

# The Effect of Group Counseling on Future Anxiety among Chinese Vocational Students

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## Abstract

This study examined the effectiveness of group counseling in reducing future anxiety among Chinese vocational students. Future anxiety, defined as apprehension regarding unfavorable changes in one's future, is prevalent among students who face social stigma and career uncertainty. Twelve students from Botou Vocational Education Center were selected based on screening results and randomly assigned to either an experimental group ( $n = 6$ ) or a control group ( $n = 6$ ). The experimental group participated in eight group counseling sessions integrating cognitive-behavioral, career, and existential approaches. Future anxiety was measured using a 30-item scale adapted from Zaleski (1996), which demonstrated satisfactory content validity ( $\text{IOC} > 0.67$ ) and high internal consistency (Cronbach's  $\alpha = .892$ ). Data were analyzed using independent-samples t-tests and one-way analysis of covariance (ANCOVA). The results revealed a significant reduction in future anxiety among students in the experimental group ( $p < .001$ , Cohen's  $d = 3.62$ ), whereas no significant change was observed in the control group. Moreover, a substantial between-group difference was found at the posttest stage ( $F(1, 9) = 79.50, p < .001, \eta p^2 = .898$ ). These findings suggest that structured group counseling is an effective intervention for alleviating future anxiety among Chinese vocational students.

**Keywords:** Future Anxiety, Group Counseling, Vocational Students, China

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## Introduction

China's vocational education system has experienced rapid expansion and strong policy support in recent years. The State Council of the People's Republic of China (2019) emphasized that, as China enters a new stage of development with industrial upgrading and economic restructuring, the demand for technical and skilled personnel has become increasingly urgent, highlighting the critical role of vocational education. According to the Ministry of Education (2023), there were 7,201 secondary vocational schools nationwide, with 4.8478 million new enrollments and 13.3929 million students enrolled, a 2.09% increase from the previous year, indicating that vocational schools and their students constitute an important component of China's education system. (China, 2019, 2023)

Despite this growth, Chinese vocational education still suffers from incomplete system construction, weak vocational training facilities, and insufficient institutional standards. Vocational school students also face distinctive psychological difficulties. In a society that strongly prioritizes academic tracks, many students and parents regard vocational schools as a “last resort,” reinforcing stereotypes that vocational students are academically weak and lack future prospects (A. Zhao, 2023). This stigma creates substantial psychological pressure and shapes students' perceptions of the labour market and employers.

Whether or not such prejudice actually exists in employment practices, the social circles that students interact with—including parents, relatives, teachers, and peers—construct an awareness of bias that exacerbates their worries about the future. Future anxiety, defined by Zaleski (1996) as “a state of apprehension, uncertainty, fear, worry and concern of unfavorable changes in a more remote personal future,” is therefore particularly salient among vocational students who experience social stigma and career uncertainty (Zaleski, 1996).

Empirical evidence further indicates that the mental health burden among vocational students is substantial. Since 2018, Fan and colleagues have collected questionnaire data from 3,051 vocational school students in Henan Province and found that 59% met the criteria for mental health problems (Fan, Cui, Guan, Zhan, & Tian, 2025). Another study reported that the prevalence of

depression among students entering public academic high schools was lower than that among students entering vocational schools (Lu et al., 2025). These findings indicate that vocational school students constitute a particularly vulnerable group in terms of psychological well-being.

However, the limited research on vocational students has focused mainly on career anxiety and career development, leaving the broader spectrum of future-oriented anxiety largely unexplored. In addition, because of the unequal distribution of educational resources, vocational school students generally have fewer opportunities for mental health education than students in regular academic high schools.

In current practice, psychological problems among vocational school students, including future anxiety, are often dealt with through informal communication with teachers and staff or through parents' attempts to seek external professional help. Compared with systematic, school-based group counseling, these approaches are less efficient, less accessible, and vary widely across families, resulting in inconsistent support systems. Group counseling, by contrast, has become a mature and cost-effective counseling modality in educational settings, providing a supportive environment for students facing similar challenges (Berg, Landreth, & Fall, 2018). Research has shown that group counseling offers structured, evidence-based methods for addressing psychological difficulties and is especially effective in treating anxiety and emotional disorders (Whitfield, 2018; R. Zhao et al., 2021).

The theoretical framework for addressing future anxiety in this study draws on multiple evidence-based approaches. Cognitive Behavioral Theory (CBT) has demonstrated strong effectiveness in group formats for reducing anxiety symptoms through cognitive restructuring and behavioral interventions (Moloud, Saeed, Mahmonir, & Rasool, 2022). Social Cognitive Career Theory (SCCT) provides a useful lens for understanding career-related anxiety by emphasizing self-efficacy, outcome expectations, and contextual factors in career development (Wang, Liu, & Deng, 2022). Existential psychology further contributes perspectives on meaning, purpose, and values, which are central to young people's broader life concerns (Nakamura & Kawase, 2021).

Despite the documented benefits of group counseling and these theoretical resources, research specifically targeting future anxiety among Chinese vocational school students remains scarce. The unique cultural, social, and educational context of Chinese vocational education calls for tailored interventions that address students' academic, career, and life-related concerns about the future. The present study responds to this gap by developing and evaluating a group counseling program designed to reduce future anxiety among Chinese vocational school students.

The purpose of this study is to investigate the effectiveness of a theoretically grounded group counseling intervention in reducing future anxiety levels among Chinese vocational school students. The intervention integrates cognitive behavioral theory, social cognitive career theory, and existential psychology to address three key dimensions of future anxiety: academic future, career development, and life perspectives. By providing empirical evidence on the effectiveness of group counseling for this population, the study seeks to contribute to both theoretical understanding and practical mental health interventions in vocational education settings.

## Objectives of Research

The purpose of this study was to examine the effectiveness of group counseling in reducing future anxiety among undergraduate students.

1. To examine the baseline levels of future anxiety among Chinese vocational school students prior to the intervention.
2. To investigate the effect of an 8-session group counseling intervention program (grounded in cognitive-behavioral principles and Yalom's therapeutic factors) on future anxiety by comparing pre- and post-test scores within the experimental group.
3. To compare post-intervention future anxiety levels between the experimental and control groups while controlling for pretest scores.

## Research Methodology

### Research design

This study adopted a pretest–posttest non-equivalent control group quasi-experimental design, employing a quantitative research method to investigate the impact of group counseling on future anxiety among Chinese vocational students. Both independent sample t-tests and paired sample t-tests were used to analyze the data. The experimental data were collected through the offline administration of a standardized questionnaire measuring future anxiety, administered before and after the group counseling intervention for both the experimental and control groups.

Prior to participation, all student volunteers were fully informed of the purpose and procedures of the study and provided written informed consent. The research sample consisted of students from Botou Vocational Education Center in Cangzhou, China.

### Population and sample of the study

The experiment is divided into two phases and will be conducted at a vocational school called "Botou City Vocational Education Center" in Cangzhou City, Hebei Province. This school is a local vocational school with a total of 5000 students. According to Taro Yamane's sample size calculation formula ( $n = N \div (1 + Ne^2)$ ), Researcher will select 370 students as research subjects to complete a survey questionnaire. Based on the results of the questionnaire survey, Researcher will choose 20 individuals from the 370 surveyed students who exhibit more severe future anxiety. These 20 students will be divided into two groups of 10 each: one group will serve as the control group, and the other as the experimental group. Group counseling will be conducted with the experimental group.

Phase One: In the first phase of the experiment, Researcher will randomly select 370 students from the 5000 students in the school as research subjects to conduct a questionnaire survey.

Selection Criteria for Phase One Volunteers:

A. Voluntarily participate in the experiment, understand the experimental content, and have signed relevant experimental agreements and written explanations.

B. Are students of the Botou City Vocational Education Center.

C. Can fully understand the experimental requirements and content.

D. Agree to participate in the second phase of group counseling experiment.

Phase Two: In Phase 2, a subsample of students with comparatively high levels of future anxiety was selected from the 370 Phase 1 respondents. Based on their questionnaire scores, 20 students who exhibited elevated future anxiety were identified. These 20 students were then assigned to two groups of equal size (10 each): an experimental group and a control group. A purposive sampling strategy was used to select students with high future anxiety, followed by random assignment of these students to the experimental and control groups to minimize selection bias between groups.

Selection Criteria for Phase Two Volunteers:

A. Voluntarily accept the group counseling program, understand the content of the second phase experiment, and have signed relevant agreements and written explanations for the second phase.

B. Are students of the Botou City Vocational Education Center and have participated in the first phase of the experiment.

C. Possess the ability to understand and participate in the experiment.

D. Have been identified as participants with significant levels of future anxiety based on the results of the future anxiety survey questionnaire.

This sampling method ensures a random initial selection followed by a targeted selection based on anxiety levels, allowing for a focused study on students with significant future anxiety. However, during the experiment, four volunteers chose to withdraw, leaving only six participants remaining in the experimental group at the end of the study. Therefore, in the data analysis, the sample sizes for both the control group and the experimental group were reduced to six participants.

## Research instruments

### Group Counseling Program for Reducing Future Anxiety

In this study, the main approach to alleviate future anxiety is the use of a group counseling intervention program. During the group counseling activities, the aim is to explore students' inner thoughts and feelings, help them reduce future anxiety, and establish an environment for problem-solving and communication. Throughout the research process, there will be 8 group counseling sessions, with each session lasting 90 minutes. After the completion of all 8 group counseling sessions, students will be provided with an anxiety level test. The group counseling program was examined by 5 experts, and the IOC values after examination ranged from 0.67-1.00, indicating good validity.

### Future Anxiety scale

This study uses a future anxiety measurement scale adapted from: The 29-item measurement scale (FAS) (Zaleski, 1996). The researcher adapted the original scale to better suit Chinese vocational students and the original items were translated into Chinese and back-translated into English by bilingual experts to ensure semantic equivalence. Content validity was confirmed by three experts (IOC > 0.67 for all items). Internal consistency was good (Cronbach's  $\alpha$  = .892).

In the adapted scale design, the researcher developed a total of 30 items across three dimensions, with 10 items for each dimension: Academic Future Section, Career Development Section, and Life Planning Section. The aim was to assess the level of future anxiety among Chinese vocational students from these three perspectives. The questionnaire determines the participants' level of future anxiety by calculating the average score across the 30 items. A score of 0.0–2.0 indicates a low level of future anxiety, 2.1–4.0 indicates a medium level, and 4.1–6.0 indicates a high level of future anxiety.

### Data collection procedures

Ethical approval for the study was obtained from the Ethics Committee of Srinakharinwirot University (Approval No. SWUEC-682090). Data were collected using printed questionnaires administered in classroom settings.

In Phase 1, after obtaining institutional permission, the researcher visited classes, explained the purpose and procedures of the study to students, distributed information sheets and consent forms, and invited voluntary participation. Students who agreed to take part signed the consent form and completed the Future Anxiety Scale during regular class time.

In Phase 2, students identified as having elevated future anxiety were invited to participate in the group counseling intervention. After providing additional information about the nature and schedule of the group sessions, the researcher obtained written informed consent specifically for the intervention. Pretest data for Phase 2 participants were collected immediately before the first group session for both the experimental and control groups. The experimental group then attended eight weekly group counseling sessions, while the control group did not receive the intervention during this period. Posttest data were collected for both groups immediately after the completion of the eighth session.

### **Data analysis**

In this study, All statistical analyses in this study were performed using IBM SPSS Statistics version 28. Shapiro-Wilk was used for initial consistency testing. Data were analyzed using paired-samples t-tests, independent t-tests, and one-way ANCOVA (controlling for pretest scores). The experimental group showed significantly greater reduction in future anxiety ( $t(5) = 8.31, p < .001$ , Cohen's  $d = 3.39$ ). Between-group difference at posttest was significant ( $F(1, 9) = 79.50, p < .001, \eta^2 = .898$ ).

### **Statistical Methods Used**

To assess the effectiveness of the group counseling intervention, the study employed descriptive statistics for initial data summarization, followed by paired-sample t-tests to compare pre- and post-intervention scores within the experimental group, and independent-sample t-tests to examine differences between the experimental and control groups.

## Results of Research

All information collected in this study was analyzed using paired samples t-test and independent samples t-test. Before using t-tests for data analysis, the researcher applied the Test of Normality using Shapiro-Wilk to verify initial consistency between the experimental and control groups. The experimental group had a sig. of .692, and the control group had a sig. of .681. From the data, all sig. values are greater than 0.05, indicating that there was no significant difference in future anxiety level scores between the experimental and control groups before group counseling, showing a normal distribution. This does not violate the statistical basis of t-tests, therefore, this study will use paired samples t-test and independent samples t-test for data analysis.

### Future Anxiety Level Scores Before and After Group Counseling

**Table 1** Experimental and Control Groups' Future Anxiety Level Scores Before and After Group Counseling (n=12)

Variable	Group	M	S.D.	Future Anxiety level
Future Anxiety	Experimental (n=6)	3.97	.32	MID
	Control (n=6)	3.97	.30	MID
Future Anxiety	Experimental (n=6)	1.82	.50	LOW
	Control (n=6)	3.97	.29	MID

Table 1 presents the descriptive statistics of future anxiety scores for the experimental and control groups before and after the group counseling program. At pretest, both groups had the same mean future anxiety score (experimental group: M = 3.97, SD = 0.32; control group: M = 3.97, SD = 0.30). At posttest, the mean score of the experimental group decreased to 1.82 (SD = 0.50), whereas the mean score of the control group remained at 3.97 (SD = 0.29).

**Table 2** Analysis of Future Anxiety Level Scores of Experimental Group and Control Group Before Group Counseling (n=12)

Variable	Group				t	p
	Experimental (n=6)		Control (n=6)			
	M	S.D.	M	S.D.		
Future Anxiety	3.97	.32	3.97	.30	.46	.67

### Initial consistency and comparability

To examine baseline equivalence, an independent-samples t-test was conducted on pretest future anxiety scores (Table 2). The results indicated no significant difference between the experimental group ( $M = 3.97$ ,  $SD = 0.32$ ) and the control group ( $M = 3.97$ ,  $SD = 0.30$ ),  $t(10) = 0.46$ ,  $p = .667$ . These findings suggest that the two groups were comparable in future anxiety levels prior to the intervention.

### Within-group changes in future anxiety

Paired-samples t-tests were used to examine pre–post changes in future anxiety within each group (Tables 3 and 4).

For the experimental group, future anxiety scores decreased from  $M = 3.97$  ( $SD = 0.32$ ) at pretest to  $M = 1.82$  ( $SD = 0.50$ ) at posttest. The change was statistically significant,  $t(5) = 8.86$ ,  $p < .001$ . The effect size was very large, Cohen's  $d = 3.62$ .

For the control group, future anxiety scores remained virtually unchanged from pretest ( $M = 3.97$ ,  $SD = 0.30$ ) to posttest ( $M = 3.97$ ,  $SD = 0.29$ ). The difference was not statistically significant,  $t(5) = -0.39$ ,  $p = .970$ , Cohen's  $d = 0.16$ .

**Table 3** Analysis of Future Anxiety Level Scores of the Experimental Group Before and After Participating in Group Counseling ( $n=6$ )

Variable	Experimental Group				t	p
	Before (n=6)		After (n=6)			
	M	S.D.	M	S.D.		
Future Anxiety	3.97	.32	1.82	.50	8.86**	.000

**Table 4** Analysis of Future Anxiety Level Scores of Control Group Members Before and After Group Counseling ( $n=6$ )

Variable	Control Group				t	p
	Before (n=6)		After (n=6)			
	M	S.D.	M	S.D.		
Future Anxiety	3.97	.30	3.97	.29	-0.39	.970

### Analysis of Experimental Group Members and Control Group Members After Group Counseling

Between-group differences in future anxiety after the intervention were first examined using an independent-samples t-test on posttest scores (Table 5). The experimental group ( $M = 1.82$ ,  $SD = 0.50$ ) scored significantly lower than the control group ( $M = 3.97$ ,  $SD = 0.29$ ),  $t(10) = -8.49$ ,  $p < .001$ . The effect size was very large, Cohen's  $d = 4.90$ .

**Table 5** Analysis of Future Anxiety Level Scores of Experimental Group and Control Group After Group Counseling ( $N = 12$ )

Variable	Group				t	p
	Experimental (n=6)		Control (n=6)			
	M	S.D.	M	S.D.		
Future Anxiety	1.82	.50	3.97	.29	-8.49**	.000

In addition, a one-way analysis of covariance (ANCOVA) was conducted with group (experimental vs. control) as the fixed factor, posttest future anxiety as the dependent variable, and pretest scores as the covariate. After controlling for pretest future anxiety, there was a significant main effect of group on posttest scores,  $F(1, 9) = 79.50$ ,  $p < .001$ ,  $\eta p^2 = .898$  (Table 6), indicating that group membership accounted for approximately 89.8% of the variance in adjusted posttest future anxiety.

**Table 6** One-way ANCOVA of Posttest Future Anxiety Scores Controlling for Pretest Scores ( $N = 12$ )

Source	SS	df	MS	F	p	Partial $\eta p^2$
Pretest	0.102	1	0.102	0.58	.466	–
Group	13.962	1	13.962	79.50	< .001	.898
Error	1.581	9	0.176	–	–	–

## Conclusion and Discussion

In summary, this study employed a pretest–posttest non-equivalent control group quasi-experimental design to examine the effectiveness of a group counseling program in reducing future anxiety among Chinese vocational students. At baseline, there was no significant difference in future anxiety between the experimental and control groups. After the intervention, future anxiety in the experimental group decreased significantly from pretest to posttest, whereas no meaningful change was observed in the control group.

At the posttest, students in the experimental group reported significantly lower levels of future anxiety than those in the control group. This between-group difference remained significant even after controlling for pretest scores using ANCOVA, with a very large effect size. Taken together, these findings indicate that the group counseling program was effective in reducing future anxiety for the participating vocational students within the context of this study.

Although the results are encouraging, the conclusions are based on a small sample from a single vocational school. Therefore, the present findings should be interpreted with caution, and further studies with larger and more diverse samples are needed to confirm and extend the current evidence on group counseling for future anxiety among vocational students.

This study examined the effectiveness of a group counseling program in reducing future anxiety among Chinese vocational high school students. The quantitative results showed that, although the experimental and control groups did not differ at baseline, the experimental group demonstrated a substantial reduction in future anxiety from pretest to posttest, whereas the control group showed no meaningful change. At posttest, the experimental group reported significantly lower levels of future anxiety than the control group, and this difference remained significant when pretest scores were controlled statistically using ANCOVA. These findings suggest that the group counseling program was effective in reducing future anxiety within the context of this study.

From a theoretical perspective, several elements of the intervention may help to explain these outcomes. First, the Academic Future component of the program drew on cognitive–behavioral principles. Students were encouraged

to identify and express their automatic thoughts and beliefs about academic performance and future study, and to examine the relationship between their cognitions, emotions, and behaviors. Through structured group activities and guided reflection, many participants reported a clearer understanding of their actual academic situation and external environment, as well as a more realistic appraisal of their strengths and weaknesses. This process appears to have enhanced their self-confidence and sense of agency in the academic domain, which is consistent with research indicating that self-confidence can be strengthened through learning experiences and targeted group interventions rather than being a fixed trait (Selly & B, 2024).

Second, the program was informed by Yalom's therapeutic factors, such as universality, group cohesion, and interpersonal learning. During the sessions, students gradually recognized that their worries about examinations, employment, and the future were not unique to themselves but were shared by other group members. This recognition of universality, together with a safe and non-judgmental atmosphere, seemed particularly important for students from single-parent families or those who had experienced bereavement, who initially tended to remain quiet and listen rather than speak. As mutual trust increased and equal opportunities for participation were provided, these students began to share more of their experiences and feelings, and their future anxiety appeared to decrease alongside improvements in social interaction within the group. This pattern is consistent with previous findings that group counseling can improve self-confidence and social functioning, especially when members are encouraged to participate equally in discussions and problem-solving (Selly & B, 2024).

Third, the findings highlight the specific situation of vocational students from rural backgrounds. Several participants came from rural areas and reported a history of social isolation or difficulties integrating into the school community. In the group sessions, these students often needed more support to feel included and to engage in discussions about career development, occupational ideals, and life planning. The program's emphasis on group cohesion and peer support helped some of these students to gradually move away from withdrawal and to establish more stable peer relationships within the group. This observation

is consistent with research showing that rural adolescents face distinctive challenges in career development and may have a particularly strong need for belonging, connection, and guidance during early and middle adolescence (Grant, Springer, Tuttle, & Reno, 2021).

The Life Prospects component of the program was influenced by existential therapy. After earlier sessions had helped students identify sources of anxiety, later sessions focused on helping them explore the meaning of their existence, clarify personally important life values, and adopt a more active and responsible stance toward future choices. Participants were invited to reflect on how they had sometimes responded passively to life events—such as giving control to others or “going with the flow” and to consider alternative, more intentional ways of engaging with their future. The significant reduction in future anxiety observed in the Life Prospects dimension suggests that this existentially oriented work may have helped students develop a more positive and engaged attitude toward the future. This is in line with studies showing that existential group counseling can enhance subjective vitality and encourage students to adopt a more active and responsible approach to life challenges (Pirsaghi, 2024).

Cultural factors also appear to play an important role. The group counseling was conducted in a Chinese cultural context, where concerns about face, hierarchy, and conformity may influence students’ willingness to disclose personal problems. The use of a counselor who was not a teacher or school administrator, and the deliberate creation of a safe and relaxed atmosphere, seemed to facilitate self-disclosure and reduce anxiety about being judged. At the same time, attention to the cultural meaning of receiving psychological help helped to normalize participation in group counseling and to reduce resistance. These observations are congruent with research from other Chinese-speaking contexts, such as Taiwan, which emphasizes both the importance of leaders’ familiarity with group counseling theory and the need to address cultural concerns in order to support students’ participation in counseling (Chang & Bhat, 2023).

Despite these encouraging findings, several limitations of the present study should be noted. First, the sample size in the intervention phase was small ( $N = 12$ ), which limits the statistical power and may inflate estimates of effect size. Second, participants were drawn from a single vocational school in one city, which restricts the generalizability of the results to other regions, school types, or age groups. Third, the outcome measures relied entirely on self-report questionnaires, which may be influenced by social desirability or response biases. Fourth, the study did not include a long-term follow-up, so it is unclear whether the reductions in future anxiety were maintained over time.

Considering these limitations, future research should replicate and extend this work with larger and more diverse samples, including vocational schools from different regions and cultural backgrounds. It would also be valuable to incorporate multiple sources of data such as teacher reports, parent reports, or behavioral indicators to complement self-report measures. In addition, longitudinal designs with follow-up assessments could provide more information about the stability of intervention effects over time. Finally, further studies could examine which specific components of the group counseling program (e.g., cognitive-behavioral techniques, existential exercises, or group processes) contribute most strongly to reducing future anxiety, to refine and optimize interventions for vocational students.

## Contributions of the Study

**Theoretical Contributions :** This study integrates Cognitive Behavioral Theory (CBT), Social Cognitive Career Theory (SCCT), and Existential Psychology to construct a multidimensional intervention model for reducing future anxiety among Chinese vocational students. By situating future anxiety within this integrated framework, the research clarifies how maladaptive future-oriented cognitions, perceived career self-efficacy, and existential concerns jointly shape students' academic, career, and life-related worries about the future.

Furthermore, the study extends Zaleski's (1996) concept of future anxiety into the specific cultural and educational context of China's vocational education system. It reconceptualizes future anxiety as comprising three interrelated dimensions academic future anxiety, career future anxiety, and

life future anxiety and empirically supports this tripartite structure. This refined conceptualization provides a theoretically grounded framework that subsequent studies can adopt when examining future anxiety in similar non-Western educational settings.

### **Practical Contributions**

On the practical level, this study designs and implements an eight-session group counseling program specifically tailored to the developmental characteristics and contextual needs of Chinese vocational students. The program incorporates CBT-based cognitive restructuring, SCCT-informed career exploration, and Yalom's therapeutic factors (such as universality, altruism, and group cohesion) within a structured sequence of sessions. The empirical results demonstrate that this structured and replicable intervention significantly reduces students' future anxiety, indicating its effectiveness for this population.

The findings provide a feasible and cost-efficient intervention model for school counselors and mental health practitioners, particularly in under-resourced vocational institutions. The program can be integrated into existing school counseling services as a regular group intervention, an elective mental health course, or a targeted program for students identified as experiencing elevated future anxiety. In this way, the study offers concrete guidance for educational practitioners seeking evidence-based strategies to support students who are under psychological stress related to their future.

### **Methodological Contributions**

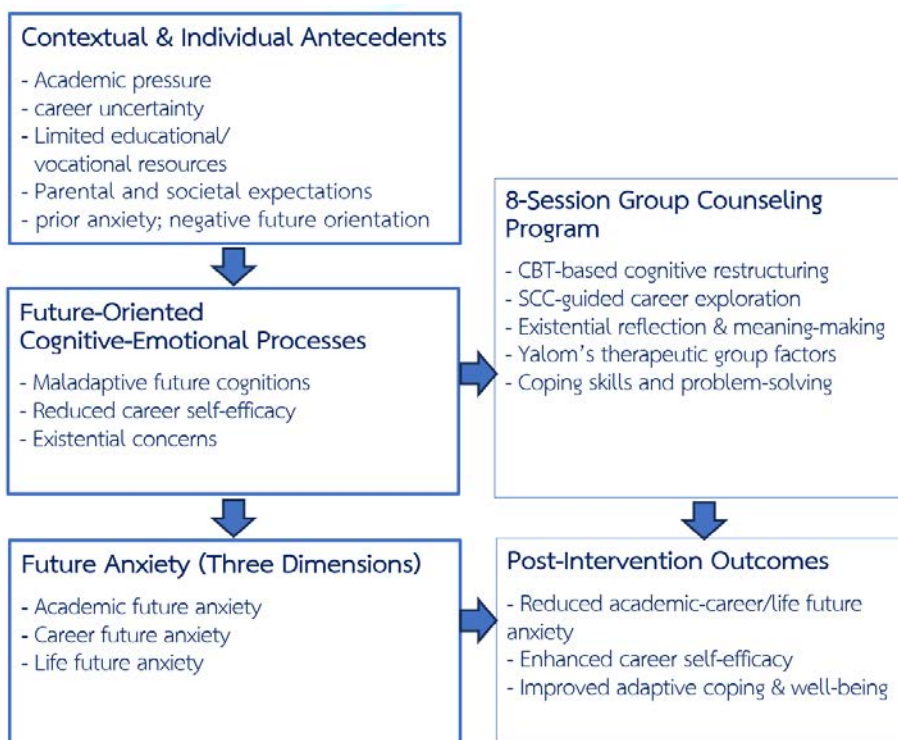
Methodologically, the study develops and validates a localized version of the Future Anxiety Scale for Chinese vocational students. By adapting Zaleski's original framework and incorporating culturally relevant items that reflect the realities of vocational education in China, the research establishes a measurement tool with acceptable reliability and validity for this specific population. The validated scale can be used in future studies to screen students with elevated future anxiety and to evaluate the effectiveness of different intervention programs.

In addition, the study employs a two-stage screening process, followed by randomized assignment to intervention and control groups, and

pre-post comparison. This design enhances internal validity, reduces selection bias, and provides a methodological model for similar psychological intervention studies in educational settings. Researchers working with school-based interventions can reference this design when planning rigorous evaluations of counseling or mental health programs.

### Integrated Conceptual Model of New Knowledge

Based on the above findings, this study proposes an integrated conceptual model of future anxiety and its intervention among Chinese vocational students. The model links (a) contextual and individual antecedents (such as academic pressure, perceived career uncertainty, and existential concerns), (b) maladaptive future-oriented cognitions and reduced career self-efficacy, (c) the core components of the eight-session group counseling program, and (d) post-intervention outcomes, including reduced academic, career, and life future anxiety and enhanced adaptive coping.



**Figure 1** Integrated conceptual model of future anxiety and group counseling intervention among Chinese vocational students

This integrated model can be visually represented in a diagram or flowchart (Figure 1) that depicts the pathways from antecedent factors to cognitive–emotional processes, through specific group counseling mechanisms, and finally to improved psychological outcomes. Such a representation directly illustrates the new knowledge generated by this research and can guide future empirical studies and intervention design in the field of student mental health.

## Recommendations

### 1. Practical Implications

This study provides empirical support for the use of an 8-session group counseling program to reduce future anxiety among Chinese vocational students. Educational institutions, including vocational schools, colleges, and student counseling centers, are encouraged to adapt and implement this group counseling program as part of their existing mental health services. In practice, schools may incorporate the program into regular counseling activities, elective courses, or targeted interventions for students identified as experiencing elevated levels of future anxiety.

It is further recommended that school counselors, psychologists, and homeroom teachers receive systematic training on the theoretical foundations and session structure of this program. Such training can enhance their competence in facilitating group counseling, monitoring students' emotional responses, and making appropriate referrals when more intensive psychological support is required.

The questionnaire and group counseling materials developed in this study may also be used as screening and intervention tools. Schools can employ the questionnaire to identify students with higher levels of future anxiety and then invite them to participate in the group counseling program or other appropriate support services.

### 2. Recommendations for Future Research

For future studies involving psychological counseling interventions in school settings, it is recommended that researchers enter campuses as non-school personnel when feasible. Adopting the role of external researchers may

help to reduce social desirability bias and role-related expectations associated with school staff, thereby enhancing participants perceived confidentiality and increasing the objectivity and validity of their responses.

Future researchers are encouraged to further revise and validate the questionnaire and group counseling program developed in this study according to their specific research objectives and target populations. This may include examining the reliability and validity of the instruments across different age groups, educational levels, and cultural contexts, as well as testing the effectiveness of modified versions of the group counseling program.

Subsequent studies may also broaden the research scope by including diverse student populations and geographical regions, such as general high school students, university students, or working young adults in vocational training programs. In addition, introducing more differentiating variables—such as gender, socio-economic status, academic performance, coping styles, and family support would allow for a more comprehensive understanding of the mechanisms and boundary conditions of future anxiety and its intervention. Finally, future anxiety is a complex and pervasive psychological construct with potential long-term implications for individuals' mental health, academic development, and career planning. Continued empirical research is needed to refine its conceptualization, improve measurement tools, and develop effective prevention and intervention strategies in educational contexts.

### 3. Policy Recommendations

At the policy level, educational authorities are encouraged to establish and strengthen comprehensive mental health support systems within schools. These systems may include routine mental health screening, evidence-based group counseling programs, and clear referral pathways to external mental health services when necessary. The findings of this study support the incorporation of structured group counseling for future anxiety into school mental health policies and guidelines.

Policy makers are also advised to allocate sufficient resources for the training and supervision of school counselors and related personnel. Providing professional development opportunities can promote the sustainable implementation of group counseling programs and ensure that interventions addressing future anxiety are delivered with quality and fidelity.

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