number of participants: in order to ensure the effectiveness of statistical analysis and the reliability of conclusions, we plan to recruit 850 students as research samples. Before the formal survey, a preliminary survey will be conducted, selecting 30 students for a trial test to verify the feasibility of the questionnaire.

Subject protection measures: throughout the entire research process, ethical standards will be strictly followed to protect the privacy and rights of participants. Specific measures include: Research informed consent: Before the formal investigation, provide participants with a detailed introduction to the research purpose, content, and process, and obtain their written informed consent. Research anonymity: Ensure that all questionnaire data is processed anonymously and that personal information of participants is not disclosed. Free withdrawal from the study: Participants are free to withdraw from the study at any stage without affecting their normal academic and daily life. By using the above methods of subject selection and recruitment, we ensure the representativeness of the sample and the reliability of the research results, thereby providing a solid data foundation for exploring the impact of implicit personality and psychological resilience on emotional regulation among college students.

Measures

Implicit Personality Questionnaire (IPQ) - The study that resulted in the revision of the Implicit Personality Inventory (IPQ) in 1998 was authored by Levy et al. (1999) The purpose of this IPQ scale was to measure individuals' implicit beliefs about personality. These implicit beliefs could potentially influence various aspects of people's lives, such as their interactions with others, self - perception, and responses to different situations. By measuring these beliefs, researchers aimed to gain a deeper understanding of how people conceptualize personality traits, whether they view them as fixed (aligned with the entity theory) or malleable (aligned with the incremental theory), and how these views impact psychological processes and behaviors. This scale includes 8 items. Among them, 4 items describe the gradual change view and 4 items describe the entity view. The Likert 6-point scoring system is used, with 1 as "strongly disagree" and 6 as "strongly agree". When scoring, the 4 items describing the entity view are scored in reverse. The higher the total score, the more inclined the individual is to hold the gradual change view, and the lower the total score, the more inclined they are to hold the entity view.

This scale is widely used in the measurement of implicit personality in China, and previous studies have shown that it has good reliability and validity. In this study, the Cronbach's alpha coefficient of the scale was 0.78. (Lei et. al.,2019,2020; Ouyang et. al., 2018). This scale is widely used in children, adolescents, and employees. (Lei et. al.,2020) Research has found that implicit personality has a significant negative moderating effect between social exclusion and positive coping. Implicit personality is a vulnerable factor to interpersonal stress, and as the level of social exclusion increases and interpersonal stress increases, the buffering effect of implicit personality will significantly decrease. This scale is widely used among college students (Chen, 2023). This study shows that the gradient view can reduce social anxiety to some extent among low interpersonal sensitivity college students, but for high interpersonal sensitivity college students, the gradient view is difficult to effectively buffer social anxiety. A study by Jia et al. (2022) suggests that college students who believe their abilities can be changed are able to experience higher levels of happiness and experience less anxiety.

Connor Davidson Resilience Scale (CD-RISC) - Developed by Connor and Davidson, it is used to measure an individual's ability to adapt and recover in the face of stress and adversity. The scale consists of 25 items, divided into three dimensions: resilience dimension (13 items in total), self-improvement dimension (8 items in total), and optimism dimension (4 items in total). The scale used a Likert 5-point scale (0=never, 4=always). And it is calculated in the form of sub total. The total score of psychological resilience is the average score of the sum of all scores in 25 questions, while the score of each dimension is the average score obtained by dividing the total score of the corresponding questions by the number of questions. In previous studies, the Cronbach's alpha coefficient of the Psychological Resilience Scale was 0.859, indicating good reliability(Yu et. al., 2023). This scale is widely used in different cultural backgrounds and has good reliability and validity. The Psychological Resilience Scale originated from the study of post-traumatic stress disorder syndromes. Research has shown that the CD-RISC scale is suitable for college students (Han et. al.,2023), and it has been found that psychological resilience partially mediates the relationship between childhood neglect and suicidal ideation among college students.

Psychological resilience is a protective factor for individual mental health, which is negatively correlated with psychological problems such as anxiety, depression, and negative emotions. A study by Stark et al. (2022) found that psychological resilience can negatively predict suicidal ideation in adolescents. Therefore, when an individual's psychological resilience is high, it is easier to maintain a healthy and positive psychological state and reduce the incidence of psychological problems. This scale is used to evaluate individual psychological resilience levels among workers (Piao, 2023). Research has shown that workplace exclusion has a negative effect on psychological resilience. Psychological resilience mediates the negative effects of workplace exclusion on employees' helping behavior. It also has good reliability and validity in the research on the relationship between Chinese thinking style and mental health (Huang et. al.,2024).

Emotion Regulation Questionnaire (ERQ) - The emotion regulation questionnaire adopts the emotion regulation scale. This questionnaire consists of 10 items, mainly measuring the frequency of individuals using two emotion regulation strategies: cognitive reappraisal and expression inhibition. The emotion regulation questionnaire is divided into two dimensions: cognitive reappraisal and expression inhibition. Each dimension includes at least one item measuring the regulation of positive emotions and one item measuring the regulation of negative emotions. The sample question for measuring expression inhibition is "I won't express my emotions", and the sample question for reevaluation is "When I want to feel more positive emotions, I change my perception of the situation". The emotion regulation scale adopts a Likert 7-point scale (1=completely disagree, 7=completely agree), and the higher the score, the higher the frequency of using emotion regulation strategies. The alpha coefficient of the re evaluation dimension is 0.79, the alpha coefficient of the expression inhibition dimension is 0.73, and the test-retest reliability of the two dimensions with a 3-month interval is 0.69 (Kang et. al.,2024).

ERQ is suitable for different age groups and cultural backgrounds, and different groups can quickly understand and complete the questionnaire. ERQ has good internal consistency and test-retest reliability. Multiple studies have shown that the Cronbach's alpha coefficients of the two sub-scales of ERQ are high in different samples, indicating good internal consistency of the questionnaire. ERQ has demonstrated good construct validity and predictive validity in various cultural and linguistic environments. There is a significant correlation between the cognitive reappraisal and expression inhibition sub-scales and other related psychological measurement tools, supporting their validity. ERQ can distinguish between two main emotion regulation strategies: cognitive reappraisal and expressive suppression. This helps researchers and clinical workers to have a more specific understanding of individuals' ways of regulating emotions. This scale is widely used in the Chinese healthcare workforce (Zhang et. al.,2024); Research by Chinese athletes (Zhu et. al.,2023) and Sheng et al. (2023) has shown that emotional regulation plays a mediating role between physical exercise and anxiety levels among college students. Physical exercise not only directly reduces anxiety levels among college students, but also indirectly lowers their anxiety levels by improving their cognitive reappraisal levels; Chinese university student population (Kang et. al.,2024); Emotional regulation plays a mediating role in the relationship between digital stress and life satisfaction. When college students face digital stress, adopting reasonable emotional regulation strategies has certain implications for improving their life satisfaction and reducing digital stress.

Data Gathering Procedure - Research pre-investigation stage: randomly select 30 college students from the research subjects for a preliminary survey. Distribute the Implicit Personality Scale, Psychological Resilience Scale, and Emotional Regulation Scale. After collecting the questionnaire, conduct data analysis and make necessary modifications and improvements to the questionnaire based on the analysis results. Formal investigation stage of research: collect formal data to provide a foundation for subsequent analysis. By random sampling, 800 participants were selected from college students in a certain university. Distribute questionnaires through Wenjuanxing (an online platform in China). Ensure that each participant understands the purpose and process of the study and obtains their informed consent. Ensure the independence and confidentiality of questionnaire filling, and require participants to complete the questionnaire within the specified time. Collect online questionnaires directly into the database.

Research data organization and preliminary analysis:organize the collected data to ensure its completeness and accuracy. Enter the questionnaire data into SPSS software and eliminate invalid or incomplete questionnaires. Conduct descriptive statistical analysis to understand the basic characteristics of the sample. Data Analysis and Result Discussion:validate research hypotheses through data analysis, explore the impact and mechanism of implicit personality views and psychological resilience on emotional regulation. The first assumption is to analyze the distribution of participants in terms of gender, only child, place of birth, grade, major, and other demographic variables. This analysis can help us understand the composition of the research sample and whether it is representative. The second assumption focuses on analyzing whether there are significant differences in scores for implicit personality, psychological resilience, and emotional regulation across different demographic variables. By doing so, we can identify if certain groups tend to have different levels of these psychological characteristics. The third assumption posits that there is a significant correlation between implicit personality view, psychological resilience, and emotional regulation. This implies that changes in one of these factors may be associated with changes in the others. The fourth assumption aims to explore the regression effect of implicit personality view and psychological resilience on emotional regulation. This can help us understand how these two factors influence emotional regulation and to what extent. The fifth assumption is about exploring the mediating effect of psychological resilience as a mediator variable on implicit personality views and emotional regulation. It examines whether psychological resilience plays an intermediate role in the relationship between implicit personality views and emotional regulation.

Data Analysis - This study intends to use SPSS 28.0 software for preliminary organization and eliminate invalid questionnaires. The following methods are mainly used for data analysis: descriptive analysis, correlation analysis, and regression analysis. Specifically, quantitative data such as frequency and percentage, mean, and standard deviation are first processed using descriptive statistics. Then, independent sample t-tests and one-way analysis of variance (ANOVA) were used to statistically analyze the significant differences between variables grouped according to their profiles. Use Pearson product moment correlation to discover whether there is a relationship between implicit personality, psychological resilience, and emotional regulation. Using regression equation analysis to predict the impact of implicit personality and psychological resilience on emotional regulation, and finally, analyzing the mediating effect of psychological resilience as a mediator variable on implicit personality and emotional regulation.

Ethical Consideration - Research design must be reviewed and approved by the Ethics Committee of the University of the Philippines Batangas Campus before continuing the research. This study firmly protects the rights of participants and strictly follows the principles of ethics, voluntariness, confidentiality, and harmless interests. At the beginning of each questionnaire, the researcher will explain in detail to the participants the purpose and significance of the study. Before all participants participate in the test, provide an informed consent form. After obtaining the informed consent of the participants, conduct a survey and ensure that their privacy and questionnaire content are not disclosed. Each participant is voluntary, anonymous, and required to answer questions truthfully. They were also informed that if they did not want to participate in the investigation, they could voluntarily withdraw. If the scales used in the survey induce negative emotions in patients, researchers can also provide appropriate psychological support.

3. Results and discussion

Table 1 shows the distribution of theme configuration files. At the gender level, 44.6% of males and 55.4% of females were surveyed. This is consistent with the gender distribution found in most Chinese studies. Firstly, the gender ratio is roughly the same. Social and cultural factors may also lead to more women choosing to continue their education, so in China's higher education, the proportion of women is slightly higher than that of men (He, 2023). In the undergraduate stage of higher education in China, most majors are taught for four years, while a few majors, such as medicine, environmental engineering, and architecture, are taught for five years. Therefore, this study divided students' scores from first grade to fifth grade. In the actual survey process, in addition to fifth grade students participating in data collection, a small number of graduate students also

participated in the survey. All graduate students participating in the questionnaire survey are classified as graduate students. Due to the limited number of five-year majors, the proportion of graduate students in subject grades is relatively small, with a total of 66 students (8.1%) In addition to completing some school courses and graduation projects, most senior students leave school to engage in practical work and learning. Therefore, in this study, the proportion of senior students was slightly lower. A total of 107 senior students (13.2%) participated in this study.

Table 1
Profile Distribution of the Respondents (N=812)

Profile	Frequency (f)	Percentage (%)
Sex		
Male	362	44.6
Female	450	55.4
Grade		
Freshman	213	26.2
Sophomore	279	34.4
Junior	147	18.1
Senior	107	13.2
Postgraduate student	66	8.1
Major		
Literature and History	463	57.0
Science and Engineering	349	43.0
Place of Origin		
Rural areas	489	60.2
Town	323	39.8
If only child		
Yes	364	44.8
No	448	55.2

In terms of disciplines and majors, according to surveys, higher education in China is roughly divided into cultural and historical categories and science and engineering categories. As of 2024, there are 816 majors in higher education in China, mainly covering disciplines in humanities and social sciences such as literature, history, philosophy, art, linguistics, etc. These disciplines usually focus on the study of human culture, social phenomena, and ideological concepts. Science and engineering mainly involve disciplines in natural sciences and technology, including mathematics, physics, chemistry, biology, engineering, computer science, etc. These disciplines focus on the application of scientific principles and technological innovation. This study selected 463 students (57.0%) majoring in literature and history, and 349 students (43.0%) majoring in science and engineering. The employment directions for cultural and historical majors are relatively broad, with lower difficulty and academic requirements, and there are relatively more students applying. Although management related majors have good employment prospects, their course difficulty and academic requirements are relatively high, and there are relatively few students applying (Qiao et. al.,2024).

In terms of student sources, there are 489 rural students (60.2%) which is more consistent with the proportion of urban and rural population in China. In order to ensure the universality and quality of education, China provides students with a lot of policy support. Most of China's higher education institutions are public schools with low tuition fees, which can provide financial support such as scholarships and living allowances for students in financial difficulties to ensure their completion of their studies. The proportion of higher education students in our country is roughly the same as the proportion of urban and rural population. The rural population is relatively large, and the proportion of rural students is also high. This indicates that the Chinese government has made every effort to provide a fair education environment for Chinese students receiving higher education (Lin et. al.,2020). In addition, students in rural areas may cherish higher education opportunities more, so the number of applicants is relatively higher (Pan, 2023).

Due to China's population control policy, the one-child policy has been implemented since 1979, which means that each couple can only have one child. However, due to the aging population and declining birth rate in China in recent years, the two child policy was relaxed in 2005, allowing more families to have two or more

children (Sui et. al.,2023). Considering this characteristic phenomenon and the fact that the birth order of only child, non only child, or even family children may have an impact on an individual's psychological and emotional state (Guo, 2024), information on participants being only children was also collected during the study period. From the data results, it can be seen that among all participants in this study, only children accounted for 44.8% which is relatively small compared to the proportion of non only children. Although the one-child policy has had a profound impact in the past few decades, policy adjustments in recent years and the increasing acceptance of multi-child families in society have led to a relative decrease in the proportion of only children (Lu et. al.,2022).

The data shows that the majority of respondents are women (55.4%), from rural areas (60.2%), non only children (55.2%), majors in literature and history (57.0%), as well as first-year students (26.2%), second year students (24.4%), or third year students (28.1%).

Table 2
Implicit Personality of the Respondents (N=812)

Sub-Scales	Weighted Mean	Std Dev.	Verbal Interpretation	Rank
Gradual View	4.0102	1.36552	<i>I somewhat agree</i>	2
Entity view	4.2269	1.20923	<i>I somewhat agree</i>	1
IPQ	4.1185	1.16148	<i>I somewhat agree</i>	

Legend: 1.0-1.49(I strongly disagree),1.5-2.49(disagree) 2.5-3.49(I disagree a bit) 3.5-4.49(I somewhat agree)4.5-5.49(agree) 5.5- 6.0(I completely agree)

Table 2 shows the scores of participants on the Implicit Personality Inventory. It can be seen that the total score of gradient theory is 4.01 ± 1.37 , and the total score of entity view is 4.22 ± 1.21 . This score indicates that the implicit personality score of Shandong university students is at a moderate level. In the data collected in this study, the subjects' scores and total scores in all sub-scales, gradient view, and entity view were at a moderate level. This is consistent with previous studies based on the implicit personality of Chinese college students (Chen, 2023). The data collected in this study is representative of current higher education in China, especially undergraduate education. Data collected in this study has further analytical value. Overall, Table 2 shows the implicit personality scores of Shandong undergraduate students using the Implicit Personality Inventory (NPI). The gradient view and entity view sub-scales also show the average scores. These data provide a valuable baseline for further analysis of the implicit personality of Chinese college students.

Table 3
Psychological Resilience Level of the Respondents (N=812)

Sub-scales	Weighted Mean	Std Dev.	Rank	Verbal Interpretation
Hardiness	3.6634	0.86206	2	<i>often</i>
self-improvement	3.7177	0.86667	1	<i>often</i>
Optimism	3.6136	0.90208	3	<i>often</i>
CD-RISC	3.6649	0.84730		<i>Often</i>

Legend: 1.0-1.49(never) 1.5-2.49(a lot) 2.5-3.49(sometimes)3.5-4.49(often) 4.5- 5.0(has always been so)

Table 3 shows the scores of 812 participants on the Psychological Resilience Scale. In this study, the hardiness dimension score of the participants was 3.66 ± 0.86 , and resilience reflects an individual's ability to tolerate and adapt to pressure, adversity, and challenges. The weighted average is 3.66, indicating that most college students exhibit moderate resilience when facing pressure. This means that they are able to cope with and resist external pressures to some extent, but have not yet shown significant resilience. The standard deviation is 0.86, indicating significant differences in resilience among individuals. Some students may have high resilience and be able to adapt well to various challenges, while others may show weaker resistance when dealing with difficulties. This difference may be related to factors such as personal personality, life experience, and social support. In this study, the respondents scored 3.72 ± 0.87 in the dimension of self-improvement, which reflects an individual's ability to identify and utilize their own strengths to cope with challenges. The weighted average is 3.72, indicating that respondents perform at a moderate level when using their strengths and resources to solve problems. This means that college students are able to partially identify and utilize their strengths in daily life,

but may not have fully explored and applied them. The standard deviation is 0.87, indicating that the individual differences in this ability are relatively moderate. Some students may be able to identify and apply their strengths well, thereby demonstrating stronger coping abilities when facing challenges; However, other students may need to strengthen in this area and have not fully recognized or utilized their strengths. This difference may be related to students' self-awareness level, learning experience, and social support system. In this study, the respondents scored 3.61 ± 0.90 in the optimistic dimension, which measures an individual's ability to maintain a positive outlook for the future and their tendency to persist in positive thinking in difficult situations. The weighted average is 3.61, indicating that respondents generally tend to maintain a moderate level of optimism when facing uncertainty or challenges. The standard deviation is 0.90, indicating that there are certain differences in individuals' optimistic attitudes. Some students may have a high level of optimism, be able to maintain a positive attitude in adversity, and believe that they can overcome difficulties; And another group of students may be relatively pessimistic and hold a reserved attitude towards the future. This difference may be influenced by family environment, personal experiences, and social support.

In this study, the total score of 812 participants on the psychological resilience scale reflects the overall strength of psychological resilience. The weighted average is 3.66, indicating that the overall psychological resilience of Chinese university students is at a moderate level. This means that although most students are able to demonstrate a certain degree of adaptability and coping ability when facing various pressures and challenges in life, this ability has not reached a very high level. The standard deviation is 0.85, indicating a significant difference in students' psychological resilience. Some students may have strong psychological resilience and be able to adapt and cope with stress well, while others may face greater psychological challenges and have weaker psychological resilience. This significant difference suggests the need for more personalized strategies in education and psychological counseling to assist students with weaker psychological resilience. This result is roughly consistent with the psychological resilience measurement scores of Chinese university students in recent years (Zhou, 2022).

Table 4

Emotional Regulation Level of the Respondents (N=812)

Sub-Scales	Weighted Mean	Std Dev.	Rank	Verbal Interpretation
Cognitive reappraisal	5.0129	1.33269	1	<i>Slightly strong</i>
Expression Inhibition	4.6681	1.44608	2	<i>Slightly strong</i>
ERQ	4.8405	1.30194		<i>Slightly strong</i>

Legend: 1-None at all, 2-Very mild, 3-Slight, 4-Moderate intensity, 5-Slightly strong, 6-Relatively strong, 7-Very strong

Table 4 shows the emotional regulation scores of 812 participants. Cognitive reappraisal refers to individuals adjusting their emotional responses by changing their perception of a situation. The subjects selected for this study scored 5.01 ± 1.33 in the cognitive reappraisal dimension, with an average of 5.01, indicating that the majority of respondents exhibited moderate levels of ability in cognitive reappraisal. That is to say, college students are usually able to regulate their emotions by rethinking or adjusting their views on the situation, but this ability is not particularly outstanding. The standard deviation is 1.33, indicating that there are certain differences among the respondents in this dimension. This means that some students are better able to regulate their emotions through cognitive reappraisal when facing emotional distress, while others may be relatively weaker in this regard. This difference may be related to students' cognitive styles, life experiences, and emotional regulation training they have received. Expression inhibition refers to an individual's ability to control or suppress external emotional expression in social situations. The research results showed that the expression inhibition dimension score of the respondents was 4.67 ± 1.45 , with an average of 4.67, indicating that most respondents had a moderate level of ability in expression inhibition. This means that college students may perform poorly in controlling their external emotions appropriately, and may suppress the expression of some negative emotions, but they may not always be able to effectively achieve this. The standard deviation is 1.45, indicating significant differences among students in the dimension of expression inhibition. Some students may have better control over emotional expression in social situations to maintain harmony in social relationships; And another group of students may find it more difficult in this aspect, easily showing obvious external reactions

when they are emotionally excited. This difference may be related to factors such as students' social skills, emotional management skills, and cultural background.

In this study, the total scores of 812 participants on the emotion regulation scale reflected their overall level of emotion regulation ability. The total score for emotion regulation is 4.84 ± 1.30 , with a weighted average of 4.84, indicating that the overall emotion regulation ability is at a moderate level. This indicates that most Chinese college students have certain abilities in emotional regulation, but may still encounter difficulties when facing complex or high-pressure situations. The standard deviation is 1.30, indicating a significant difference in the overall emotional regulation ability of the respondents. Some students may exhibit strong adaptability in regulating their emotions and be able to effectively manage and control them; However, other students may exhibit inadequate responses to strong emotions and be easily influenced by them. This difference suggests that different strategies may need to be adopted for different students in education and mental health counseling to help them improve their emotional regulation abilities.

In this study, the total score for emotion regulation was 4.84 ± 1.30 , the score for cognitive reappraisal dimension was 5.01 ± 1.33 , and the score for expression inhibition dimension was 4.67 ± 1.45 (the Emotional Regulation Questionnaire (ERQ) includes 10 items). This score is not only similar to the emotional regulation level of Chinese college students in recent years, which is 43.86 ± 12.80 (Kang et. al.,2024), but also similar to the emotional regulation level of other age groups in Chinese society, with a cognitive reappraisal score of 32.15 ± 6.68 and an average expression inhibition score of 17.14 ± 5.78 . (Zhang et. al.,2024) (Huang, 2024). This indicates that while studying the emotional regulation level of Chinese university students, this study can also extend to graduated adults to some extent in terms of emotional regulation variables.

Table 5

Comparing differences in implicit personality based on personal information(N=812)

Profile Variables/ IPQ	H/U	p-Value	Interpretation
Sex			
Gradual View	66234.500	0.000	Significant
Entity view	68171.500	0.000	Significant
IPQ	65556.000	0.000	Significant
Grade			
Gradual View	15.280	0.004	Significant
Entity view	26.904	0.000	Significant
IPQ	25.118	0.000	Significant
Major			
Gradual View	70951.000	0.003	Significant
Entity view	70397.500	0.002	Significant
IPQ	69916.500	0.001	Significant
Place of Origin			
Gradual View	75985.000	0.360	Not Significant
Entity view	74722.500	0.192	Not Significant
IPQ	74539.000	0.175	Not Significant
If Only Child			
Gradual View	65617.000	0.000	Significant
Entity view	68976.000	0.000	Significant
IPQ	65534.000	0.000	Significant

Table 5 shows the differences in implicit personality scores among different subjects. As shown in the table, this study investigated the implicit personality scores of college students of different genders, grades, majors, origins, and whether they are only children. This study used Mann Whitney U test to analyze the differences in implicit personality scores among different feature groups (grouped by gender, grade, major, place of origin, and whether they are only children). Firstly, there are significant differences in various dimensions of implicit personality. The gradient dimension of implicit personality refers to a person's belief in the plasticity or changeability of personality traits. This concept holds that human abilities, personalities, and intelligence are not fixed and unchanging, but can gradually change and develop through effort, learning, and experience.

Specifically, people with a gradual change perspective believe that certain traits of themselves or others can

be gradually improved or enhanced through continuous effort and adaptation. This is in contrast to the fixed view (or entity view), which holds that personality traits are innate, fixed and unchangeable, and cannot be changed through individual efforts. In research, this dimension is often used to explain people's behavioral responses when facing challenges, failures, or setbacks. People with a gradual perspective are more likely to adopt proactive coping strategies, striving to improve their abilities or adjust their behavior, rather than giving up or feeling helpless because they believe these traits are unchangeable. In implicit personality tests, if participants exhibit a strong tendency towards gradual change, it indicates that they believe more in improving and developing their abilities and personality traits through effort and persistence.

In this study, there were significant differences in various dimensions and overall scores of implicit personality in terms of gender, grade, major, and whether they were only children. Specifically, males and females exhibit a gradient view ($U=66234.500$, $p<0.001$), a substance view ($U=68171.500$, $p<0.001$), and an implicit personality total score ($U=65556.000$, $p<0.001$). In terms of grade variables, a gradient view ($U=15.280$, $p<0.004$), a substance view ($U=26.904$, $p<0.001$), and an implicit personality total score ($U=25.118$, $p<0.001$). In STEM and humanities majors, a gradient view ($U=70951.000$, $p<0.003$), a substance view ($U=70397.500$, $p<0.002$), and an implicit personality total score ($U=695.500$, $p<0.001$) are observed. 916.500, $p<0.001$). Gradual view ($U=65617.000$, $p<0.001$), entity view ($U=68976.000$, $p<0.001$), and implicit personality total score ($U=65534.000$, $p<0.001$) were observed in whether or not they had only one child. There was no significant difference in scores among the variables of place of origin.

The mean rank of male participants in the gradient view dimension is significantly higher than that of female participants (male: 448.53, female: 372.69), which reflects the differences in gender roles, social expectations, educational experiences, psychological characteristics, and career expectations among college students. Male college students may be more inclined to believe that their abilities can be changed through effort due to the influence of social culture and career orientation, while female college students may hold a more conservative attitude towards the plasticity of abilities under the influence of traditional gender roles and socialization processes (Lin et. al.,2020). In Chinese society, men are usually expected to demonstrate stronger independence, confidence, and competitiveness. This social expectation may lead male college students to believe more that their abilities and traits can be changed and improved through hard work, resulting in higher scores in the gradient view dimension. In China, male college students may face greater employment competition pressure, especially in industries traditionally dominated by men. This pressure prompts male college students to pay more attention to the improvement of their own abilities, further enhancing their identification with the concept of gradual change. In career expectations, male college students may have higher expectations for future career development, and therefore are more inclined to believe that these goals can be achieved through hard work. Female college students may be influenced by gender roles in their career expectations, resulting in lower beliefs about gradual change. In terms of emotions and motivation, male college students may be more inclined to pursue personal achievement and progress, while female college students may pay more attention to maintaining harmonious interpersonal relationships (Wang et. al.,2022), which may also lead to differences in their scores in the gradient view. The scores of the participants in this study also reflect this trend, with a mean rank of 448.53 for male participants and 372.69 for female participants, indicating significant scores for male participants.

The ontological dimension of implicit personality involves the belief that personality traits are fixed and unchangeable by postnatal efforts. The entity view, which holds this belief, is opposed to the gradual view. Understanding these views is important for predicting behavior in various aspects of life (Zheng et. al.,2020). In this study, male participants had a significantly higher mean rank in the entity view dimension than females (male: 443.18; female: 376.99). Chinese male college students scored higher in this dimension during the implicit personality test. This reflects differences in gender roles, socio-cultural factors, educational methods, and psychological characteristics. Men may be influenced by traditional gender roles, educational approaches, and social evaluations. In Chinese culture, men are expected to be more conservative and stable (Zou et. al.,2021). Their education may emphasize accepting the current state, strengthening their belief in fixed traits.

Even in modern society, men face pressure from traditional beliefs and career-role contradictions (Yu et. al.,2020). They may identify with the entity view to maintain psychological stability and balance. This finding indicates that researchers should focus on the role of social and cultural factors in gender-related personality beliefs. They should explore ways to help male college students form more positive growth concepts through education and social support.

There is a significant difference in the gradient view scores between different grades. We found that as the grade level increases, the participants' level of gradual observation shows an upward trend. This increase in scores is particularly evident in the differences between first and second year college students and other grades. The mean rank of freshmen and sophomores in terms of gradient view (378.57 in freshmen and 393.78 in sophomores) is significantly lower than that of juniors (400.71), seniors (467.43), fifth graders, and graduate students (464.53). Fourth, fifth, and graduate students scored significantly higher on the gradient view dimension of implicit personality tests than first-year, second year, and third year students. This indicates that as the grade increases, students are more inclined to believe that personality and abilities can be gradually developed through effort and experience (Zhang et. al.,2021). This difference reflects the progress of senior students in terms of psychological maturity, life experience, academic achievement, and career planning. Through these experiences, they realize the importance of self-growth and gradually form a stronger concept of gradual change.

In terms of the mean rank of participants in different grades, the score of sophomore students (377.79) was significantly lower than that of senior students (494.33), and the difference in scores among other grades was not significant. From this, it can be seen that sophomore students are usually in the stage of forming and exploring self-awareness. They may hold a more flexible view of their abilities and believe that self-improvement can be achieved through learning and effort. This concept is consistent with lower scores in the entity view. After several years of college life, senior students tend to have more mature and fixed self-awareness, and may tend to believe that their existing abilities and traits are stable and difficult to change (Li et. al.,2024).

There are significant differences in the implicit personality levels of students from different majors. In implicit personality measurement, college students majoring in science and engineering have a higher mean rank (434.70) in the gradient view dimension than those majoring in literature and history (385.24), and a higher mean rank (436.29) in the entity view dimension than those majoring in literature and history (384.05). This result may reflect the different personality concepts formed by students from different disciplinary backgrounds in terms of cognitive styles, learning experiences, career expectations, and socialization processes (Yang et. al.,2024). Science and engineering majors focus on logical reasoning, systematic thinking, and precise calculations. This may lead them to believe that abilities can be improved through effort, aligning with a higher degree of gradual change. Their emphasis on objective facts also makes them value the practical use of existing abilities, resulting in higher scores in the entity view dimension. In the gradual view, the knowledge-building nature of their studies makes them more receptive to the idea of gradual improvement, and the clear success path boosts their confidence in existing abilities, leading to higher entity view scores. Cultural and historical majors stress critical thinking, creativity, and subjective expression. This makes them more aware of the diversity of human traits and more likely to believe in trait change, but it may weaken their entity view identity, leading to lower scores in that dimension. Their learning and success rely on creativity and personal expression (Duan et. al.,2020).

Secondly, there was no significant difference in implicit personality scores among students from different regions. With the continuous advancement of China's education policies, the gap in educational resources between urban and rural areas is gradually narrowing. Whether in urban or rural areas, college students receive relatively balanced education in the basic education stage, especially in core courses and personality development (He, 2022). The unification and popularization of the education system may lead to a convergence of their implicit personality beliefs. Rural and urban students experience a similar process of preparing for the college entrance examination during their high school years, and this highly unified learning experience may lead to a narrowing of differences in their personality concepts (Tang et. al.,2024), manifested as similar scores

in the dimensions of gradient view and entity view.

In the late 1970s, China's rapid population growth brought challenges to resource allocation and economic development. From 1980-2020, the Chinese government implemented the one-child policy. It led to a decline in the population growth rate but also caused issues like population aging and gender imbalance (Wang, 2024). As the situation changed, the government relaxed the policy. In 2023, the "selective two-child" policy allowed eligible couples to have two children (Yuan, 2024). The one - child policy ended in 2020, and in 2021, the three-child policy was introduced to address population aging and low fertility rates (Wang, 2024). The one-child policy had a profound impact on Chinese society, affecting population structure, social culture, family structure, and individual psychology. Regarding university students, only children have higher mean ranks on both the incremental and entity dimensions compared to non-only children (Incremental: only children 450.23, non-only children 370.97; Entity: only children 441.01, non-only children 378.46). Only children receive more family attention and resources, which may make them believe more strongly that abilities can be improved through effort, leading to higher incremental scores. Also, they have more family responsibilities and expectations, resulting in higher entity scores (Du et. al.,2024).

Table 6

Comparing differences in psychological resilience based on personal profiles (N=812)

Profile Variables/ IPQ	H/U	p-Value	Interpretation
SEX			
Hardiness	65016.500	0.000	Significant
self-improvement	66640.500	0.000	Significant
Optimism	66597.500	0.000	Significant
CD-RISC	65500.000	0.000	Significant
GRADE			
Hardiness	13.447	0.009	Significant
self-improvement	19.227	0.001	Significant
Optimism	13.711	0.008	Significant
CD-RISC	15.894	0.003	Significant
MAJOR			
Hardiness	67839.000	0.000	Significant
self-improvement	68117.500	0.000	Significant
Optimism	69730.000	0.001	Significant
CD-RISC	68491.000	0.000	Significant
SOURCE OF ORIGIN			
Hardiness	75105.000	0.235	Not Significant
self-improvement	74041.500	0.131	Not Significant
Optimism	74419.000	0.161	Not Significant
CD-RISC	74023.000	0.130	Not Significant
ONLY CHILD			
Hardiness	67189.000	0.000	Significant
self-improvement	65613.000	0.000	Significant
Optimism	65524.000	0.000	Significant
CD-RISC	65293.000	0.000	Significant

Table 6 shows the differences in psychological resilience scores among different subjects. In this study, there were significant differences in various dimensions and overall scores of psychological resilience in terms of gender, grade, major, and whether they were only children. Specifically, males and females exhibit resilience dimensions ($U=65016.500$, $p<0.001$), self-improvement dimensions ($U=66640.500$, $p<0.001$), optimism dimensions ($U=66597.500$, $p<0.001$), and a total psychological resilience score ($U=65500.000$, $p<0.001$). In terms of grade variables, resilience dimensions ($U=13.447$, $p<0.009$), self-improvement dimensions ($U=19.227$, $p<0.001$), optimism dimensions ($U=13.711$, $p<0.008$), and a total psychological resilience score ($U=15.894$, $p<0.003$). Resilience dimensions ($U=67839.000$, $p<0.001$) are observed in STEM and humanities majors. The self strengthening dimension ($U=68117.500$, $p<0.001$), the optimistic dimension ($U=69730.000$, $p<0.001$), and the total score of psychological resilience ($U=68491.000$, $p<0.001$). The resilience dimension ($U=67189.000$, $p<0.001$) in whether or not one is an only child The dimensions of self-improvement ($U=65613.000$, $p<0.001$), optimism ($U=65524.000$, $p<0.001$), and psychological resilience total score ($U=65293.000$, $p<0.001$) showed no

significant difference in scores among the variables of place of origin.

The resilience dimension in psychological resilience testing reflects an individual's perseverance, adaptability, emotional regulation ability, and ability to recover and grow from setbacks when facing difficulties and adversity. Resilience is a core component of psychological resilience, indicating that a person can maintain a positive attitude and sustained action under pressure, ultimately overcoming challenges and achieving personal goals. In this study, the mean rank of male participants in the resilience dimension was significantly higher than that of female participants (male: 451.90, female: 369.98). Chinese male college students scored significantly higher in the resilience dimension in psychological resilience tests than female college students, which may reflect differences in social culture, gender roles, educational methods, and psychological defense mechanisms. Men may exhibit higher scores in the resilience dimension due to societal and cultural expectations of their strength and confidence. Women may score lower in this dimension due to their greater emphasis on emotional support and easier expression of emotional vulnerability. Men are usually taught to be strong, brave, and not easily succumb to difficulties during their growth process. This socialization process may also lead to male college students scoring higher in the resilience dimension, as they are encouraged from a young age to maintain resilience in the face of adversity. Social role expectations may prompt male college students to demonstrate greater resilience in the face of difficulties, in order to meet society's expectations of them (Zhao et. al., 2019). Research has shown that men and women often adopt different coping strategies when facing stress. (Chen et. al.,2020) Men may be more inclined to adopt a direct problem-solving approach, while women may seek emotional support more. In the attitude towards failure, men may be more inclined to view failure as a challenge rather than a lack of ability, influenced by cultural and social expectations, thus exhibiting higher resilience. They may be more likely to recover from failure and continue pursuing their goals (Zhang et. al.,2020). The difference in coping strategies may lead to higher scores in the resilience dimension for men, as resilience is often associated with the ability to directly face and solve problems. In Chinese families, men and women may receive different forms of education from a young age. Men may be encouraged to participate more in competitive activities such as sports, team competitions, etc., which can cultivate their resilience. In contrast, women may be more involved in cooperative and supportive activities that emphasize emotional communication rather than competition and persistence. This defense mechanism may manifest as higher resilience scores in psychological resilience tests, as they are less willing to show weakness or give up. Women are usually more likely to express and acknowledge their emotional vulnerability, which may lead to a greater tendency to express emotional responses when facing challenges in tests, thereby affecting their scores in the resilience dimension.

In psychological resilience tests, the dimension of self-improvement typically represents an individual's ability to self motivate, self regulate, and self manage when facing challenges, adversity, or pressure. Self improvement reflects a person's inner strength and motivation, driving them to maintain a proactive attitude in the face of difficulties and continuously strive to achieve their goals. In the self-improvement dimension scores of 812 participants, the mean rank of male college students was (447.41), and the score of female college students was (373.59), indicating a significant difference in gender comparison. Male college students scored higher in the self-improvement dimension than female college students. This result reflects that men may be more prominent in the dimension of self-improvement due to social and cultural expectations of their independence and strength. They tend to rely more on their own strength and decision-making ability to cope with challenges, demonstrating higher levels of autonomy and self motivation (Li, 2023). Women may score lower in the dimension of self-improvement due to their tendency to seek social support and emotional comfort.

The optimism dimension represents an individual's positive attitude, future outlook, and ability to interpret difficulties positively when facing challenges and adversity in life in psychological resilience tests. People with high optimism are often able to maintain hope and confidence under pressure, adopt proactive coping strategies, and believe that they can ultimately overcome difficulties and achieve their goals. This optimistic attitude not only helps to enhance an individual's psychological resilience, but also promotes better mental health and happiness. In this study, the mean rank of male participants in the optimism dimension was significantly higher than that of female participants (male: 447.53, female: 373.49). Chinese male college students scored

significantly higher than female college students in the optimism dimension, reflecting differences in social culture, gender role expectations, psychological traits, and coping strategies. Research has shown that men tend to recover positive emotions faster when faced with setbacks, while women may need more time to process emotional responses. In daily life, men may pay more attention to maintaining their sense of self-worth through achievements and external performance, and this achievement oriented mentality may encourage them to maintain higher optimism when facing challenges. When faced with difficulties, men tend to show a positive outlook on the future and a positive interpretation of the situation, which may be closely related to the cultivation of their gender role expectations, self-confidence, and self-efficacy in the process of socialization. Men and women typically adopt different strategies when dealing with stress and challenges (Zhang, 2023). Men are more likely to adopt direct coping and problem-solving strategies, which are often accompanied by higher optimism because they are based on the belief that they can control and solve problems. Women may be more likely to express and focus on the difficulty of negative emotions and challenges, leading to lower scores in the optimism dimension. In contrast, men may be more inclined to suppress negative emotions and emphasize the possibility of positivity and success. This phenomenon suggests that when studying psychological resilience and gender differences, we need to fully consider the impact of socio-cultural background and gendered socialization on individual psychological traits.

There are significant differences in the mean rank of participants in different grades on the dimension of psychological resilience. The scores of sophomore (377.97), senior (459.78), fifth, and graduate students (456.35) are significantly different. There are significant differences in the resilience dimension scores of sophomore, senior, fifth, and graduate students in psychological resilience tests, and the scores of senior students are significantly higher than those of sophomore students. This reflects the influence of psychological development, academic stress management, social support system maturity, and life experience accumulation on individual psychological resilience. Fourth and fifth year graduate students typically experience more success and setbacks, thereby establishing stronger self-efficacy and coping abilities (Li et. al.,2019). The resilience dimension reflects an individual's persistence and resilience in the face of adversity, and older students may have more confidence in their ability to overcome difficulties and achieve goals. Senior students typically exhibit stronger psychological resilience due to adapting to college life and facing greater responsibilities and challenges (Wang, 2023). Second year college students may be in a critical period of adapting to college life, and they may still be learning how to balance their academic and personal lives. In contrast, students in their fourth, fifth, and graduate years have adapted to academic pressure and developed more effective stress management strategies, resulting in better performance in the resilience dimension. However, sophomore students may still be in the stage of adaptation and exploration, so their scores in the resilience dimension are relatively low. This discovery suggests that when helping students develop psychological resilience, we should consider the differences in grades and growth stages, and provide corresponding support and resources.

In the psychological resilience test, it was found that there were significant differences in the scores of students in their first and second years, fourth and fifth years, and graduate students in the dimension of self-improvement. The mean rank of students in their fourth and fifth years, as well as graduate students, was significantly higher than that of students in their first and second years (first year: 395.59) (second year: 369.45) (fourth year: 461.46) (fifth year and graduate students: 471.37). This phenomenon reflects the growth and development of resilience's Self Reliance among college students as their grades increase. After years of college life, senior students become more independent, confident, and self reliant psychologically. This development of self-improvement benefits from the experience, coping strategies, and clear sense of purpose they have accumulated in their academic, social, and personal lives. After years of college life, senior students have gradually developed effective coping mechanisms (Sun, 2024), such as time management, emotional regulation, and problem-solving. These mechanisms help them become more independent in the face of difficulties, without relying on external support, thus demonstrating higher levels of self-reliance. Freshman and sophomore students may still be in the process of adapting to college life. They may feel confused and stressed when dealing with new environments, academic requirements, and interpersonal relationships, and have not fully developed strong

self-reliance abilities. In addition, younger students may be more inclined to rely on the help of others (such as parents, teachers, or classmates) when encountering difficulties, and have not fully developed the habit of relying on their own strength to solve problems, which may lead to lower scores in the dimension of self-improvement. Lower grade students may be relatively weak in terms of self-improvement as they are still in the stage of adaptation and exploration. This difference suggests that when helping students develop self-reliance, we should consider the differences in grades and growth stages, and provide appropriate support and guidance to help lower grade students gradually enhance their ability to be independent and self-reliant.

There is a significant difference in the score of optimism between freshmen, sophomores, and seniors, and the mean rank of seniors (seniors: 474.65) is significantly higher than that of freshmen and sophomores (freshmen: 390.60, sophomores: 386.05). Fourth year students score significantly higher on the optimism dimension of psychological resilience tests than first and second year students, reflecting improvements in psychological development, life experience, academic achievement, social support, and coping strategies as their grades increase. Senior students have gone through many years of college life, accumulating rich life experience and coping strategies. These experiences help them become more confident when facing challenges, believing that they have the ability to cope with future uncertainties, and this sense of confidence enhances their optimism (Su, 2023). Meanwhile, senior students have established a relatively stable and reliable social support system during their university years, including friends, teachers, and classmates. These support systems provide important emotional support when they feel confused or stressed, helping them maintain an optimistic attitude (Gong, 2023).

There are significant differences in the psychological resilience levels of students from different majors. College students majoring in science and engineering have higher levels of resilience, self-improvement, optimism, and the average score of resilience in psychological resilience measurement (Mean Rank) than those majoring in literature and history (Resilience: 443.62 for science and engineering, 378.52 for literature and history), (Self improvement: 442.82 for science and engineering, 379.12 for literature and history), (Optimism: 438.20 for science and engineering, 382.60 for literature and history), and (Total score of resilience: 441.75 for science and engineering, 379.93 for literature and history). This may be related to various factors such as disciplinary nature, learning pressure, career expectations, and social support environment. Science and engineering students develop stronger psychological resilience through continuous challenges and collaboration in a rigorous and high-pressure academic environment, while humanities and history students may exhibit lower resilience and optimism due to different learning contents. In the resilience score, it can be seen that science and engineering majors usually have high difficulty and challenges, and students need to face a large number of complex calculations, experiments, and technical problems. This high-pressure learning environment requires students to have strong resilience and endurance, that is, resilience. After long-term adaptation and training, students majoring in science and engineering may achieve better development in terms of resilience (Li et. al., 2019). The complexity and rigor of science and engineering objectives may force students to not easily give up when facing difficulties, cultivating their perseverance in adversity. The course content of cultural and historical majors may be more flexible and subjective, although students also need to have certain analytical and critical thinking abilities, academic tasks may focus more on reading, writing, and discussion (Wang, 2024). Optimistic expectations for future career development may encourage STEM students to maintain a positive attitude when facing challenges in learning and life, resulting in higher scores in the optimism dimension. The widespread demand and development prospects of STEM professions may lead students to believe that their career goals can be achieved through hard work, which further enhances their optimism and coping abilities (Yan et. al., 2024). Students majoring in literature and history may face relatively high career uncertainty, especially in the fiercely competitive job market, where they may feel uncertain or anxious about their future career development. This uncertainty may affect their optimism, making them more likely to feel stressed or confused when facing challenges, resulting in lower scores in the optimism dimension compared to STEM students. Additionally, careers in humanities and history may place more emphasis on personalization and creativity, and career paths in these fields may not be as clear and stable as STEM careers, which may affect students' optimistic

views of the future. Science and engineering students usually have more opportunities for collaboration in team projects, laboratory research, and academic competitions. This collective collaborative learning environment can provide strong social support, thereby enhancing their psychological resilience (Zhang et. al.,2024).

There is no significant difference in psychological resilience scores among students from different regions. With the development of society, the cultural differences between urban and rural areas are gradually narrowing. Whether in urban or rural areas, college students are subject to similar social expectations and cultural influences, and this cultural convergence may lead to similar scores in psychological resilience tests.

In the measurement of psychological resilience, only child college students have higher mean ranks in resilience, self-improvement, optimism dimensions, and overall psychological resilience scores than non only child college students (resilience: 445.91 for only child, 374.48 for non only child), (self strength: 450.24 for only child, 370.96 for non only child), (optimism: 450.49 for only child, 370.76 for non only child), and overall psychological resilience scores: 451.12 for only child, 370.24 for non only child). In the resilience score, it can be seen that only children usually receive more resources and attention in the family, including material resources (such as education investment and living conditions). Emotional resources (such as parental care and support) (Li, 2023). This concentration of resources may help them to be more resilient in the face of difficulties, as they have ample backing and support. This support may enhance the confidence and coping ability of only children in the face of setbacks (Zheng, 2023), resulting in better performance in the resilience dimension. In the self-improvement score, it can be seen that due to the concentration of family resources, only children may be more likely to receive recognition and encouragement from their parents during their growth process. This environment helps them form a higher sense of self-efficacy and self motivation, resulting in higher scores in the self-improvement dimension. It can be seen from the optimism score that only children may learn to deal with problems independently earlier in life because they have no brothers and sisters. This independence may enhance their confidence and keep them optimistic when facing life challenges (Wang et. al.,2024). Due to parental attention, only children may be more likely to receive guidance and support when solving problems, and this experience may encourage them to develop a more positive and optimistic attitude. In China, the one-child policy has made the one-child group a common phenomenon, and these children may receive more attention and resource allocation from society and the education system during their growth process. This family and social environment makes only children more confident, resilient, and maintain a positive attitude when facing challenges, thereby exhibiting higher levels of psychological resilience. In non only child families, material resources and emotional resources need to be distributed among multiple children (Huang et. al.,2024). Similarly, non only children may face competitive pressure with their brothers and sisters in the family (Zhang et. al.,2024), whether to gain parents' attention, resources or performance in academic and social activities. This competitive environment may affect their psychological resilience, especially when dealing with complex emotional and social relationships, leading to increased anxiety or stress.

Table 7 shows the differences in scores of 812 participants in different dimensions of emotion regulation assessment. In this study, there were significant differences in various dimensions and overall scores of emotional regulation in terms of gender, grade, major, and whether they were only children. Specifically, both males and females showed cognitive reappraisal ($U=66076.500$, $p<0.001$), expression inhibition ($U=61292.500$, $p<0.001$), and total emotion regulation score ($U=62129.500$, $p<0.001$). Among grade variables, cognitive reappraisal ($U=16.145$, $p<0.003$), expression inhibition ($U=18.505$, $p<0.001$), and total emotion regulation score ($U=20.847$, $p<0.001$) were observed. In STEM and humanities majors, cognitive reappraisal ($U=70542.000$, $p<0.002$), expression inhibition ($U=66980.000$, $p<0.001$), and total emotion regulation score ($U=67817.7$) were observed. 000, $p<0.001$). Cognitive reappraisal ($U=69093.500$, $p<0.001$), expression inhibition ($U=65273.500$, $p<0.001$), and total score of emotion regulation ($U=65043.000$, $p<0.001$) were observed among only children. There was no significant difference in scores among the variables of place of origin.

The cognitive reappraisal dimension in ERQ represents an individual's ability to regulate emotions by changing their cognition or interpretation of a situation. Cognitive reappraisal is a positive emotion regulation

strategy that reduces the intensity of negative emotions and even transforms them into positive emotional experiences by rethinking or reinterpreting the situations that trigger negative emotions. In this study, the mean rank of male participants in the cognitive reappraisal dimension was significantly higher than that of female participants (male: 448.97, female: 372.34). Chinese male college students scored significantly higher in the cognitive reappraisal dimension of emotion regulation tests than female college students, reflecting differences in social culture, gender role expectations, emotional expression styles, self-efficacy, and emotion regulation goals. Chinese men are often expected in many cultures not to easily express negative emotions such as sadness or anxiety, but to remain strong and rational. In order to meet these social expectations, men may be more inclined to internalize and process emotions through cognitive reappraisal, thereby reducing the outward manifestation of negative emotions and scoring higher in this dimension. Men may place greater emphasis on controlling and suppressing emotions when it comes to the need to control them, especially in social or professional contexts. Therefore, their frequency of use in cognitive reappraisal may be lower (Li et. al.,2023). The ability of individuals to regulate emotions by changing their perception or interpretation of a situation. This strategy is a positive and effective emotional management method that helps alleviate negative emotions, enhance positive emotions, and improve individual mental health and coping abilities. The frequency and effectiveness of cognitive reappraisal strategies can reflect how individuals handle emotional challenges in their daily lives and provide important insights into their overall emotional regulation abilities.

Table 7

Comparing differences in emotional regulation based on personal profiles (N=812)

Profile Variables/ IPQ	H/U	p-Value	Interpretation
Sex			
Cognitive reappraisal	66076.500	0.000	Significant
Expression Inhibition	61292.500	0.000	Significant
ERQ	62129.500	0.000	Significant
Grade			
Cognitive reappraisal	16.145	0.003	Significant
Expression Inhibition	18.505	0.001	Significant
ERQ	20.847	0.000	Significant
Major			
Cognitive reappraisal	70542.000	0.002	Significant
Expression Inhibition	66980.000	0.000	Significant
ERQ	67817.000	0.000	Significant
Place of Origin			
Cognitive reappraisal	74667.000	0.186	Not Significant
Expression Inhibition	75348.500	0.265	Not Significant
ERQ	74920.500	0.214	Not Significant
If Only Child			
Cognitive reappraisal	69093.500	0.000	Significant
Expression Inhibition	65273.500	0.000	Significant
ERQ	65043.000	0.000	Significant

In the emotion regulation test (ERQ), the expression inhibition dimension represents an individual's ability to consciously suppress external emotional expression when experiencing emotions. In other words, expressive inhibition refers to a person trying not to let others see their emotions, even if their inner emotions may fluctuate greatly. In this study, the mean rank of male participants in the dimension of expression inhibition was significantly higher than that of females (male: 462.18; female: 361.71). In the emotion regulation test, the difference in scores between male and female college students in the dimension of expression inhibition may reflect gender differences in social and cultural role expectations, emotional expression styles, emotion regulation strategies, and mental health. Data shows that men may be more inclined to handle stress and challenges by controlling and suppressing emotions, believing that publicly expressing emotions may be seen as weak or immature. In terms of frequency and manner of emotional expression, women are generally more inclined to express their emotions through language, facial expressions, and body movements, which to some extent reduces their dependence on expression inhibition. On the contrary, men may exhibit less emotion, especially when it comes to negative emotions (Li et. al.,2023), which may lead to higher scores in the dimension of expression inhibition. In the demand for social emotional communication, women usually place

more emphasis on establishing and maintaining interpersonal relationships through emotional communication, and expression inhibition may be considered detrimental to these relationships (Gao et. al.,2023). Therefore, women may use less expression inhibition as an emotional regulation strategy. Research has shown that long-term emotional suppression may have negative effects on mental health, such as increasing the risk of depression and anxiety (Wang, 2023).

In the emotion regulation test, the results showed that college students in their fourth and fifth year of graduate studies (fourth year: 468.37, fifth year and graduate students: 460.43) had significantly higher mean rank in the cognitive reappraisal dimension than students in their first and second year of college (first year: 391.52, second year: 378.15). Fourth, fifth grade, and graduate students have improved cognitive abilities and psychological maturity due to their age and learning experience. They are better able to analyze and interpret various complex situations rationally, thus effectively applying cognitive reappraisal to regulate emotions. The improvement of this cognitive ability enables them to more actively choose cognitive reappraisal to deal with emotions when facing pressure and challenges, and senior students have accumulated more experience in dealing with pressure and challenges after years of college life (Wen, 2024).

There is a significant difference in the expression inhibition dimension scores between different grades. We found that as the grade level increases, the expression inhibition level of the subjects shows an upward trend. The scores of senior (477.64), fifth year, and graduate students (464.92) in the dimension of expression inhibition are significantly higher than those of first-year (396.35), sophomore (380.48), and junior year (392.59) students. The main reason is that senior students face greater academic pressure, employment pressure, and more complex interpersonal relationships. In order to maintain a good social image and interpersonal relationships, they are more inclined to inhibit emotional expression (Zhao et. al.,2020). Lower grade students are relatively in the stage of learning and adaptation, with a lighter sense of responsibility and relatively less social pressure, so they may express their emotions more naturally and pay less attention to inhibition. As students increase in grade, especially in their senior, fifth, and graduate years, they often face greater sense of responsibility, including changes in academic, employment, and social roles. They need to demonstrate maturity and stability in various situations, and this social expectation prompts them to be more cautious in emotional expression, tending to maintain interpersonal relationships and image by suppressing emotional expression (Yu, 2024).

Among students from different majors, it was found that college students majoring in science and engineering had higher scores in cognitive reappraisal dimension (435.87), expression inhibition dimension (446.08), and emotion regulation total score (443.68) than college students majoring in literature and history (cognitive reappraisal: 384.36, expression inhibition: 376.67, emotion regulation total score: 378.47). From this, it can be seen that students majoring in science and engineering usually receive more training in logical thinking and analytical skills, which makes them more inclined to handle problems in a rational and objective way. In terms of emotional regulation, they may be better at reinterpreting or analyzing situations through cognitive reappraisal to reduce the impact of negative emotions. Due to the fact that the learning process of science and engineering disciplines often requires students to have strong focus and problem-solving abilities, this may also prompt them to choose to suppress emotional expression when facing complex or challenging situations, in order to maintain calmness and rational thinking. Therefore, students majoring in literature and history may be more inclined to express emotions naturally when regulating emotions, and may not pay much attention to or rely on strategies to suppress emotions (Chen et. al.,2024).

There is no significant difference in emotional regulation scores among students from different regions in terms of their place of origin variables. There is no significant difference in the scores of cognitive reappraisal and expression inhibition dimensions between urban and rural college students in emotion regulation tests. The main reasons may include the consistency of education and psychological qualities, the convergence of social and cultural influences, the uniformity of university environment, the dominant role of individual psychological traits, and the narrowing of the urban-rural socio-economic gap. These factors lead to similar abilities in emotional regulation among urban and rural students, resulting in no significant difference in scores on the test.

In the variable of whether they are only children or not, there is a significant difference in the mean rank of cognitive reappraisal dimension, expression inhibition dimension, and emotion regulation total score between only child and non only child college students (cognitive reappraisal: 440.68 for only children, 378.73 for non only children), expression inhibition: 451.18 for only children, 370.20 for non only children, and emotion regulation total score: 451.81 for only children, 369.69 for non only children). Only child college students score higher in emotion regulation measurement, which may be due to receiving more family attention, resource support, and emotion management guidance during their growth process, which promotes their development of stronger emotion regulation ability. In addition, social expectations, concentrated investment in educational resources, and unique social experiences may also contribute to the outstanding performance of only children in emotional regulation dimensions such as cognitive reappraisal and expression inhibition (Pei, 2024).

Table 8

Correlational Matrix of Dimensions Of Implicit Personality, Psychological Resilience, and Emotional Regulation (N=812)

VARIABLES		EPQ				EI		EPQ			
		CR									
		r_s	p -value	I	r_s	p -value	I	r_s	p -value	I	
IPQ	GV	.574**	0.000	S	.607**	0.000	S	.619**	0.000	S	
	EV	.618**	0.000	S	.640**	0.000	S	.664**	0.000	S	
	IPQ	.639**	0.000	S	.673**	0.000	S	.692**	0.000	S	
CD-RISC	OP	.761**	0.000	S	.659**	0.000	S	.737**	0.000	S	
	S	.840**	0.000	S	.677**	0.000	S	.788**	0.000	S	
	H	.842**	0.000	S	.731**	0.000	S	.823**	0.000	S	
	CD-RISC	.841**	0.000	S	.709**	0.000	S	.808**	0.000	S	

VARIABLES		EPQ				EI		EPQ			
		CR									
		r_s	p -value	I	r_s	p -value	I	r_s	p -value	I	
IPQ	GV	.574**	0.000	S	.607**	0.000	S	.619**	0.000	S	
	EV	.618**	0.000	S	.640**	0.000	S	.664**	0.000	S	
	IPQ	.639**	0.000	S	.673**	0.000	S	.692**	0.000	S	
CD-RISC	OP	.761**	0.000	S	.659**	0.000	S	.737**	0.000	S	
	S	.840**	0.000	S	.677**	0.000	S	.788**	0.000	S	
	H	.842**	0.000	S	.731**	0.000	S	.823**	0.000	S	
	CD-RISC	.841**	0.000	S	.709**	0.000	S	.808**	0.000	S	

** Correlation is significant at the 0.01 level (2-tailed)

Table 8 shows the correlation matrix between different variables, including implicit personality, psychological resilience, and emotional regulation. Results indicate a strong relationship between variables. Firstly, there is a significant positive correlation ($p < 0.01$) between the total score of implicit personality measurement, implicit personality gradient view, implicit personality entity view, and the total score of psychological resilience, as well as the optimistic dimension, self-improvement dimension, and resilience dimension of psychological resilience. This result is consistent with previous research, indicating that individuals with higher implicit personality scores tend to exhibit superior psychological resilience overall, regardless of whether they are more inclined towards a gradual or entity view. (Zhao, 2023). This indicates that whether one believes that personality can be changed or that personality is fixed, having a strong belief in implicit personality (regardless of which belief) may promote an increase in psychological resilience. The data results suggest how implicit personality beliefs, as a psychological resource, positively influence an individual's ability to cope with stress and challenges.

The data in Table 8 indicates a positive correlation between the gradient view and the total score of psychological resilience and its various dimensions (such as optimism, self-improvement, resilience), which means that those who believe more in the ability to change their personality tend to score higher in psychological resilience. This may be because they are more proactive in facing challenges and are more likely to learn and grow from failures. In addition, the entity view is significantly positively correlated with psychological resilience, indicating that even if individuals believe their personality is fixed, they may still exhibit higher psychological resilience in certain situations. This may mean that the entity view does not necessarily lead to low psychological

resilience, but rather enhances an individual's psychological resilience through other means such as faith, social support, etc. These significant positive correlations indicate that the concept of implicit personality has an important promoting effect on psychological resilience. Whether individuals hold a gradual view or a material view, these concepts may enhance their adaptability in the face of challenges and adversity through different mechanisms. This discovery is of great significance for education and psychological intervention, as it can help us understand how to improve the psychological resilience of individual college students by changing or strengthening implicit personality concepts. It can provide a more comprehensive understanding of the role of implicit personality in mental health and provide more targeted support and guidance for the growth and development of college students. It is worth further research and exploration by researchers.

Secondly, there is a significant positive correlation ($p < 0.01$) between the total score of implicit personality measurement, implicit personality gradient view, implicit personality entity view, and the total score of emotion regulation, as well as the cognitive reappraisal dimension and expression inhibition dimension of emotion regulation. According to previous research (Lin et. al., 2022), the overall score of implicit personality reflects the strength of an individual's belief in personality variability or fixity. The significant positive correlation between the total score and emotional regulation indicates that regardless of whether individuals tend towards a gradual or entity view, as long as they have strong beliefs in their implicit personality, they may have good emotional regulation abilities. This means that regardless of holding any implicit personality beliefs, individuals will perform relatively well in emotional regulation, possibly because they are more likely to use or develop emotion regulation strategies that suit themselves. People who hold a gradient view tend to believe that they can influence their emotional responses by changing their way of thinking and behavior (Cai, 2021). They may be more proactive in using cognitive reappraisal strategies to reinterpret and adjust emotional experiences, thereby effectively managing emotions. In addition, the gradient view is significantly positively correlated with the total score of emotion regulation, cognitive reappraisal dimension, and expression inhibition dimension, indicating that individuals holding the gradient view are more flexible and effective in emotion regulation, and can better regulate emotions through cognitive adjustment and appropriate emotional expression control. The concept of entity is often associated with fixed ways of thinking, but this notion does not necessarily lead to insufficient emotional regulation (Zhong, 2023). On the contrary, holders of the entity view may rely on known emotion regulation strategies, such as maintaining emotional stability through expression inhibition or attempting to adapt to situational changes through cognitive reappraisal. The positive correlation between the entity view and the total score of emotion regulation, as well as its various dimensions, indicates that even if individuals believe that their personality traits are difficult to change, they may still manage their emotions through certain emotion regulation strategies (such as inhibiting expression or reinterpreting emotional events) (Yu, 2020). This indicates that holders of the entity view can also effectively regulate emotions and use the strategies they have mastered to cope with emotional challenges. At the same time, from the perspective of cognitive reappraisal, the positive correlation with implicit personality suggests that an individual's personality concept (whether it is a gradual view or an entity view) may affect their cognitive approach to emotional events (Pan, 2024). Holders of the gradient view may be more proactive in regulating emotions through cognitive reappraisal, while holders of the entity view may use cognitive reappraisal to maintain emotional stability. From the perspective of expression inhibition dimension, the positive correlation with implicit personality suggests that individuals may adapt to social situations by inhibiting emotional expression.

Finally, there was a significant positive correlation ($p < 0.01$) between the total score of emotion regulation, cognitive reappraisal dimension of emotion regulation, expression inhibition dimension, and the total score of psychological resilience, as well as the optimistic dimension, self-improvement dimension, and resilience dimension of psychological resilience. According to previous research (An et. al., 2024), high levels of psychological resilience may affect an individual's level of emotional regulation. Therefore, focusing on the relationship between psychological resilience and emotional regulation is an important step in promoting this study. The positive correlation of the total score of emotion regulation indicates that individuals with strong overall emotion regulation ability have higher psychological resilience when facing adversity and pressure. This

may be because people with strong emotional regulation abilities are better at using various strategies (such as cognitive reappraisal and expression inhibition) to manage emotions, thereby maintaining a positive attitude and strong coping abilities. Psychological resilience total score: reflects an individual's overall adaptability when facing pressure and challenges. The positive correlation between the total score of emotion regulation and it means that the stronger the emotion regulation ability, the higher the individual's psychological resilience. In addition, cognitive reappraisal, as a positive emotion regulation strategy, reduces negative emotions and enhances positive emotions by changing the interpretation of emotional events (Wang et. al.,2024). Individuals with strong cognitive reappraisal abilities are usually able to cope with stress and adversity more effectively, thereby enhancing psychological resilience. There is a significant positive correlation between cognitive reappraisal and the total score of psychological resilience and its various dimensions (such as optimism, self-improvement, resilience), indicating that people who are good at using cognitive reappraisal strategies often exhibit higher levels of psychological resilience. They can enhance their optimism, self-improvement, and resilience traits by reexamining and actively interpreting challenging events. Expression inhibition refers to individuals responding to emotional events by suppressing external expressions of emotions (Peng, 2024). Although in some cases, expression inhibition may lead to emotional suppression, moderate expression inhibition can help individuals maintain psychological balance and resilience when faced with situations that require calmness and self-control (Dai et. al.,2024).

Table 9
Predictor of ERO

Coefficients ^a						
Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-0.173	0.097		-1.784	0.075
	GV Mean	0.095	0.022	0.100	4.339	0.000
	EV Mean	0.170	0.026	0.158	6.533	0.000
	Optimism	-0.211	0.114	-0.146	-1.855	0.064
	Hardiness	0.635	0.147	0.421	4.318	0.000
	CD-RISC	0.640	0.244	0.417	2.628	0.009

Dependent Variable: ERO

*Excluded Variable: TOTAL SCORE of IPQ and Strength Based (this variable cannot be used to predict the dependent variable)

Table 9 presents the regression analysis of the dimensions of implicit personality and emotional regulation, as well as the dimensions of psychological resilience and emotional regulation. The data results show that the entity view has a significant positive regression effect on emotion regulation ($t=4.339$, $p<0.01$), and the gradual view has a significant positive regression effect on emotion regulation ($t=6.533$, $p<0.01$). This is consistent with some previous research results (Duan et. al.,2020). Although individuals with a materialistic perspective believe that personality and abilities are fixed, they may have adopted a more defensive strategy in emotional regulation. This may be because they hope to avoid exposing what they consider to be their "inherent" flaws in front of others by effectively controlling and suppressing their emotions (Zheng et. al.,2020). Therefore, although the entity view may limit growth to some extent, they may still actively use emotion regulation strategies to manage their emotional responses in order to maintain their personal self-concept and social image. People who hold a gradient view believe that personality and abilities are variable, so they are more likely to adopt positive emotion regulation strategies, especially cognitive reappraisal. Because they believe they can improve themselves by changing their perception of the situation, they are more willing and adept at reevaluating the situation to regulate their emotions. This openness and acceptance of change may encourage them to be more flexible and effective in managing emotions when facing challenges. These two results indicate that regardless of whether individuals hold an entity view or a gradual view, they will actively regulate their emotions. However, the regression coefficient of the gradient view is larger, which may indicate that people with the gradient view are more effective in emotional regulation, or they may be more inclined to adopt cognitive reappraisal strategies, which are generally considered more adaptive ways of emotional regulation (Liu et. al.,2023).

The data results in Table 9 show that resilience has a significant positive regression effect on emotional regulation ($t=4.318$, $p<0.01$), and psychological resilience has a significant positive predictive effect

on emotional regulation ($t=2.628$, $p<0.01$). Resilience, as one of the core dimensions of psychological resilience, is usually associated with individuals' positive coping strategies when facing pressure and challenges. Resilient individuals often possess strong coping abilities and perseverance, able to remain calm and effectively manage emotions when facing difficulties. This ability makes it easier for them to adopt positive emotion regulation strategies, such as cognitive reappraisal, to reassess stressors and adjust their emotional responses (Wen, 2024). Therefore, the positive role of resilience in emotional regulation is evident, manifested as a significant positive regression effect. Psychological resilience is a global ability that involves multiple dimensions, including resilience, self-reliance, and optimism. These dimensions work together to help individuals maintain emotional balance and stability when facing stress. The stronger the psychological resilience, the more likely an individual is to adopt positive emotional regulation strategies to maintain mental health when facing challenges (Wang, 2024). Therefore, the positive predictive effect of psychological resilience on emotional regulation indicates that individuals with high psychological resilience are more capable of coping with various pressures and challenges in life by regulating their emotions. Resilience is a key component of psychological resilience, therefore its significant positive regression effect on emotional regulation may play an important role in overall psychological resilience. However, psychological resilience not only includes resilience, but also other dimensions such as self-dependence and optimism, which can also have an impact on emotional regulation (Peng, 2024). Therefore, the positive predictive effect of psychological resilience on emotional regulation may reflect the influence of these comprehensive factors. Although resilience has a large regression coefficient for emotional regulation, the overall predictive effect of psychological resilience on emotional regulation is also significant. This indicates that resilience plays a significant role in emotional regulation, but other dimensions of psychological resilience are equally important. Psychological practitioners can enhance individuals' psychological resilience and resilience through intervention measures. For example, by providing training on coping strategies, individuals can better manage their emotions when facing challenges. Specific strategies include encouraging individuals to engage in cognitive reappraisal when facing stress, developing problem-solving skills, and cultivating optimistic thinking patterns. Overall, this regression analysis indicates that both resilience and overall psychological resilience have significant positive effects on emotional regulation. By enhancing psychological resilience, especially resilience, individuals' emotional regulation ability can be significantly improved, which helps them better cope with challenges and pressures in life.

Understanding this predictive effect can help us better understand the impact between these three variables and provide targeted interventions for strategic and emotional regulation work.

4. Conclusions and recommendations

Based on the study results, the investigators have reached the following conclusions. Among 812 participants, 55.4% were female and 44.6% were male. Most students were in their first and second years of study. The proportion of only children was 44.8%. Humanities and history majors accounted for 57%, and 60.2% of participants were from rural areas. Respondents had a moderate agreement with the incremental theory (weighted average: 4.01) and the entity theory (weighted average: 4.23). This shows that Shandong university students' implicit personality scores are at a moderate level, indicating they somewhat believe human traits are malleable and fixed. Chinese university students showed "frequent" performance in resilience (weighted average: 3.6634), self - enhancement (weighted average: 3.7177), and optimism (weighted average: 3.6136), suggesting good psychological resilience. With scores in cognitive reappraisal (weighted average: 5.0129) and expressive suppression (weighted average: 4.6681), respondents had a "slightly strong" tendency to use emotion regulation strategies. There were significant differences in implicit personality, psychological resilience, and emotion regulation abilities among respondents based on gender, grade, major, and being an only child. But there were no significant differences based on place of origin. There is a significant positive correlation between implicit personality dimensions and the Connor - Davidson Resilience Scale (CD - RISC), as well as its optimism and self - enhancement dimensions. Also, CD - RISC dimensions are positively correlated, showing that psychological resilience is a multidimensional and interrelated structure. The average scores of the incremental

theory, entity theory, hardiness, and CD - RISC scores can predict Emotion Regulation Questionnaire (ERQ) scores. Students with a stronger belief in ability malleability and higher psychological resilience are more likely to have better emotion regulation capabilities. However, optimism, though correlated with other CD - RISC dimensions, does not significantly predict ERQ scores.

Based on the conclusions of this study, the investigators made the following recommendations: To enhance students' emotional regulation and psychological resilience, schools may strengthen emotional regulation strategy education, teach students cognitive reappraisal skills to adjust emotional responses, guide them to appropriately suppress emotional expression, and maintain calmness and rationality. Schools may also carry out cognitive - behavioral interventions to cultivate students' growth - oriented thinking and improve emotional regulation effects. Schools should develop personalized support plans for students of different grades, especially for senior students who face dual pressures of internships and studies. In addition, creating a cultural environment that encourages emotional openness and communication may promote interaction and understanding among students from different majors, help students improve their ability to cope with stress, and promote their comprehensive development. As students have a certain degree of identification with both growth - oriented and fixed thinking patterns, which indicates that they recognize the plasticity and stability of personal traits. Schools may offer relevant courses or workshops to help students cultivate more positive growth - oriented thinking. In courses or workshops, emphasis may be placed on the developmental and malleable nature of individual abilities, teaching students the importance of effort and perseverance, building their confidence, and encouraging them to believe that self - change can be achieved through hard work rather than relying solely on talent or environment. The score of the Psychological Resilience Scale shows that students' emotional state is generally stable when facing pressure and challenges, but there is still room for improvement. Schools may organize group counseling, lectures, and other activities to help students learn methods to cultivate psychological resilience and improve their awareness of self - improvement. For students with low scores in psychological resilience, schools may offer specialized training camps or workshops to teach stress management skills such as mindfulness meditation and goal - setting, encourage them to set personal development goals, and regularly reflect and adjust their goals to maintain a positive and optimistic attitude. The score of the emotion regulation scale indicates that students tend to use cognitive reappraisal and expressive inhibition strategies to manage their emotions, indicating that they have mastered certain emotion regulation skills. Schools may further provide professional training to integrate emotion regulation skills such as cognitive reappraisal and expression inhibition into mental health education. Schools may also organize emotional management group activities to provide a safe environment for students to practice emotional expression and coping skills, enhance their emotional intelligence, and teach comprehensive emotional regulation methods such as emotion recognition, expression, and positive coping strategies to help students manage negative emotions more effectively. Schools may establish psychological support networks both on and off campus to ensure that students can receive timely assistance when they encounter psychological distress. Schools may encourage students to participate in club activities and volunteer work, enhance social support, improve social adaptability, and cultivate a sense of belonging. Given the significant differences in implicit personality, psychological resilience, and emotional regulation among students of different genders, universities may adopt a gender-sensitive perspective in mental health education and counseling. Universities may set up specialized mental health workshops for male and female students to explore gender - related mental health issues such as emotional expression and stress management, helping students better understand and accept their own mental health needs. Different grades have a significant impact on students' implicit personality, psychological resilience, and emotional regulation abilities. Therefore, schools may provide corresponding support in different grades, especially during critical periods such as the beginning of college life and before graduation, to provide psychological adaptation guidance and career planning counseling to help students smoothly transition. Research has shown that there are differences in the psychological states of students from different majors, which means that schools may need to develop mental health support plans based on the characteristics of different disciplines. For example, schools may increase activities to stimulate creativity for students majoring in humanities and history, strengthen logical thinking training for students majoring in science and engineering, pay attention to their mental health status, and provide

necessary psychological counseling services. Considering that being an only child has a significant impact on students' psychological variables, schools may pay special attention to the mental health status of only - child students, who may face unique life experiences and psychological challenges. Schools may establish support groups for only children, providing them with a platform to share experiences and receive peer support.

Due to the fact that the place of origin (rural or urban) has no significant impact on implicit personality, psychological resilience, and emotional regulation, schools do not need to make special distinctions based on this dimension. However, individual differences still need to be considered to ensure that all students have equal access to the necessary mental health resources and support. In the daily teaching process, teachers may not only impart professional knowledge, but also pay attention to students' psychological state. For students who exhibit emotional instability or low learning motivation in the classroom, teachers may proactively communicate and understand their confusion. For example, when it is found that a student's learning is affected by interpersonal problems, teachers may provide corresponding advice and guidance to help students learn how to handle interpersonal relationships and improve their emotional regulation abilities. In addition, teachers may integrate mental health education into subject teaching, guide students to establish correct values and positive attitudes through case analysis, group discussions, and other methods, and cultivate students' psychological adjustment abilities. In terms of class management, teachers may organize diverse class activities to enhance class cohesion and create a good learning and psychological growth environment for students. Parents may closely monitor their children's emotional changes in their daily lives. When children are feeling down or under a lot of pressure, parents may patiently listen to their troubles and provide emotional support. For example, if a child is frustrated due to poor exam results, parents may first let the child express their inner grievances, then analyze the reasons together with the child, guide the child to use positive thinking to view setbacks, encourage them to improve their grades through hard work, and cultivate the child's psychological resilience and positive growth thinking. At the same time, parents themselves may also set an example for emotional management, creating a harmonious and stable atmosphere in the family, allowing children to feel the warmth and support of the family, and helping them better cope with challenges in learning and life. In short, to promote the comprehensive development of students, schools and society may provide more support and resources to help students establish a positive growth mindset, improve psychological resilience, optimize emotional regulation skills, and better cope with academic and personal life challenges.

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