



The Effectiveness of Cognitive Restructuring-based Group Counseling in Reducing Academic Stress among Generation Z Vocational High School Students

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Abstract. Generation Z vocational high school students encounter complex academic and social pressures that frequently induce overwhelm and overachievement tendencies, thereby elevating their risk of academic stress. This study evaluated the effectiveness of cognitive restructuring-based group counseling in reducing academic stress among Generation Z students in a vocational high school context. Employing a mixed-methods approach with an explanatory sequential design, the study purposively selected nine tenth-grade students from the Fashion Department at SMKN 3 Cimahi who exhibited high levels of academic stress. Quantitative data were gathered using an academic stress questionnaire based on Gadzella's theory and analyzed via the Shapiro-Wilk test and paired samples t-test. The findings revealed that the cognitive restructuring intervention significantly reduced academic stress, as evidenced by a mean score decrease from 75 (high category) to 45 (low category), with a p -value of 0.000 ($t = 57.553$; $df = 8$). These results indicate that cognitive restructuring-based group counseling serves as an effective, evidence-based guidance strategy, enabling Generation Z students to develop emotional regulation, adaptive cognitive patterns, and coping skills to mitigate academic pressures in vocational education.

Keywords: Cognitive restructuring; Group counseling; Academic stress; Generation Z; Vocational High School Students

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Introduction

Vocational High School students, typically aged 15 to 18, are in the middle adolescence phase where emerging cognitive maturity, the ability to think abstractly and systematically, interacts with intense social, academic, and identity demands (Sanghvi, 2020; Sugimura et al., 2024). While these developmental milestones should ideally foster self-regulation and problem-solving skills, many Vocational High School students instead face significant psychological pressure. This stress is primarily driven by the convergence of rigorous academic requirements, high expectations from family, and heightened competition within both educational and social environments.

This phenomenon is particularly prominent among Generation Z, those born between 1997 and 2012, who grew up in a digital environment characterised by high connectivity, unlimited access to information, and a culture of social comparison through social media. These conditions give rise to two contrasting psychological tendencies that both have the potential to disrupt adolescent mental health: overwhelmed and overachieving. The overwhelmed condition is characterised by cognitive and emotional exhaustion caused by demands perceived as exceeding one's personal capacity (Ritonga et al., 2025), whereas overachieving manifests as a perfectionistic drive to attain high standards and gain continuous external validation (Faiman & Strouse, 2025). Both conditions are closely associated with increased academic stress and disturbances in adolescents' psychological well-being (Lewczuk et al., 2022; Rodas et al., 2024; Fernández-García et al., 2022).

Academic stress is a psychological response that occurs when individuals perceive academic demands as exceeding their coping abilities (Gao, 2023). According to Gadzella and Masten, academic stress consists of two major dimensions: academic stressors, which include frustration, conflict, pressure, change, and self-imposed demands; and responses to stressors, which involve physiological, emotional, behavioural, and cognitive reactions (Gobena, 2024). In educational contexts, academic stress not only affects academic performance but also influences motivation, academic engagement, and students' overall mental health (Brata et al., 2025). Recent data in Indonesia underscores this trend, revealing that a significant portion of students, ranging from 57% to over 70% in various studies, experience moderate to high levels of academic stress (Humaera et al., 2025; Kemenkes RI, 2026). These levels are largely driven by high stakes assessments, rigorous academic workloads, and increasing social digital pressures, which in severe cases have contributed to a rising prevalence of depressive symptoms among approximately 4.8% of the student population (Kemenkes RI, 2026).

Within Vocational High Schools, academic pressure tends to be more complex than in general education schools because students are required not only to complete regular academic subjects but also to master technical and practical vocational competencies (Maharani et al., 2021). This dual burden increases the risk of academic stress among vocational students. These findings are further supported by preliminary observations and interviews conducted with 5 students at SMKN 3 Cimahi, which revealed that they experienced academic stress due to various factors, including family conflict, pressure to maintain academic achievement, difficulties understanding vocational materials, and inability to manage learning demands effectively. These conditions led to maladaptive behaviours

such as avoiding academic tasks, sleeping during class, excessive gadget use, and decreased learning engagement. These findings indicate a gap between academic demands and the self-regulation capacities of Generation Z students in coping with academic pressure in vocational education settings.

Previous studies have shown that the Cognitive Behavioural Therapy (CBT) approach is effective in reducing academic stress because it focuses on changing maladaptive thinking patterns (Fau et al., 2024; Safdel & Sadeghi, 2025). CBT framework developed by Aaron T. Beck, academic stress is influenced by cognitive distortions and irrational beliefs that lead individuals to perceive academic demands negatively (Eneogu et al., 2023; Sustrami et al., 2026). Other studies show that one of the primary techniques in CBT is cognitive restructuring, which helps individuals identify, challenge, and replace negative thoughts with more realistic and adaptive patterns of thinking (Didymus & Fletcher, 2017; Tolan, 2023). Research by Adawiyah and Pratiwi (2022) demonstrated that cognitive restructuring techniques are effective in reducing students' academic stress. However, most previous studies have focused primarily on the technique's general effectiveness and have not specifically linked it to the psychological characteristics of Generation Z, particularly the phenomena of overwhelm and overachievement among vocational high school students.

Although previous studies have demonstrated the effectiveness of Cognitive Behavioural Therapy (CBI) and cognitive restructuring techniques in reducing academic stress, several gaps remain in the literature. Most studies have focused on the general effectiveness of these interventions without specifically examining the psychological characteristics of Generation Z, particularly the tendencies toward being overwhelmed and overachieving due to digital culture and social comparison. In addition, prior research has predominantly implemented cognitive restructuring in individual or general educational settings, while studies integrating cognitive restructuring within group counseling services remain limited. Furthermore, little attention has been given to vocational high school students, who face unique academic pressures arising from both theoretical and practical competency demands. Therefore, this study addresses these gaps by investigating the effectiveness of cognitive restructuring-based group counseling in reducing academic stress among Generation Z vocational high school students, thereby providing a more contextual and evidence-based counseling intervention for contemporary educational settings.

The present study was designed to examine the effectiveness of group counseling based on cognitive restructuring in reducing academic stress among Generation Z students in vocational high schools. This study aims to analyze changes in students' academic stress levels after participating in group counseling services that use cognitive restructuring techniques, while also strengthening the development of evidence-based guidance and counseling services responsive to the psychological needs of Generation Z students in vocational education settings.

Method

Research Design

This study employed a mixed-methods approach using an explanatory sequential design (Creswell & Creswell, 2022). In this design, quantitative data were collected and analysed in the first phase to examine the effectiveness of cognitive restructuring-based group counseling in reducing academic stress. The quantitative findings were then followed by qualitative data collection and analysis to explain, clarify, and enrich the statistical results.

The quantitative phase used a one-group pretest-posttest pre-experimental design. Students identified as experiencing high levels of academic stress received cognitive restructuring-based group counseling and completed academic stress assessments before and after the intervention. The qualitative phase involved semi-structured interviews and observation of counseling sessions to explore participants' experiences, cognitive changes, emotional responses, and perceptions of the intervention process. The integration of quantitative and qualitative findings occurred during the interpretation stage, allowing the qualitative results to explain how and why changes in academic stress occurred following the intervention.

Participants

The study was conducted at SMKN 3 Cimahi and involved nine first-year female students from the Fashion Department, aged between 15 and 16 years. The Fashion Department was selected because preliminary observations and interviews indicated that students in this program experienced considerable academic pressure due to the large number of academic assignments and responsibilities they were required to complete. Participants were selected through purposive sampling based on the results of the academic stress pre-test, which identified them as having high levels of academic stress. This sampling technique was considered appropriate because it enabled the researchers to focus on participants who were most relevant to the study's objective of examining the effectiveness of cognitive restructuring-based group counseling in reducing academic stress.

Instruments and Data Collection

The instrument used in this study was an Academic Stress Questionnaire adapted from the Student Life Stress Inventory (SLSI) developed by Gadzella and Masten (2005). The questionnaire consisted of 45 items designed to measure two major dimensions of academic stress: academic stressors (frustration, conflict, pressure, change, and self-imposed demands) and reactions to stressors (physiological, emotional, behavioral, and cognitive responses). Participants responded to each item using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating greater levels of academic stress.

Prior to data collection, the instrument was subjected to validity and reliability testing. The validity analysis revealed that all items met the required validity criteria, with item-total correlation coefficients ranging from 0.36 to 0.81. Reliability was assessed using Cronbach's alpha, which yielded a coefficient of 0.92, indicating excellent internal consistency. These findings suggest that the instrument was both valid and reliable for measuring academic stress among vocational high school students.

Table 1. Reliability Test Results of the Academic Stress

Instrument	Number of Items	Cronbach's Alpha	Interpretation
Academic Stress	45	0.92	Excellent Reliability

Data were collected through pre-test and post-test assessments. The pre-test was administered prior to the implementation of the cognitive restructuring-based group counseling intervention to assess participants' initial levels of academic stress and determine their eligibility for inclusion in the study. Following the completion of the five counseling sessions, the same questionnaire was administered as a post-test to evaluate changes in participants' academic stress levels after the intervention.

Intervention Procedure

The intervention was implemented through cognitive restructuring-based group counseling conducted over five structured sessions. The counseling program was grounded in the principles of Cognitive Behavioral Therapy (CBT) and followed a cognitive restructuring framework adapted from Erford (2017). Each session lasted approximately 60–90 minutes and was facilitated by the researcher, who acted as the group counselor. The intervention aimed to help students identify maladaptive thoughts related to academic demands, challenge irrational beliefs, and develop more adaptive cognitive and behavioral responses to academic stress.

The implementation stages of the cognitive restructuring-based group counseling program are presented in Table 1.

Table 2. Cognitive Restructuring-Based Group Counseling Program

Session	Objective	Activities	Technique	Duration
1	Establish rapport and increase understanding of academic stress	Group formation, introduction of group rules, explanation of counseling objectives, and psychoeducation on academic stress	Group counseling orientation and psychoeducation	60–90 min
2	Increase awareness of maladaptive cognitions	Identification of stressful academic situations, negative automatic thoughts, irrational beliefs, and cognitive distortions	Thought monitoring and self-reflection	60–90 min
3	Challenge irrational beliefs	Examination of evidence supporting and contradicting negative thoughts through group discussion and guided questioning	Cognitive disputation and coping-thought exercises	60–90 min
4	Develop adaptive cognitive patterns	Reframing irrational thoughts into realistic and adaptive alternatives and practicing new thinking patterns	Cognitive restructuring	60–90 min
5	Strengthen coping strategies and evaluate changes	Reflection on counseling experiences, development of personal coping plans, reinforcement, and termination activities	Positive self-talk, reinforcement, and relapse prevention	60–90 min

Throughout the intervention, participants completed cognitive restructuring worksheets and thought records documenting stressful academic situations, automatic thoughts, emotional reactions, and alternative adaptive responses. Group discussions, self-reflection activities, and positive reinforcement techniques were continuously employed to facilitate cognitive and emotional change. The sequential structure of the intervention was designed to promote self-awareness, cognitive flexibility, emotional regulation, and adaptive coping skills in managing academic stress.

Data Analysis

Quantitative data were analyzed using IBM SPSS Statistics version 25. Descriptive statistics were first calculated to summarize participants' academic stress scores before and after the intervention. Prior to hypothesis testing, data normality was assessed using the Shapiro–Wilk test because the sample size was relatively small ($n < 30$). The results indicated that both the pre-test (Sig. = 0.338) and post-test (Sig. = 0.663) scores were normally distributed ($p > .05$), thereby satisfying the assumptions required for parametric statistical analysis. Subsequently, a paired-samples t-test was conducted to examine differences between pre-test and post-test academic stress scores and determine the effectiveness of cognitive restructuring-based group counseling. In addition, Cohen's d effect size was calculated to estimate the magnitude of the intervention effect.

Qualitative data obtained from semi-structured interviews and counseling session observations were analyzed using thematic analysis following Braun and Clarke's six-step procedure: familiarization with the data, initial coding, theme generation, theme review, theme definition and naming, and report writing. This analysis aimed to identify recurring patterns related to students' experiences of academic stress, cognitive changes, emotional responses, and perceptions of the counseling process.

Data integration was conducted at the interpretation stage following the explanatory sequential mixed-methods design. Quantitative findings were analyzed first to determine whether significant changes in academic stress occurred after the intervention. Subsequently, qualitative findings were used to explain and elaborate the statistical results by exploring how participants experienced cognitive restructuring, how maladaptive thoughts changed during counseling, and how these changes contributed to reductions in academic stress. The integration of quantitative and qualitative findings enabled a more comprehensive understanding of both the effectiveness of the intervention and the psychological mechanisms underlying students' cognitive and emotional changes.

Results

The study involved nine female first-year students from the Fashion Department at SMKN 3 Cimahi, selected through purposive sampling based on pre-test results indicating high levels of academic stress. The descriptive analysis revealed that all participants experienced a reduction in academic stress scores following participation in cognitive restructuring-based group counseling. Before the intervention, the students' mean academic stress score was high, with an average of 75. Following the intervention, the mean score

decreased to 45, placing it in the low category. This reduction indicates a substantial change in students' academic stress levels after participating in the group counseling program.

Table 3. Pre-Test and Post-Test Academic Stress Scores

No	Participant	Gender	Pre-Test Score	Category	Post-Test Score	Category
1	ASF	F	75	High	46	Low
2	RAD	F	76	High	43	Low
3	RPNA	F	76	High	45	Low
4	ANH	F	74	High	46	Low
5	IA	F	75	High	44	Low
6	AB	F	76	High	46	Low
7	LYY	F	74	High	45	Low
8	MW	F	74	High	44	Low
9	NH	F	74	High	47	Low
Total			674		406	
Mean			75	High	45	Low

Based on Table 1, all students demonstrated a decrease in academic stress levels from the high category to the low category after the intervention was administered. The average score reduction of 30 points indicates that cognitive restructuring-based group counseling had a substantial effect on reducing students' academic stress. These findings also suggest that students began to develop more realistic perceptions of academic demands and reduce maladaptive thinking patterns associated with *overwhelmed* and *overachieving* tendencies.

Table 4. Academic Stress Level Categories

Category	Score Interval	Percentage Interval
High	166–225	≥ 74%
Moderate	106–165	48%–73%
Low	46–105	≤ 47%

The academic stress level categories presented in Table 2 were used as the basis for interpreting students' pre-test and post-test scores. Before the intervention, all participants were categorized as having high levels of academic stress, whereas after the intervention, all students shifted to the low category. This categorical change demonstrates the intervention's effectiveness in helping students manage academic pressure more adaptively.

Normality Test

Before conducting hypothesis testing, the data were analysed using the Shapiro–Wilk normality test because the sample size was relatively small ($n < 30$). The results indicated that both the pre-test and post-test data were normally distributed, thereby satisfying the assumptions required for the use of parametric statistical analysis.

Table 5. Shapiro–Wilk Normality Test Results

Variable	Statistic	df	Sig.	Description
Pre-Test	0.913	9	0.338	Normal
Post-Test	0.948	9	0.663	Normal

The normality test results presented in Table 3 indicate that the significance values for the pre-test (0.338) and the post-test (0.663) were both greater than $\alpha = 0.05$. These findings demonstrate that the academic stress score data were normally distributed, thereby supporting the use of a paired samples *t*-test to examine the effectiveness of the intervention.

Hypothesis Testing

Paired Samples *t*-test

To examine the effectiveness of cognitive restructuring-based group counseling in reducing academic stress, a paired-samples *t*-test was conducted using IBM SPSS Statistics 25. Prior to the analysis, all pre-test and post-test data were rechecked to ensure the accuracy of data entry and statistical calculations. The verification process confirmed that no data-entry errors or calculation inconsistencies were identified.

Table 6. Paired Samples Statistics

Variable	Mean	N	Std. Deviation	Std. Error Mean
Pre-Test	75.00	9	0.866	0.289
Post-Test	45.00	9	1.225	0.408

The descriptive statistics indicate that the mean academic stress score decreased from 75.00 before the intervention to 45.00 after the intervention, suggesting a substantial reduction in students' academic stress levels following participation in the counseling program.

Table 7. Paired Samples *t*-Test Results

Pair	Mean Difference	Std. Deviation	Std. Error Mean	95% CI Lower-Upper	t	df	Sig. (2-tailed)
pre-test post-test	30.333	1.581	0.527	29.118 – 31.549	57.553	8	0.000

The paired-samples *t*-test results revealed a statistically significant difference between pre-test and post-test academic stress scores. As shown in Table 7, the mean difference between the two measurements was 30.333 points, with a standard deviation of 1.581 and a standard error mean of 0.527. The 95% confidence interval ranged from 29.118 to 31.549. Furthermore, the analysis produced a *t* value of 57.553 with 8 degrees of freedom and a significance value of 0.000 ($p < .001$), indicating that the null hypothesis (H_0) was rejected and the alternative hypothesis (H_a) was accepted. These findings demonstrate that cognitive restructuring-based group counseling was effective in reducing academic stress among first-year students in the Fashion Department at SMKN 3 Cimahi.

The substantial decrease in academic stress scores suggests that participants experienced meaningful cognitive changes throughout the intervention process. Prior to the counseling program, students frequently exhibited maladaptive cognitive patterns, including fear of failure, catastrophizing, perfectionistic beliefs, and excessive self-imposed demands, which contributed to feelings of overwhelm and overachievement. Following the intervention, students became more capable of identifying, challenging, and restructuring irrational thoughts into more realistic, flexible, and adaptive interpretations of academic demands. These cognitive changes likely contributed to the significant reduction in academic stress observed after the intervention.

Thematic Analysis of Students' Psychological Changes After the Intervention

Qualitative data obtained from semi-structured interviews and counseling session observations were analyzed using thematic analysis following Braun and Clarke's six-step procedure. The analysis generated three major themes: (1) reduction of negative automatic

thoughts, (2) development of adaptive academic perspectives, and (3) enhancement of emotional and social support.

Theme 1: Reduction of Negative Automatic Thoughts

Before participating in the counseling program, students frequently reported experiencing negative automatic thoughts related to academic performance. These thoughts were characterized by fear of failure, self-blame, and excessive concern about meeting parental and academic expectations. One participant stated:

“I was always afraid of getting poor grades. If I made a mistake, I immediately thought that I had failed and disappointed my parents” (Participant 1, interview, March 15, 2026).

Similarly, another participant explained:

“Whenever I saw my classmates performing better than me, I felt that I was not good enough and that I had to work harder than everyone else” (Participant 3, interview, March 15, 2026).

Observation notes from the initial sessions also indicated signs of anxiety, hesitation in expressing opinions, and low self-confidence when discussing academic challenges. These findings suggest that participants initially exhibited maladaptive cognitive patterns that contributed to elevated levels of academic stress.

Theme 2: Development of Adaptive Academic Perspectives

Following the cognitive restructuring intervention, participants reported becoming more aware of irrational beliefs and learning to challenge negative assumptions regarding academic demands. Students described a gradual shift from rigid and perfectionistic thinking toward more realistic and flexible perspectives. One participant reported:

“Now I understand that making mistakes does not mean I am a failure. Mistakes are part of learning, and I can improve from them” (Participant 2, interview, March 15, 2026).

Another participant stated:

“I used to think that I had to achieve perfect results all the time. After the counseling sessions, I realized that doing my best is more important than being perfect” (Participant 4, interview, March 15, 2026).

These responses indicate that cognitive restructuring facilitated the replacement of maladaptive beliefs with more adaptive and rational interpretations of academic situations.

Theme 3: Enhancement of Emotional and Social Support

The group counseling process also provided opportunities for participants to share experiences and receive emotional support from their peers. Many students reported that listening to others who faced similar challenges helped them feel less isolated and more confident in managing academic pressure. As one participant explained:

“I realized that I was not the only one experiencing stress. Hearing my friends’ stories made me feel understood and supported” (Participant 5, interview, March 15, 2026).

Another participant noted:

“The group discussions helped me express my feelings openly. I felt more comfortable talking about my worries and received encouragement from others” (Participant 3, interview, March 15, 2026).

Observational data from the final sessions further demonstrated increased participation, openness, and confidence among group members. Students appeared more willing to discuss academic difficulties and propose constructive solutions to challenges they encountered.

Integration of Qualitative and Quantitative Findings

The qualitative findings support the quantitative results, which demonstrated a significant reduction in academic stress following the intervention. While the quantitative analysis confirmed the statistical effectiveness of cognitive restructuring-based group counseling, the thematic analysis revealed the psychological processes underlying this improvement. The intervention facilitated reductions in negative automatic thoughts, promoted more adaptive cognitive interpretations of academic demands, and strengthened emotional support through positive group interactions.

Together, these findings suggest that cognitive restructuring-based group counseling not only reduced academic stress but also enhanced emotional regulation, cognitive flexibility, and adaptive coping strategies among Generation Z vocational high school students.

Discussion

The findings indicate that cognitive restructuring-based group counseling effectively reduced academic stress among Generation Z vocational students by helping them reconstruct maladaptive thinking patterns associated with overwhelm and overachieving. The significant decline in academic stress scores suggests that cognitive change enhanced students' ability to manage academic pressure more adaptively. These results support the core assumption of Cognitive Behavioral Therapy (CBT) that emotional and behavioral responses are influenced by individuals' interpretations of academic demands.

Among Generation Z students, overwhelm and overachieving may be viewed as forms of cognitive distortions shaped by academic pressure, digital culture, and social comparison (Gottschlich & Atapour, 2024). Overwhelmed students often exhibit catastrophizing and negative self-evaluation (Cruz et al., 2025), whereas overachieving students tend to hold perfectionistic beliefs that equate achievement with self-worth (Fauver et al., 2024). Such patterns reinforce unrealistic standards and dependence on external validation (Fernández-García et al., 2022; Benedetto et al., 2024; Sánchez-Moncayo et al., 2025). Cognitive restructuring helped students replace these irrational beliefs with more adaptive ways of thinking.

The effectiveness of the intervention may be explained by its direct focus on maladaptive cognitions underlying academic stress. By identifying cognitive distortions, evaluating evidence, and generating alternative interpretations, students became better able to regulate their emotional responses. Consequently, academic demands were perceived as manageable challenges rather than overwhelming threats, resulting in lower stress levels and stronger coping abilities.

Qualitative findings showed that students initially experienced pressure from parental expectations, academic evaluations, and social comparison through digital media. After the intervention, they recognized that much of their stress stemmed from negative interpretations and unrealistic perfectionistic demands. This cognitive awareness facilitated healthier coping strategies, greater cognitive flexibility, and improved emotional regulation.

From a developmental perspective, the effectiveness of cognitive restructuring may be linked to the characteristics of Generation Z, who frequently encounter achievement

pressure and social comparison. Consistent with previous studies, participants reported stress arising from parental expectations, academic demands, and peer comparisons (Matilda et al., 2025; Tahir & Prabowo, 2026; Hu et al., 2024; Song et al., 2024). The findings suggest that reducing academic stress requires not only addressing external pressures but also helping students reinterpret those pressures through more adaptive beliefs.

The implementation of group counseling also highlighted the therapeutic value of group dynamics. Initially, students hesitated to express their thoughts and emotions due to fear of negative judgment. However, as trust, openness, and mutual support developed, they became more willing to share their experiences. This process aligns with Meichenbaum's view that self-awareness is a foundation for cognitive and behavioral change (Erford, 2017). Therefore, the intervention's effectiveness was influenced by both cognitive restructuring techniques and supportive interpersonal interactions within the group.

The findings are consistent with previous studies demonstrating the effectiveness of CBT in reducing academic stress (Jagiello et al., 2025; Sustrami et al., 2026). However, this study provides additional evidence that cognitive change can be facilitated through group counseling processes characterized by trust, reflection, and peer support. The results also support prior research on cognitive-behavioral approaches in educational counseling (Faizin et al., 2025; Habsy et al., 2024; Khofifah et al., 2023). Unlike earlier studies, this research focused specifically on vocational high school students, thereby extending evidence on the applicability of cognitive restructuring-based group counseling in vocational education settings.

The study further revealed that academic stress among vocational students is shaped by interactions between internal factors, such as maladaptive thinking, low self-efficacy, and limited self-regulation, and external factors, including family pressure, vocational curriculum demands, academic competition, and limited social support. These interacting factors create a cycle of psychological pressure, indicating that academic stress requires comprehensive and collaborative interventions rather than solely individual-focused approaches.

These findings have important implications for school counseling services. Given that academic stress among Generation Z students is often linked to achievement pressure, social comparison, and high expectations (Matilda et al., 2025; Tahir & Prabowo, 2026; Hu et al., 2024; Song et al., 2024), school counselors may integrate cognitive restructuring into group counseling programs to help students reinterpret academic demands more adaptively. Such interventions may be particularly relevant in vocational schools, where students face both academic and practical competency requirements. Nevertheless, future studies with larger samples and longer follow-up periods are needed to examine the sustainability of these outcomes across different educational contexts.

Novelty of the Research

This study offers an innovative integration of cognitive restructuring techniques within group counseling services to address academic stress among Generation Z vocational high school students. Unlike previous studies that focused primarily on the general effectiveness of CBT interventions, this research highlights the role of cognitive restructuring in reducing

stress associated with digital culture, social comparison, overwhelm, and overachieving tendencies. The study therefore contributes to the advancement of evidence-based CBT counseling practices in school settings.

Implications and Contributions

The findings of this study have important practical implications for school guidance and counseling services in vocational high schools. School counselors can integrate cognitive restructuring techniques into group counseling programs as both preventive and remedial interventions for students experiencing academic stress. The five-session counseling model implemented in this study may serve as a practical framework for helping students identify negative automatic thoughts, challenge irrational beliefs, and develop more adaptive coping strategies toward academic demands. In addition, schools are encouraged to conduct early screening of academic stress, strengthen collaboration among counselors, teachers, and parents, and provide psychoeducational activities that promote emotional regulation, healthy achievement orientation, and resilience among Generation Z students. These efforts may contribute to creating a more supportive school environment for managing academic pressure and enhancing students' psychological well-being.

This study contributes to the development of Cognitive Behavioral Therapy (CBT)-based guidance and counseling practices by providing empirical evidence of the effectiveness of cognitive restructuring-based group counseling in reducing academic stress among Generation Z vocational high school students. Unlike previous studies that primarily focused on the general effectiveness of CBT interventions, this research highlights the role of cognitive restructuring in addressing maladaptive cognitions associated with overwhelm and overachieving tendencies within the context of digital culture, social comparison, and vocational education demands. Furthermore, the study enriches the evidence base for school counseling by demonstrating how CBT principles can be operationalized through structured group counseling services to support students' academic and psychological adjustment.

Research Limitations

This study has several limitations that should be acknowledged. First, the sample was relatively small, comprising only 9 students from one vocational high school, which may limit the generalizability of the findings to broader student populations. Second, the study focused only on female students from the Fashion Department, so the results may not fully represent students from different genders or vocational fields. Third, the intervention was conducted over a relatively short period, making it difficult to evaluate the long-term sustainability of participants' psychological changes. In addition, external factors such as family environment, social relationships, and digital media exposure were not examined in depth, even though these factors may also influence students' academic stress. Despite these limitations, the study provides meaningful insights into the effectiveness of cognitive restructuring-based group counseling for addressing academic stress among Generation Z students in vocational education settings.

Conclusion

This study demonstrates that cognitive restructuring-based group counseling is effective in reducing academic stress among Generation Z students in vocational high schools. The intervention's effectiveness was reflected in a significant decrease in students' academic stress scores after participating in the group counseling sessions, indicating that changes in maladaptive thinking patterns improved students' ability to cope with academic pressure more adaptively. The cognitive restructuring technique helped students identify and reconstruct cognitive distortions such as catastrophizing, fear of failure, and perfectionistic beliefs, which had previously reinforced feelings of overwhelm and overachievement.

The findings also revealed that academic stress among Generation Z students is influenced not only by academic demands but also by social pressure, digital culture, and excessive achievement orientation. In this context, group counseling provided a therapeutic space where students could obtain social support, enhance self-awareness, and develop healthier emotional regulation and coping strategies. Therefore, this study confirms that cognitive restructuring-based group counseling can serve as an evidence-based guidance and counseling approach relevant to supporting the mental health and psychological well-being of Generation Z students in vocational education environments.

Author Contributions

D.F.A: Conceptualization, methodology, investigation, formal analysis, writing - original draft, and project administration. P.U. Conceptualization. Data curation, validation, Writing - review & editing. T.A: Conceptualization. Writing - review & editing. Y.M.B. Conceptualization. Writing - review & editing. A.J.I. Conceptualization. Writing - review & editing.

Declaration of Conflicting Interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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