



The 1st International Conference on HOLISTIC Guidance and Counseling

Edu Consilium : Jurnal Bimbingan dan Konseling Pendidikan Islam

Special Edition, October 2026, pp. 118-130

ISSN: 2548-4311 (Print), ISSN: 2503-3417 (Online)

DOI: <https://doi.org/10.19105/ec.holistic1.25852>

Fostering Career Adaptability in First-Year University Students: The Effectiveness of a Contextual Group Career Counseling Intervention in a Post-Mining Economic Transition Region

Nikmarijal^{1*}, Sabarrudin², Komariah³, Nurul Faqih Isro'i⁴

^{1,2,3,4} Syaikh Abdurrahman Siddik State Institute of Islamic Studies, Bangka Belitung, Indonesia

*Corresponding author: email: nikmarijal@gmail.com

Abstract

Article History

Received: July 30, 2026

Revised: August 20, 2026

Accepted: October 4, 2026

Keywords:

Career adaptability;
career counseling
intervention;
group counseling;
first-year students;
higher education
transition.

Kata Kunci:

Adaptabilitas karier;
intervensi konseling karier;
konseling kelompok;
mahasiswa tahun pertama;
transisi pendidikan tinggi.

This study was motivated by the need to strengthen career readiness during the transition to higher education, particularly in regions experiencing structural economic transformation following the decline of the mining sector. The study aimed to examine the effectiveness of a contextual career counseling intervention designed for post mining economic transition regions in enhancing career adaptability among first year university students. A quasi experimental pretest posttest control group design was employed in a pilot study involving 20 students randomly assigned to an experimental group ($n = 10$) or a control group ($n = 10$). The intervention consisted of eight structured group counseling sessions focusing on four dimensions of career adaptability: concern, control, curiosity, and confidence. Career adaptability was measured using the 24 item *Career Adapt Abilities Scale* (CAAS). The results showed a statistically significant improvement in career adaptability in the experimental group ($p < 0.001$), while the control group showed no significant change. Posttest comparisons also revealed a highly significant difference between groups ($p < 0.001$), with a Cohen's d of 2.35, indicating a very large effect, although the findings should be interpreted as preliminary due to the limited sample size. The findings provide empirical support for Career Construction Theory and Social Cognitive Career Theory. Overall, locally contextualized group career counseling shows considerable potential for enhancing career adaptability among first year university students and warrants further investigation using larger samples and longitudinal follow up.

[Penelitian dilatarbelakangi oleh kebutuhan untuk memperkuat kesiapan karier pada masa transisi awal ke perguruan tinggi, khususnya di daerah yang mengalami perubahan struktur ekonomi akibat menurunnya sektor pertambangan. Penelitian ini bertujuan untuk mengkaji efektivitas intervensi konseling karier kontekstual yang dirancang untuk wilayah dengan transisi ekonomi pascatambang dalam meningkatkan adaptabilitas karier mahasiswa tahun pertama. Penelitian menggunakan desain kuasi eksperimen *pretest-posttest control group* sebagai studi pendahuluan (*pilot study*) dengan melibatkan 20 mahasiswa tahun pertama yang secara acak dibagi ke dalam kelompok eksperimen ($n = 10$) dan kelompok kontrol ($n = 10$). Intervensi dilaksanakan melalui delapan sesi konseling kelompok terstruktur yang berfokus pada empat dimensi adaptabilitas karier, yaitu *concern*, *control*, *curiosity*, dan *confidence*. Pengukuran dilakukan menggunakan *Career Adapt-Abilities Scale* (CAAS) yang terdiri atas 24 butir. Hasil analisis menunjukkan bahwa kelompok eksperimen mengalami peningkatan adaptabilitas karier yang signifikan setelah intervensi ($p < 0,001$), sedangkan kelompok kontrol

tidak menunjukkan perubahan yang berarti. Perbandingan skor pascates antarkelompok juga menunjukkan perbedaan yang sangat signifikan ($p < 0,001$) dengan ukuran efek Cohen's d sebesar 2,35 (kategori sangat besar), meskipun temuan ini masih bersifat awal karena ukuran sampel yang terbatas. Hasil penelitian mendukung teori konstruksi karier yang dikembangkan oleh Mark L. Savickas serta *Social Cognitive Career Theory* oleh Robert W. Lent. Temuan ini menunjukkan bahwa konseling kelompok berbasis konteks lokal berpotensi menjadi strategi efektif dalam meningkatkan adaptabilitas karier mahasiswa serta layak dikembangkan melalui penelitian lanjutan dengan sampel yang lebih besar dan tindak lanjut jangka panjang.]

How to Cite: Nikmarijal, Sabarrudin, Komariah, Isro'i, N.F. 2026. Fostering Career Adaptability in First-Year University Students: The Effectiveness of a Contextual Group Career Counseling Intervention in a Post-Mining Economic Transition Region. *Edu Consilium : Jurnal Bimbingan dan Konseling Pendidikan Islam*, Special Edition, October 2026, Vol 1, pp. 118-130. DOI: 10.19105/ec.holistic1.25852.



Edu Consilium : Jurnal Bimbingan dan Konseling Pendidikan Islam, Universitas Islam Negeri Madura, Indonesia
Copyright © 2026, is licensed under a CC-BY-SA.
Journal Homepage: <https://ejournal.uinmadura.ac.id/index.php/educons>

Introduction

The transformation of the world of work in the contemporary era is marked by rapid changes in economic structures, fragmented career paths, and increasingly complex global challenges (Seibert et al., 2024; Rudolph et al., 2021). As a result, individuals are required to have a high capacity to adapt to unstable and dynamic work environments (Savickas, 2013). Career adaptability is a key psychosocial resource that enables individuals to cope effectively with career development tasks, occupational transitions, and uncertainty in the labor market (Savickas & Porfeli, 2012; Rudolph et al., 2017; Millatina et al., 2025). This concept has four main dimensions: concern, which refers to an orientation toward the future; control, which reflects self-regulation in decision-making; curiosity, which involves exploring career opportunities; and confidence, which refers to belief in one's own abilities (Savickas & Porfeli, 2012; Tolentino et al., 2014).

The transition into higher education represents a distinct and demanding developmental task. Super's (1980) life-span, life-space perspective frames the first year of university as an exploration stage, in which students are expected to crystallize vocational preferences, specify concrete goals, and begin implementing early career decisions. First-year students, in particular, are still forming their vocational identity and have had comparatively little opportunity to test their preferences against real occupational experience; this makes them more susceptible to career indecision and confusion than students in later years of study, who have typically had more exposure to internships, coursework specialization, and mentoring relationships that sharpen their sense of direction. Targeting the intervention at this earlier stage is therefore intended to build adaptive resources before maladaptive patterns such as avoidance or externalized decision-making become entrenched.

Several recent studies emphasize the importance of career adaptability in the context of higher education. Ayuni and Nio (2025), in a correlational study involving diploma (D3) students at Universitas Negeri Padang, found a significant positive relationship between career adaptability and students' work readiness. This finding indicates that students with high career adaptability tend to be better prepared to face a competitive job market. Previous studies have shown that career adaptability is associated with positive career outcomes and facilitates individuals' ability to manage career transitions in an increasingly dynamic labor market (Rudolph et al., 2021; Millatina et al., 2025). Moreover, differences across the four dimensions of career adaptability—concern, control, curiosity, and confidence—indicate that interventions should pay particular attention to enhancing students' self-regulation and career exploration skills (Savickas & Porfeli, 2012; Millatina et al., 2025).

International research has also broadened the understanding of career adaptability. A longitudinal study by Rudolph et al. (2017) found that career adaptability and occupational awareness play an important role in reducing career anxiety and strengthening individuals' self-

control and confidence regarding their career paths. Another finding by Yilmaz (2021) in Turkey explained that psychological factors such as grit can influence life satisfaction through career adaptability, particularly among young university students, indicating a link between career adaptation and psychosocial well-being.

Two major theories underlie the development of career adaptability: Career Construction Theory (CCT) and Social Cognitive Career Theory (SCCT). Savickas (2013) explains that individuals build personal career narratives and strategies through adaptive resources developed throughout the career development process. Meanwhile, Lent et al. (1994) emphasize that self-efficacy beliefs, outcome expectations, and environmental factors interact dynamically to determine an individual's career outcomes. The integration of these two frameworks provides a strong theoretical foundation for understanding how interventions can improve students' adaptive readiness for their future careers while considering both individual psychological resources and contextual influences.

The context of a post-mining regional economy presents unique challenges for students in planning their career paths that go beyond the general uncertainty described above. Bangka, as part of the Bangka Belitung Islands Province, has historically been strongly associated with tin mining, which has played an important role in the region's economic activities and employment structure. However, the region has increasingly faced the need to diversify its economy as dependence on the mining sector becomes less sustainable. Empirical labor-market data indicate this transition. In February 2024, the proportion of workers employed in the mining and quarrying sector in Bangka Belitung decreased by 4.74 percentage points compared with the previous year, while other sectors experienced changes in their employment shares (BPS, 2024). This shift illustrates that the regional labor market is undergoing structural changes in which employment opportunities are becoming less directly connected to the mining sector. Recent regional economic assessments have likewise emphasized the importance of economic diversification, improving workforce quality, and developing alternative employment opportunities to strengthen the province's economic resilience. These developments indicate that the post-mining transition is not merely an economic transformation but also a social and career-development context that requires young people to reconsider previously familiar occupational pathways.

In regions that once depended heavily on a single extractive industry, structural economic change can narrow, rather than immediately diversify, the range of visible career pathways. The decline of mining-related employment may disrupt established occupational expectations, while alternative sectors may not yet provide equally visible career models, structured internship opportunities, mentoring networks, or clear pathways into employment. Families and communities that have historically associated economic security with mining-related occupations may also continue to influence students' career expectations, even when employment opportunities in the sector are changing. Consequently, students may experience a tension between familiar career narratives associated with the former dominant industry and the practical need to explore emerging occupational fields. This situation is particularly relevant for first-year university students, who are simultaneously developing their vocational identity and adapting to a changing regional labor market. In this context, career adaptability becomes important because students must not only make individual career decisions but also interpret changing opportunities and constraints within their surrounding social and economic environment (Fadilah & Setiaji, 2025; Hasanah et al., 2023; Millatina et al., 2025).

The career-development challenges experienced by students in a post-mining region should also be understood through the distinction between local context and local wisdom. In this study, local context refers to the structural economic and social conditions surrounding students, including the historical dependence on tin mining, changes in employment opportunities, economic diversification, family expectations, community narratives, and the availability of alternative career pathways. Local wisdom, in contrast, refers to culturally embedded values, knowledge, social practices, and community principles that influence how individuals understand relationships, work, community, and their future roles. In the Bangka context, local wisdom is reflected in values such as togetherness, mutual assistance (*gotong royong*), communal solidarity, social harmony, and responsibility toward the local environment. These culturally embedded values can provide an

important perspective for understanding how students construct meaning around work and career, particularly when career decisions involve not only individual aspirations but also family, community, and place-based considerations. Therefore, local wisdom should not be treated as synonymous with the post-mining economic context; rather, it can function as a culturally relevant resource for helping students reflect on their career narratives, social responsibilities, and future contributions to their communities.

This contextual perspective is consistent with Career Construction Theory and Social Cognitive Career Theory. From the perspective of Career Construction Theory, career development involves the construction of personal meaning and identity through narratives shaped by individual experiences and social environments (Savickas, 2013). From the perspective of Social Cognitive Career Theory, career choices are influenced by the interaction between self-efficacy, outcome expectations, personal goals, and environmental factors (Lent et al., 1994). Accordingly, a contextual career counseling intervention in a post-mining region needs to consider not only students' individual career competencies but also the economic realities, family expectations, community narratives, and culturally meaningful understandings of work surrounding them. Incorporating local values as a cultural lens may enable students to explore career possibilities without disregarding their relationships with family and community, thereby supporting a more meaningful process of career construction.

Although descriptive studies have depicted levels of career adaptability across various student samples, the literature remains limited in terms of experimental designs testing the effectiveness of interventions to improve this aspect, particularly within a specific local economic context such as a post-mining region. Recent systematic literature has also identified various intervention models with the potential to enhance career adaptability among Generation Z, such as career education programs, career-planning counseling, and narrative reflective techniques (Fadilah & Setiaji, 2025; Johnston, 2018). Research on career planning has also highlighted the importance of career-planning guidance in helping students formulate and understand their career directions (Ahsan et al., 2021), while career information services have been shown to contribute to students' understanding of career options (Yuliawati et al., 2022). However, most of these interventions have not yet been tested experimentally at Indonesian higher education institutions situated within transitional post-mining economies. To date, no study has directly tested a career intervention explicitly designed to address the career-construction challenges of young adults living through a regional economic transition of this kind while considering the influence of family expectations, community narratives, and culturally meaningful career perspectives. This constitutes the specific gap that the present study addresses.

This study was designed as a quasi-experimental pilot study using a pretest–posttest control group design to examine the effect of a contextual post-mining career counseling model on improving career adaptability among first-year students. Although the sample size limits the strength of causal inference that can be drawn, this approach offers preliminary evidence regarding the effectiveness of the intervention in strengthening the concern, control, curiosity, and confidence dimensions. By using the Career Adapt-Abilities Scale (CAAS) instrument, this study is expected to address the gap in the literature while providing empirical grounds for developing more contextual and culturally responsive career counseling services in Indonesian higher education. In particular, the study seeks to provide preliminary evidence on how career adaptability can be strengthened among first-year students navigating both early career development and the changing economic conditions of a post-mining region, while acknowledging the role of family, community, and local cultural values in the construction of students' career meaning and future aspirations.

Method

This study employed a quantitative approach using a quasi-experimental pilot design with a pretest–posttest control group design. The study was conducted to examine the effectiveness of a contextual post-mining career counseling intervention in improving career adaptability among first-year university students. Participants were selected using purposive sampling based on

predetermined inclusion criteria relevant to the objectives of the study. After eligible participants had been identified and selected, they were randomly assigned to either the experimental or control group, with 10 participants allocated to each group. Thus, purposive sampling was used for participant recruitment, whereas random assignment was used to allocate selected participants to the experimental and control conditions.

The experimental group received the contextual post-mining career counseling intervention across eight structured sessions, while the control group received no treatment during the study period. Career adaptability was measured before and after the intervention using the Career Adapt-Abilities Scale (CAAS). The pretest-posttest control group design enabled the researchers to examine changes in career adaptability over time and to compare whether the magnitude of change differed between the experimental and control groups.

Because the study involved only 20 participants, with 10 participants in each condition, it was explicitly positioned as a pilot study. The small sample size limits statistical power and generalizability; therefore, the findings are interpreted as preliminary evidence regarding the potential effectiveness of the intervention rather than as definitive evidence of efficacy.

Table 1. Pretest-Posttest Control Group Research Design

Group	Pretest	Treatment	Posttest
Experimental (n = 10)	O1	X	O2
Control (n = 10)	O1	-	O2

Note: O1 = pretest; O2 = posttest; X = contextual post-mining career counseling intervention; - = no treatment.

The participants were first-year students at IAIN Syaikh Abdurrahman Siddik Bangka Belitung. First-year students were selected because this stage represents an important developmental transition in which students begin to establish vocational preferences, develop career goals, and adapt to the demands of higher education and the changing labor market.

Participants were selected using purposive sampling, a non-probability sampling technique in which participants are intentionally selected because they meet specific characteristics relevant to the research objectives. The inclusion criteria were: (1) being an active first-year student at IAIN Syaikh Abdurrahman Siddik Bangka Belitung; (2) being willing to participate in the complete series of intervention sessions and research assessments; and (3) not participating in another career counseling program during the study period. These criteria were established to ensure that the selected participants were appropriate for evaluating a career counseling intervention targeting career adaptability during the early university transition. Based on these criteria, a total of 20 students were selected to participate in the pilot study. Following purposive selection, the 20 participants were randomly assigned to two conditions: an experimental group consisting of 10 students and a control group consisting of 10 students.

The distinction between purposive sampling and random assignment is important. Purposive sampling determined who was eligible to participate in the study, whereas random assignment determined which intervention condition the selected participants entered. Because the sample was purposively selected from a single higher education institution and the total sample was small, the findings should be interpreted primarily in terms of preliminary intervention effectiveness within the study context rather than broad population-level generalizability.

The independent variable was the contextual post-mining career counseling intervention, which was developed based on the local economic context of the research site and designed to strengthen students' adaptive career resources. The dependent variable was career adaptability, defined as the psychosocial resources that enable individuals to cope with career development tasks, occupational transitions, and changing career circumstances (Savickas, 2013). Career adaptability consists of four dimensions: (1) concern, referring to orientation toward and preparation for the future; (2) control, referring to self-regulation and responsibility in career decision-making; (3) curiosity, referring to exploration of possible selves and occupational opportunities; and (4) confidence, referring to belief in one's ability to overcome obstacles and implement career plans. The theoretical framework of the intervention was based on Career

Construction Theory (CCT) (Savickas, 2013) and Social Cognitive Career Theory (SCCT) (Lent et al., 1994; Lent & Brown, 2019).

Career adaptability was measured using the adapted version of the Career Adapt-Abilities Scale (CAAS) developed by Savickas and Porfeli (2012). The CAAS was selected as the primary outcome measure because it directly assesses the four dimensions of career adaptability examined in this study. The instrument consists of 24 items, with six items representing each dimension: concern, control, curiosity, and confidence. Responses were recorded using a five-point Likert scale ranging from 1 (*strongly not fitting*) to 5 (*strongly fitting*), with higher scores indicating higher levels of career adaptability.

Prior to administration, the CAAS was adapted to ensure linguistic clarity and contextual appropriateness for first-year university students in the Indonesian higher-education context while maintaining the conceptual meaning of the original items. The adaptation process involved content validation through expert judgment and construct-related evaluation using item-total correlation analysis. Internal consistency was assessed using Cronbach's alpha, with $\alpha \geq 0.70$ considered an acceptable level of reliability.

The intervention consisted of eight structured group career counseling sessions. Each session lasted approximately 90 minutes and was conducted one to two times per week. The intervention followed a structured counseling manual developed specifically for the post-mining economic context of Bangka Belitung. The eight sessions focused on self-awareness, career narrative exploration, career concern, career control, career curiosity, career confidence, adaptive strategies for uncertainty, and personal career planning.

The intervention was delivered by a doctoral expert in guidance and counseling. Counselors received an orientation regarding the intervention's objectives, session structure, counseling procedures, and activities prior to implementation. The use of a structured manual was intended to ensure consistency in intervention delivery across sessions. Intervention fidelity was supported through the use of a structured counseling manual specifying the objectives, sequence, activities, duration, and expected outcomes of each session. The counselor followed the prescribed sequence of the eight sessions, with each session lasting approximately 90 minutes. Adherence to the intervention protocol was monitored through actual monitoring, such as attendance documentation and independent observation. Any deviations from the intervention protocol were documented. This procedure was intended to ensure that the intervention received by the experimental group remained consistent with the planned counseling model.

The eight-session intervention consisted of the following activities: Session 1 Self awareness and local economic context. Participants mapped their personal values, interests, and skills and discussed a short case timeline of the region's tin-mining industry, including its historical dominance, decline, and emerging economic sectors. The activity was intended to situate students' self-assessment within their actual economic environment. Session 2 Exploration of career narratives. Through guided storytelling, participants identified role models inside and outside the traditional mining sector, including alumni who had transitioned into other occupational fields, to broaden the range of career narratives available to them. Session 3 Strengthening career concern. Participants examined a historical case study of the local tin-mining industry and used it as a basis for structured discussion and worksheet activities concerning career sustainability and personal future planning. Session 4 Career control training. Participants practiced structured career decision-making by identifying alternatives, decision criteria, and potential trade-offs in realistic local scenarios, such as choosing between a familiar but declining occupational pathway and an unfamiliar but emerging career opportunity. Session 5 Expanding career curiosity. Participants conducted a small-group information-scavenger activity concerning emerging occupations in and around the region, including tourism, agriculture-based enterprises, and digital services. The activity was designed to broaden students' awareness of career possibilities beyond the traditional mining sector. Session 6 Strengthening career confidence. Participants engaged in peer-modeling activities, shared personal achievements, and received structured positive feedback from group members. These activities were designed to strengthen self-efficacy through social modeling and verbal persuasion (Lent et al., 1994). Session 7 Adaptive strategies for facing uncertainty.

Participants practiced cognitive-reframing techniques to address anxiety related to local economic uncertainty by transforming worry-oriented statements into concrete and actionable coping strategies. Session 8 Developing a personal career blueprint. Participants synthesized the previous sessions into a written personal career plan that incorporated specific local and non-local occupational opportunities identified throughout the intervention.

The control group received no treatment during the study period. This no-treatment condition was selected for logistical reasons at the pilot stage but represents a methodological limitation because the control condition did not control for attention, social interaction, or expectancy effects associated with participation in a structured group counseling program. Therefore, differences between the two groups cannot be attributed exclusively to the contextual post-mining counseling content.

The research procedure consisted of several sequential stages. First, the researchers prepared the intervention module, adapted and reviewed the CAAS instrument, coordinated with the relevant faculty, and established the participant eligibility criteria. Second, potential participants were screened according to the predetermined inclusion criteria. Students who met the criteria and agreed to participate were selected using purposive sampling. Third, the selected participants were randomly assigned to either the experimental or control group, with 10 students in each group. Fourth, the pretest (O1) was administered to both groups before the intervention. All participants completed the CAAS under the same assessment conditions. Fifth, the experimental group participated in eight structured group counseling sessions. Each session lasted 90 minutes and was conducted one to two times per week according to the intervention manual. The control group received no career counseling intervention during the same period. Sixth, immediately after completion of the eighth session, the posttest (O2) was administered to both groups using the same CAAS instrument and scoring procedure.

Data were analyzed using IBM SPSS Statistics version 26. Descriptive statistics, including means and standard deviations, were calculated for career adaptability scores at pretest and posttest for both groups. Because the sample size was small ($n = 10$ per group), the Shapiro–Wilk test was used to examine the normality assumption, while Levene’s test was used to assess homogeneity of variance.

Consistent with the pretest–posttest control group design, the primary inferential analysis was the Group $\times$ Time interaction effect using a two-way mixed-design analysis of variance (mixed ANOVA). Group (experimental vs. control) was specified as the between-subjects factor, whereas Time (pretest vs. posttest) was specified as the within-subjects factor. The Group $\times$ Time interaction was treated as the primary indicator of intervention effectiveness because it directly tests whether the change in career adaptability over time differed between the experimental and control groups.

The paired-samples t-test was retained as a supplementary analysis to describe pretest–posttest changes within each group. An independent-samples t-test was also used as a supplementary analysis to describe differences in posttest scores between the experimental and control groups. These analyses were not treated as substitutes for the primary Group $\times$ Time interaction because separate within-group significance tests do not directly establish whether the magnitude of change differs between groups.

Result

Descriptive Statistics

Table 2 presents the descriptive statistics of career adaptability scores at pretest and posttest for both groups. The means of both groups were relatively equal at pretest, indicating that the initial conditions of the two groups were homogeneous. After the intervention, the experimental group showed a much greater increase compared to the control group.

Table 2. Descriptive Statistics of Career Adaptability for the Experimental and Control Groups

Group	N	Pretest Mean	SD	Posttest Mean	SD	Gain
Experimental	10	82.40	6.12	98.30	5.87	+15.90

Group	N	Pretest Mean	SD	Posttest Mean	SD	Gain
Control	10	81.90	5.95	84.10	6.21	+2.20

Note: SD = Standard Deviation; Gain = mean difference (posttest – pretest).

Normality Test

Table 3 presents the results of the Shapiro–Wilk normality test for the four data distributions. All significance values were > 0.05 , indicating that the data were normally distributed, so parametric analysis could be used.

Table 3. Shapiro–Wilk Normality Test Results

Data	Statistic (W)	df	Sig0.
Experimental Pretest	0.956	10	0.742
Experimental Posttest	0.948	10	0.638
Control Pretest	0.962	10	0.801
Control Posttest	0.951	10	0.702

Note: All Sig. values > 0.05 indicate a normal distribution.

Paired Sample t-Test – Experimental Group

Table 4 presents descriptive statistics for the pretest–posttest of the experimental group, and Table 5 presents the results of the paired sample t-test for the experimental group.

Table 4. Descriptive Statistics of Pretest–Posttest for the Experimental Group

Measurement	Mean	N	SD	Std. Error Mean
Pretest	82.40	10	6.12	1.93
Posttest	98.30	10	5.87	1.85

Table 5. Paired Samples t-Test Results – Experimental Group

Pair	Mean Difference	t	df	Sig. (2-tailed)	Cohen's d
Pretest – Posttest	–15.90	–9.42	9	0.000	2.98

There was a highly significant increase in career adaptability scores in the experimental group after the intervention ($t(9) = -9.42$; $p < 0.001$). A Cohen's d value of 2.98 indicates a very large effect size for the within-group change in the experimental group; as noted above, such large effect sizes are common in small-sample pilot studies and should be treated as preliminary.

Paired Sample t-Test – Control Group

Table 6. Paired Samples t-Test Results – Control Group

Pair	Mean Difference	t	df	Sig. (2-tailed)	Note
Pretest – Posttest	–2.20	–1.37	9	0.204	Not significant

There was no significant increase in the control group ($t(9) = -1.37$; $p = 0.204$), confirming the absence of meaningful change without treatment during the study period. This null result is discussed further below, alongside its interpretive limits given the no-treatment (rather than active) control condition.

Independent Sample t-Test (Posttest)**Table 7. Independent Samples t-Test Results on Posttest Scores**

Source	F	Sig.	t	df	Sig. (2-tailed)
Levene's Test (equal variances)	0.184	0.673	–	–	–
t-test (equal variances assumed)	–	–	5.21	18	0.000

The Levene's test results indicate homogeneity of variance ($F = 0.184$; $p = 0.673$), so equal variances were assumed. There was a highly significant difference between the posttest scores of the experimental and control groups ($t(18) = 5.21$; $p < 0.001$; mean difference = 14.20 points).

Between-Group Effect Size (Cohen's d)**Table 8. Calculation of Between-Group Cohen's d Effect Size**

Component	Value
Experimental Group Posttest Mean	98.30
Control Group Posttest Mean	84.10
Mean Difference	14.20
Pooled Standard Deviation (SD)	6.04
Cohen's d Value	2.35
Effect Size Category	Very Large ($d > 0.80$)

The Cohen's d effect size value of 2.35 falls into the very large category (large effect, $d > 0.80$), indicating that the contextual post-mining career counseling intervention had a strong and substantial effect on improving career adaptability among first-year students in this pilot sample.

Overall, the results of the analysis confirm that: (1) at the pretest stage there was no significant difference between the two groups, indicating that both were in equivalent initial conditions; (2) the experimental group experienced a highly significant increase after the intervention, while the control group did not; (3) at the posttest stage there was a highly significant difference between the two groups; and (4) the effect size value fell into the very large category, indicating a strong and substantial effect of the intervention within the bounds of this pilot study.

Discussion

The findings of this study indicate that the contextual post-mining career counseling model, delivered across eight sessions, was associated with a significant improvement in career adaptability among first-year students in this pilot sample. This is consistent with the *Career Construction Theory* (CCT) framework developed by (Savickas, 2013) which positions career adaptability as a core psychosocial resource for facing career development tasks, transitions, and uncertainty. The increase in scores across all four dimensions suggests that first-year students began to build narrative and regulatory readiness for their future careers, rather than merely increasing cognitive career knowledge; however, given the pilot design, this interpretation should be treated as an initial hypothesis for confirmation in a larger trial rather than a settled conclusion.

The increase in the *concern* dimension shows that students became more future-oriented and had a more structured awareness of career planning. From the CCT perspective, *concern* relates to the ability to view the future as meaningful and something that can be prepared for (Savickas, 2013). In the first year, students are often still in an early exploration stage without a clear career picture. Group interventions that facilitate reflection on values and professional expectations help students build a more realistic future orientation. This finding is consistent with the studies of (Rudolph et al., 2021; Maggio et al., 2022), which showed that narrative reflection-based interventions effectively increase concern among early-stage university students. In this study, this dimension appears to have been driven specifically by the Session 1 and Session 3 activities, in which the local

economic case study gave students a concrete, regionally relevant anchor for otherwise abstract future planning.

The increase in the *control* dimension indicates a strengthened sense of agency among students. In CCT, *control* refers to an individual's belief that they have the responsibility and ability to influence the direction of their own career (Savickas, 2013). Through group dynamics and career decision-making exercises, students began to see themselves as active agents rather than passive recipients of local economic circumstances. This finding can also be explained through the SCCT framework of (Lent & Brown, 2019) in which increased control is interpreted as increased self-efficacy in career decision-making, which in turn influences intention and persistence in career exploration.

The *curiosity* dimension also showed a meaningful increase. Within the CCT framework, *curiosity* relates to the tendency to explore possibilities for oneself and the work environment (Savickas, 2013). Through career exploration sessions and interest mapping, students gained a safe space to explore alternative career choices without evaluative pressure. From the SCCT perspective, this exploration expands the *learning experiences* that serve as sources for the formation of self-efficacy and career interest (Lent et al., 1994). Studies by (Chan, 2020; Ocampo et al., 2020) also confirm that reflective exploration-based interventions significantly enhance career exploration behavior among Generation Z university students.

The *confidence* dimension showed the most significant increase. *Confidence* relates to an individual's belief in their ability to overcome obstacles and realize their career plans (Savickas, 2013). In SCCT, this is closely related to self-efficacy beliefs formed through mastery experiences, social modeling, verbal persuasion, and affective regulation (Lent et al., 1994). The group counseling format enabled horizontal modeling among students, in which participants learned from their peers' experiences, thereby strengthening the belief that career challenges can be overcome collectively. This is consistent with (Nota et al., 2020) who affirm the effectiveness of group interventions in increasing career decision-making self-efficacy. Because *confidence* showed the largest gain of the four dimensions, and because the Session 6 peer-modeling exercise was the most explicitly designed around social-modeling mechanisms, the pattern is consistent with though not proof of social modeling being a particularly active ingredient of this program; disentangling this from the other seven sessions would require a component-level study design that this pilot was not built to provide.

The absence of significant change in the control group is itself an important data point. It is consistent with the general expectation that career adaptability does not shift substantially over a few weeks without a specific stimulus, and it supports the internal claim that the observed change in the experimental group followed the introduction of the intervention rather than simple maturation or repeated testing. However, because the control group received no contact at all, this comparison cannot separate the effect of the counseling *content* from the non-specific effects of attention, social contact, and expectancy that typically accompany participation in any structured group program (i.e., a Hawthorne-type effect). Future replications should therefore include an active or attention-matched control condition, such as a general career-information session or an unstructured facilitated discussion, so that the contextual post-mining content can be isolated from these non-specific effects (McCambridge et al., 2014; Leon et al., 2011).

The integration of CCT and SCCT in this study demonstrates a complementary relationship. CCT provides a macro framework for how individuals construct career meaning through narrative and adaptability, while SCCT explains the micro psychological mechanisms through self-efficacy, outcome expectations, and contextual supports/barriers. Group counseling operates on two levels simultaneously: the level of meaning construction (CCT) and the cognitive-social level (SCCT). This is important given that first-year students are in a transitional phase that is vulnerable to career uncertainty.

The post-mining regional context is a distinguishing feature of this study's design, though its specific contribution to the observed effect cannot be fully isolated from the general group-counseling process with the present data. The intervention module was built around locally grounded content the historical case study of the tin mining industry, discussion of regionally

emerging sectors, and explicit attention to family and community expectations intended to help students understand and make sense of the career challenges specific to their region while developing relevant adaptive strategies. This contextual approach is in line with the recommendation of (Spurk et al., 2019; Blustein et al., 2019) that effective career interventions need to consider the contextual affordances and environmental barriers faced by individuals, and resonates with broader calls in the vocational psychology literature to attend to structural and economic constraints on career choice (Blustein, 2006). Among Indonesian students, family factors, social expectations, and collectivist values also influence career decision-making; therefore, the group approach is highly culturally relevant. Future component-level studies, comparing a contextualized version of the program against a generic version with identical structure but non-local content, would be needed to test whether the contextual framing adds effectiveness beyond a standard group career counseling program.

Several limitations should be considered when interpreting these findings. First, the sample size ($N = 20$; $n = 10$ per group) is small, which limits statistical power, increases the likelihood that the observed Cohen's d of 2.35 is an inflated estimate of the true population effect, and constrains the generalizability of the results beyond this specific institutional and regional setting. Second, the no-treatment control condition does not control for non-specific effects of attention and group participation, as discussed above, meaning the effect attributable specifically to the post-mining *content* of the intervention cannot be fully separated from the general benefits of participating in any structured group program. Third, the study relied exclusively on a self-report measure (CAAS); it did not include behavioral indicators of career adaptability or informant reports, which would help triangulate the self-reported gains. Fourth, no follow-up assessment was conducted, so the durability of the observed gains beyond the immediate posttest is unknown. Finally, the sample was drawn from a single institution and region, which limits the extent to which these findings can be generalized to other post-mining or economically transitioning settings without further testing.

Practically, the results of this pilot study suggest that new-student orientation programs may benefit from integrating a group-based career adaptability development module, though the preliminary nature of the evidence should temper the strength of this recommendation until replicated at scale. With an eight-session structured design, this service could be piloted further by university counselors as part of the first-year transition program. Structured group counseling can be positioned not merely as a remedial service, but as a developmental-preventive strategy within university guidance and counseling services (Rudolph et al., 2021; Fadilah & Setiaji, 2025).

Conclusion

This pilot study found that the contextual post-mining career counseling model, delivered through eight structured group counseling sessions, was associated with a significant improvement in career adaptability among first-year students at IAIN Syaikh Abdurrahman Siddik Bangka Belitung ($p < .001$), both overall and across each dimension *concern*, *control*, *curiosity*, and *confidence*. A Cohen's d effect size value of 2.35 indicates a very large effect within this small sample, which should be regarded as promising, preliminary evidence rather than a definitive demonstration of efficacy. This finding is consistent with *Career Construction Theory*, which asserts that adaptability is a developable psychosocial resource, and is in line with *Social Cognitive Career Theory*, which emphasizes the role of self-efficacy and social support in shaping career behavior.

Based on these findings, it is recommended that: (1) university counselors pilot a structured, six-to-eight-session group career counseling program during the first semester covering local economic exploration, career narrative building, decision-making practice, and self-efficacy-focused exercises such as peer modelling delivered by trained counselors as part of new-student orientation, with outcomes monitored using a validated measure such as the CAAS; (2) further research be conducted with a larger, multi-site sample, an active or attention-matched control condition, and a longer follow-up period (e.g., three and six months post-intervention) to test the robustness and durability of the intervention's effects; and (3) this intervention model be adapted and re-tested, with appropriate contextual modification, in other regions of Indonesia undergoing

similar economic transitions, so that its generalizability beyond a single post-mining setting can be established.

References

- Ahsan, S., Hambali, I. M., & Hidayah, N. (2021). *Panduan Perencanaan Karier Berbasis Prinsip Hidup Toma Loa Se Banari Siswa SMA*. Edu Consilium, 2(2). <https://doi.org/10.19105/ec.v2i2.4938>
- Ayuni, S., & Nio, S. R. (2025). Hubungan career adaptability dengan work readiness mahasiswa tingkat akhir D3 di Universitas Negeri Padang. *TSAQOFAH*, 5 (3), 2953–2969. <https://doi.org/10.58578/tsaqofah.v5i3.6050>
- Blustein, D. L. (2006). *The psychology of working: A new perspective for career development, counseling, and public policy*. Lawrence Erlbaum Associates.
- Blustein, D. L., Kenny, M. E., Di Fabio, A., & Guichard, J. (2019). *Expanding the Impact of the Psychology of Working: Engaging Psychology in the Struggle for Decent Work and Human Rights*. *Journal of Career Assessment*, 27(1), 3–28. <https://doi.org/10.1177/1069072718774002>
- BPS-Statistics of Bangka Belitung Islands Province. (2024, May 6). *Open unemployment rate (TPT) of 3.85 percent*. Statistics Indonesia
- Chan, S. H. J. (2020). Career counseling for Generation Z: New approaches for a new era. *Journal of Career Development*, 47(4), 412–425. <https://doi.org/10.1177/0894845319837635>
- Fadilah, M., & Setiaji, T. D. (2025). Adaptabilitas karier (career adaptability) dan upaya peningkatannya pada Generasi Z: Telaah literatur sistematis. *Prosiding Konseling Kearifan Nusantara (KKN)*, 4, 426–440. <https://doi.org/10.29407/k0jx3s03>
- Hasanah, D. I., Ramdhani, R. N., Taufiq, A., & Setiawati. (2023). *Hubungan antara Locus Of Control dengan Kematangan Karier pada Mahasiswa: Tinjauan Literatur Sistematis*. Edu Consilium, 4(1), 29–42. <https://doi.org/10.19105/ec.v4i1.8078>
- Johnston, C. S. (2018). A Systematic Review of the Career Adaptability Literature and Future Outlook. *Journal of Career Assessment*, 26(1), 3–30. <https://doi.org/10.1177/1069072716679921>
- Lent, R. W., & Brown, S. D. (2019). Social cognitive career theory at 25: Empirical status of the interest, choice, and performance models. *Journal of Vocational Behavior*, 115, 103316. <https://doi.org/10.1016/j.jvb.2019.06.004>
- Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, 45(1), 79–122. <https://doi.org/10.1006/jvbe.1994.1027>
- Leon, A. C., Davis, L. L., & Kraemer, H. C. (2011). The role and interpretation of pilot studies in clinical research. *Journal of Psychiatric Research*, 45(5), 626–629. <https://doi.org/10.1016/j.jpsychires.2010.10.008>
- Maggio, I. D., Montenegro, E., Little, T. D., Nota, L., & Ginevra, M. C. (2022). Career adaptability, hope, and life satisfaction: An analysis of adults with and without substance use disorder. *Journal of happiness studies*, 23(2), 439–454. <https://doi.org/10.1007/s10902-021-00405-1>
- McCambridge, J., Witton, J., & Elbourne, D. R. (2014). Systematic review of the Hawthorne effect: New concepts are needed to study research participation effects. *Journal of Clinical Epidemiology*, 67(3), 267–277. <https://doi.org/10.1016/j.jclinepi.2013.08.015>

- Millatina, N., Aziz, R., & Zuhriyah, I. A. (2025). *Adversity Quotient, Religious Spirituality, and Career Adaptability: An Empirical Study on Masters Students of Islamic Religious Education*. *Edu Consilium*, 6(2), 23–36. <https://doi.org/10.19105/ec.v6i2.19831>
- Nota, L., Ginevra, M. C., & Soresi, S. (2020). Career counseling and career education for the 21st century. In S. D. Brown & R. W. Lent (Eds.), *Career development and counseling: Putting theory and research to work* (3rd ed., pp. 557–587). Wiley.
- Ocampo, A. C. G., Reyes, M. L., Chen, Y., Restubog, S. L. D., Chih, Y. Y., Chua-Garcia, L., & Guan, P. (2020). The role of internship participation and conscientiousness in developing career adaptability: A five-wave growth mixture model analysis. *Journal of Vocational Behavior*, 120, 103426. <https://doi.org/10.1016/j.jvb.2020.103426>
- Rudolph, C. W., Lavigne, K. N., & Zacher, H. (2017). Career adaptability: A meta-analysis of relationships with measures of adaptivity, adapting responses, and adaptation results. *Journal of Vocational Behavior*, 98, 17–34. <https://doi.org/10.1016/j.jvb.2016.09.002>
- Rudolph, C. W., Zacher, H., & Hirschi, A. (2021). Empirical developments in career construction theory. *Journal of Vocational Behavior*, 130, 103607. <https://doi.org/10.1016/j.jvb.2021.103607>
- Savickas, M. L. (2013). Career construction theory and practice. In S. D. Brown & R. W. Lent (Eds.), *Career development and counseling: Putting theory and research to work* (2nd ed., pp. 144–180). Wiley.
- Savickas, M. L., & Porfeli, E. J. (2012). Career Adapt-Abilities Scale: Construction, reliability, and measurement equivalence across 13 countries. *Journal of Vocational Behavior*, 80(3), 661–673. <https://doi.org/10.1016/j.jvb.2012.01.011>
- Seibert, S., Akkermans, J., & Liu, C.-H. (2024). Understanding Contemporary Career Success: A Critical Review. *Annual Review of Organizational Psychology and Organizational Behavior*, 11, 509–534. <https://doi.org/10.1146/annurev-orgpsych-120920-051543>
- Spurk, D., Hirschi, A., & Dries, N. (2019). Antecedents and outcomes of objective versus subjective career success: Competing perspectives and future directions. *Journal of Management*, 45(1), 35–69. <https://doi.org/10.1177/0149206318786563>
- Super, D. E. (1980). A life-span, life-space approach to career development. *Journal of Vocational Behavior*, 16(3), 282–298. [https://doi.org/10.1016/0001-8791\(80\)90056-1](https://doi.org/10.1016/0001-8791(80)90056-1)
- Tolentino, L. R., Garcia, P. R. J. M., Lu, V. N., Restubog, S. L. D., Bordia, P., & Plewa, C. (2014). Career adaptation: The relation of adaptability to goal orientation, proactive personality, and career optimism. *Journal of Vocational Behavior*, 84(1), 39–48. <https://doi.org/10.1016/j.jvb.2013.11.004>
- Yılmaz, O. (2021). Grit, career adaptability, and life satisfaction among university students in Turkey: A moderated mediation model. *Current Psychology*, 40(8), 3793–3802. <https://doi.org/10.1007/s12144-019-00336-4>
- Yuliawati, D., Lathifah, M., & Sutijono. *Efektivitas Layanan Informasi Karier terhadap Pemahaman Karier Peserta Didik Kelas XII di SMA ITP Surabaya*. *Edu Consilium*, 3(2). <https://doi.org/10.19105/ec.v3i2.6025>