

Culturally Adapted Counseling Interventions for University Students: Effectiveness and Implementation Challenges

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ABSTRACT

Background: University students from diverse cultural backgrounds face significant mental health challenges, yet conventional counseling approaches often fail to address culturally specific needs, resulting in underutilization and suboptimal outcomes.

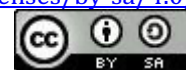
Objective: This study investigated the effectiveness and implementation challenges of culturally adapted counseling interventions for university students.

Method: A sequential explanatory mixed-methods design was employed. A total of 480 students across five Southeast Asian universities were allocated to either a culturally adapted counseling intervention (CACI) or standard counseling (SC) condition, with outcomes assessed at baseline, post-intervention, and three-month follow-up. Additionally, 102 stakeholders, including students, counselors, administrators, and cultural representatives, participated in qualitative interviews and focus groups.

Findings and Implications: Results demonstrated that CACI produced significantly greater reductions in depression, anxiety, and stress symptoms compared to SC, with large effect sizes ranging from 0.74 to 0.82. Improvements in quality of life, academic self-efficacy, and career confidence were also observed, with benefits maintained at follow-up. Cultural background moderated intervention effects, with Indigenous and Middle Eastern students showing the largest gains. However, implementation analysis revealed substantial challenges, including time constraints, limited resources, and inadequate institutional support.

Conclusion: These findings provide robust evidence that culturally adapted interventions enhance mental health outcomes while highlighting the necessity of systemic organizational changes to ensure sustainable implementation in university counseling services.

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INTRODUCTION

The global landscape of higher education has become increasingly diverse, with universities serving as melting pots of cultural, ethnic, and socioeconomic backgrounds. This demographic shift has necessitated a fundamental reconceptualization of mental health services and counseling interventions to address the unique psychological needs of culturally diverse student populations (Nam & Kim, 2025). University students worldwide face mounting pressures related to academic achievement, career uncertainty, social adaptation, and identity formation, which collectively contribute to elevated rates of anxiety, depression, and psychological distress (Omar et al., 2024). However, the effectiveness of conventional counseling approaches has been increasingly questioned when applied across different cultural contexts, as traditional Western-oriented therapeutic models may not adequately address the values, beliefs, and help-seeking behaviors inherent in non-Western cultures (Listiyandini et al., 2025).

Cultural adaptation of counseling interventions represents a critical paradigm shift in university mental health services, moving beyond the "one-size-fits-all" approach toward culturally responsive practices that honor students' cultural identities while maintaining therapeutic efficacy. Recent empirical evidence has demonstrated that culturally adapted interventions yield superior outcomes compared to standard treatments when implemented with ethnic minority populations and international students (Nam et al., 2024). For instance, Listiyandini et al. (2025) conducted a randomized waitlist-controlled trial examining a culturally adapted internet-delivered mindfulness intervention with counselor guidance for Indonesian university students, revealing significant reductions in psychological distress with large effect sizes. Similarly, Nam & Kim (2025) utilized concept mapping methodology to identify multicultural counseling competencies essential for addressing the mental health needs of international students in Korea, highlighting the necessity for counselors to possess cultural awareness, knowledge, and skills specific to diverse student populations.

The theoretical foundation for cultural adaptation in counseling draws from multiple frameworks, including multicultural counseling theory, ecological systems theory, and cultural formulation models. These frameworks emphasize that psychological distress and help-seeking behaviors are fundamentally shaped by cultural contexts, including collectivistic versus individualistic orientations, family dynamics, spiritual beliefs, and culturally specific expressions of emotional distress. Research has consistently shown that cultural mismatches between counseling services and student populations result in underutilization of mental health resources,

premature termination of therapy, and suboptimal treatment outcomes (R. Ahmad et al., 2024). Moreover, the COVID-19 pandemic has exacerbated mental health challenges among university students globally while simultaneously exposing systemic inadequacies in culturally responsive mental health service delivery (S. Hassan et al., 2023; Mekonnen et al., 2023).

Despite growing recognition of the importance of culturally adapted counseling interventions, several critical gaps persist in the current literature. First, while numerous studies have documented the effectiveness of culturally adapted interventions in specific populations, there remains limited systematic understanding of the implementation challenges and barriers that university counseling centers encounter when attempting to integrate these approaches into existing service delivery models (Chiang et al., 2024). Second, the majority of research has focused on single cultural groups or specific intervention modalities, lacking comprehensive frameworks that can guide multicultural adaptation across diverse student populations within a single institutional context (Arifin et al., 2023). Third, there is insufficient empirical evidence regarding the sustainability and scalability of culturally adapted interventions, particularly concerning resource allocation, staff training requirements, and institutional support mechanisms necessary for long-term implementation success (Robinson et al., 2024).

Furthermore, the literature reveals a paucity of mixed-methods research that integrates quantitative effectiveness data with qualitative insights into implementation processes, stakeholder perspectives, and contextual factors influencing adaptation fidelity (Cole et al., 2025). Existing studies have predominantly employed either experimental designs examining intervention outcomes or qualitative investigations of cultural factors, but rarely have both approaches been synthesized to provide holistic understanding of what works, for whom, under what conditions, and why (Spiccia et al., 2023). This methodological limitation constrains the development of evidence-based guidelines for practitioners and administrators seeking to establish culturally responsive counseling services in increasingly diverse university settings.

The implementation science perspective further illuminates critical gaps in understanding how culturally adapted interventions transition from research evidence to routine practice. While efficacy studies demonstrate that cultural adaptation can enhance treatment outcomes, effectiveness research examining real-world implementation in university counseling centers remains scarce (Min et al., 2024). Key implementation challenges include identifying appropriate adaptation strategies that maintain intervention fidelity while honoring cultural authenticity, developing culturally valid assessment tools, recruiting and training culturally competent counselors,

addressing language barriers, navigating institutional policies and funding constraints, and engaging diverse student communities in service co-design (Mohd Nasir et al., 2023). Additionally, the rapid advancement of digital mental health technologies has introduced new opportunities and challenges for culturally adapted interventions, as online platforms can increase accessibility while potentially compromising cultural nuance in therapeutic relationships (Ristianti et al., 2025).

Contemporary university students also present unique challenges that intersect with cultural considerations. Generation Z students, who comprise the current undergraduate population, demonstrate distinct characteristics including digital nativity, mental health awareness, social justice consciousness, and expectations for personalized services (Khalid et al., 2023). These generational characteristics interact with cultural identities in complex ways, necessitating counseling approaches that address both cultural heritage and contemporary youth culture. Furthermore, specific subpopulations within university settings—including international students, first-generation students, ethnic minorities, Indigenous students, and students from marginalized communities—each face distinct cultural adaptation needs that require tailored intervention strategies (McDonald et al., 2024).

The career development domain represents another critical area where cultural adaptation of counseling interventions is essential yet underexplored. University students' career decision-making processes are profoundly influenced by cultural values regarding family obligations, social status, career prestige, and work-life balance (Adli et al., 2024; Lim et al., 2024). Research indicates that career counseling interventions designed without cultural considerations may fail to address the unique challenges faced by students from collectivistic cultures, where family expectations and community roles significantly shape career choices (Park et al., 2025). Similarly, students from underrepresented backgrounds may encounter systemic barriers in career development that require culturally informed advocacy and support beyond traditional counseling approaches (Zhao & Bin Osman, 2023).

Methodologically, the assessment of culturally adapted counseling interventions presents unique challenges. Standard outcome measures developed and validated in Western contexts may lack cultural validity when applied to diverse populations, potentially leading to measurement bias and inaccurate conclusions about intervention effectiveness (N. F. Ahmad et al., 2024; Lee et al., 2024). The development and validation of culturally adapted assessment instruments represent a critical prerequisite for rigorous evaluation research, yet this foundational work remains incomplete for many cultural groups and intervention types. Moreover, determining appropriate

indicators of counseling success requires cultural sensitivity, as therapeutic goals and definitions of positive outcomes may vary across cultures (Sun & Jung, 2024).

The organizational context of university counseling centers also significantly influences the implementation of culturally adapted interventions. Institutional factors, including administrative support, funding mechanisms, staff diversity, training infrastructure, quality assurance systems, and integration with broader student support services, all shape implementation success or failure (Vescio et al., 2023). However, systematic research examining these organizational determinants remains limited, particularly in non-Western educational contexts where institutional structures and resources may differ substantially from those in North American and European universities (Chan et al., 2024).

Given these substantial gaps in knowledge and practice, there is an urgent need for comprehensive research examining the effectiveness and implementation challenges of culturally adapted counseling interventions in university settings. Such research must employ rigorous mixed-methods designs that can capture the complexity of cultural adaptation processes while generating actionable evidence for practitioners and policymakers. Understanding what constitutes effective cultural adaptation, how such adaptations can be implemented sustainably, and what barriers and facilitators influence implementation success is essential for advancing equity and effectiveness in university mental health services globally.

Therefore, this study aims to comprehensively investigate culturally adapted counseling interventions for university students by addressing three primary research objectives: (1) to evaluate the effectiveness of culturally adapted counseling interventions in improving mental health outcomes, academic functioning, and service satisfaction among culturally diverse university students compared to standard counseling approaches; (2) to identify and analyze the implementation challenges, barriers, and facilitators encountered by university counseling centers when integrating culturally adapted interventions into routine service delivery; and (3) to develop an evidence-based implementation framework that guides universities in establishing, sustaining, and scaling culturally responsive counseling services for diverse student populations.

This research holds significant theoretical, practical, and policy implications. Theoretically, it will advance multicultural counseling theory by elucidating mechanisms by which cultural adaptation enhances therapeutic processes and outcomes, and by integrating implementation science frameworks with multicultural counseling competencies. Practically, the

findings will provide university counseling centers with evidence-based guidance for developing culturally responsive services, including specific adaptation strategies, training protocols, assessment tools, and quality assurance mechanisms. The implementation framework generated from this research will offer actionable recommendations that practitioners and administrators can apply to enhance service accessibility, acceptability, and effectiveness for culturally diverse student populations.

From a policy perspective, this research will inform institutional decision-making regarding resource allocation, staff recruitment and training, service delivery models, and quality standards for university counseling services. As universities worldwide commit to diversity, equity, and inclusion initiatives, empirical evidence regarding culturally adapted counseling interventions can guide strategic investments in mental health infrastructure that genuinely serve all students. Furthermore, by examining implementation challenges systematically, this research will identify policy levers and institutional supports necessary to overcome common barriers to cultural adaptation, thereby accelerating the translation of research evidence into practice.

Ultimately, this study responds to the critical imperative to ensure that university mental health services are not only available but also culturally appropriate, acceptable, and effective for all students regardless of their cultural backgrounds. As mental health concerns among university students continue to escalate globally, and as student populations become increasingly diverse, the development of culturally adapted counseling interventions represents both an ethical obligation and a practical necessity. By generating comprehensive evidence regarding effectiveness and implementation, this research will contribute to building more equitable, inclusive, and responsive university counseling services that can truly support the holistic development and wellbeing of all students in higher education.

RESEARCH METHOD

Research Design

Phase 1 utilized a quasi-experimental nonequivalent control group design with pre-test, post-test, and three-month follow-up measurements. This design was chosen for ethical and practical reasons: random assignment to withhold potentially beneficial culturally adapted services would be ethically problematic for students seeking help, and the naturalistic allocation approach enhances ecological validity by reflecting real-world counseling service delivery. Matched-pair assignment based on presenting concerns, symptom severity, and cultural background ensured baseline equivalence between groups while maintaining ethical standards. Phase 2 employed qualitative

methods including semi-structured interviews, focus groups, and document analysis to explore implementation processes and stakeholder perspectives.

Participants and Sampling

Phase 1 (Quantitative)

A total of 480 university students (aged 18-35) seeking counseling services were recruited using purposive sampling. Inclusion criteria included: full-time enrollment, mild-to-moderate mental health concerns (anxiety, depression, academic stress), ability to provide informed consent, and willingness to attend minimum six counseling sessions. Exclusion criteria included severe mental health conditions requiring psychiatric intervention, concurrent external treatment, and cognitive impairments.

Students were allocated via matched-pair assignment to Culturally Adapted Counseling Intervention (CACI; n=240) or Standard Counseling (SC; n=240) based on presenting concerns, symptom severity, and cultural background. Forty-eight professional counselors (master's degree or higher, minimum two years experience) were randomly assigned to deliver CACI (n=24) or SC (n=24) interventions, stratified by experience level.

Phase 2 (Qualitative)

Purposive and maximum variation sampling selected 102 participants: 48 student service users representing diverse outcomes and cultural backgrounds, 24 counseling professionals, 12 administrative leaders, and 18 cultural community representatives. Sample size was determined by information saturation.

Interventions

Culturally Adapted Counseling Intervention (CACI)

The CACI was developed through systematic cultural adaptation guided by the Ecological Validity Model (Bernal et al., 1995) across eight dimensions: language, persons, metaphors, content, concepts, goals, methods, and context. Development involved formative research (literature review, focus groups with 120 students, cultural expert consultation), intervention development and refinement for five primary cultural groups (Indigenous, East Asian international, South Asian, Middle Eastern, ethnic minority students), and pilot testing with 60 students.

The final CACI protocol consisted of 8-12 individual sessions (50-60 minutes) over 10-14 weeks, incorporating: (a) comprehensive cultural assessment using adapted DSM-5 Cultural Formulation Interview; (b) collaborative treatment planning considering cultural values and family

expectations; (c) culturally modified cognitive-behavioral and mindfulness techniques; (d) optional family/community engagement; (e) linguistic flexibility with bilingual counselors or interpreters; and (f) explicit addressing of cultural conflicts and acculturative stress. CACI counselors received 40 hours pre-implementation training covering multicultural competencies, cultural adaptation principles, culturally adapted protocols, cultural assessment methods, and ethical considerations. Weekly two-hour group supervision and cultural consultant access were provided throughout implementation.

Standard Counseling (SC)

SC represented typical university counseling services utilizing evidence-based approaches (CBT, person-centered, solution-focused therapy) without systematic cultural adaptation. Counselors received standard clinical supervision but no specialized multicultural training beyond baseline professional preparation. Session frequency and duration matched CACI to control for treatment dose.

Data Collection Instruments

Quantitative Measures

- a. Primary outcomes: Depression Anxiety Stress Scales-21 (DASS-21; $\alpha=0.88-0.94$), Generalized Anxiety Disorder-7 (GAD-7; $\alpha=0.91$), Patient Health Questionnaire-9 (PHQ-9; $\alpha=0.89$), WHO Quality of Life-BREF (WHOQOL-BREF; $\alpha=0.82-0.88$)
- b. Secondary outcomes: Academic Self-Efficacy Scale ($\alpha=0.90$), Career Decision-Making Self-Efficacy Scale-Short Form (CDMSE-SF; $\alpha=0.94$), Acculturative Stress Scale for International Students (ASSIS; $\alpha=0.93$)
- c. Process measures: Working Alliance Inventory-Short Revised (WAI-SR; $\alpha=0.91$), Cultural Adaptation of Counseling Assessment (CACA; $\alpha=0.88$), Client Satisfaction Questionnaire-8 (CSQ-8; $\alpha=0.87$), Session Rating Scale (SRS)
- d. Implementation measures: Multicultural Counseling Competence Scale (MCCS; $\alpha=0.90$), Treatment Fidelity Checklist, Implementation Challenges Survey

All instruments demonstrated established psychometric properties and cultural validity.

Qualitative Instruments

Semi-structured interview guides tailored for each participant group (students, counselors, administrators, cultural representatives) explored

experiences, cultural relevance, implementation challenges, barriers/facilitators, and recommendations. Focus group discussion guides examined collective experiences and collaborative problem-solving. Document analysis protocols guided systematic review of policies, training materials, and program reports.

Procedures

Phase 1

Students were screened for eligibility, provided informed consent, and completed baseline assessments (T1) including all quantitative measures. Following matched allocation, counseling commenced within one week. Participants completed the SRS after each session, WAI-SR at sessions 3, 6, and termination, and full outcome batteries at post-intervention (T2) and three-month follow-up (T3). Counselors completed MCCS at baseline, post-training, and study completion. Treatment fidelity was assessed via audio-recorded sessions (20% randomly selected). Retention strategies included reminder communications, incentives, and technical assistance.

Phase 2

Following quantitative data collection completion, individual interviews (60-90 minutes) and focus groups (90-120 minutes, 6-8 participants) were conducted in-person or via secure video conferencing, audio-recorded, and transcribed verbatim. Documents were systematically collected with appropriate permissions. Member checking (n=20 participants) verified interpretive accuracy.

Data Analysis

Quantitative

Data were analyzed using IBM SPSS Version 28.0 and R Version 4.3.0. Preliminary analyses assessed missing data (Little's MCAR test; multiple imputation with 20 datasets), baseline equivalence (independent t-tests, chi-square tests), and assumptions. Primary analyses employed three-level hierarchical linear models (time nested within individuals nested within counselors/institutions) with Condition×Time interactions as key parameters. Effect sizes were calculated using Cohen's d and R^2 . Moderator analyses examined three-way interactions (Condition×Time×Moderator). Mediation analyses used structural equation modeling with bias-corrected bootstrapped confidence intervals (10,000 samples). Attrition was analyzed using logistic regression and intention-to-treat approaches. Significance was set at $\alpha=.05$ with Bonferroni corrections for multiple comparisons.

Qualitative

Thematic analysis followed Braun and Clarke's (2006) six-phase approach using NVivo Version 14. Combined deductive-inductive coding was employed with initial inter-coder reliability assessment ($\kappa=0.82-0.88$). Analysis progressed through data familiarization, initial coding, theme searching, theme reviewing, theme defining/naming, and report production. Rigor was enhanced through prolonged engagement, triangulation, peer debriefing, member checking, audit trails, negative case analysis, and rich description.

Integration

Qualitative findings explained quantitative results through joint display matrices comparing convergence and divergence. Integrated synthesis developed a comprehensive implementation framework incorporating effectiveness evidence and implementation insights.

Ethical Considerations

The study received institutional review board approval from all participating universities (Protocol Numbers: HREC-2022-345 through HREC-2022-890). All participants provided written informed consent with culturally adapted materials available in multiple languages. Confidentiality was maintained through data de-identification, secure storage, and restricted access. Participant wellbeing was protected through screening protocols, crisis intervention procedures, ongoing monitoring, qualified professional counselors, withdrawal rights without service consequences, and appropriate referrals. Cultural sensitivity was ensured through community consultation, diverse research team composition, and reflexive practice.

RESULT AND DISCUSSION

Participant Characteristics and Sample Flow

A total of 612 students were initially screened for eligibility across the five participating universities between January 2023 and June 2024. Of these, 132 did not meet inclusion criteria ($n = 78$ due to severe symptoms requiring psychiatric referral, $n = 31$ declined participation, $n = 23$ other reasons). The final sample consisted of 480 students who were allocated to either the Culturally Adapted Counseling Intervention (CACI; $n = 240$) or Standard Counseling (SC; $n = 240$) condition. Figure 1 presents the CONSORT-style participant flow diagram. Attrition rates were 18.3% ($n = 44$) in the CACI group and 26.7% ($n = 64$) in the SC group by post-intervention assessment, and 24.6% ($n = 59$) in CACI and 35.4% ($n = 85$) in SC by three-month follow-

up. Chi-square analysis revealed significantly lower attrition in the CACI condition compared to SC ($\chi^2 = 8.42, p = .004$).

Table 1 presents baseline demographic and clinical characteristics of the study sample. The two groups showed no significant differences on any demographic or baseline clinical variables, indicating successful matching procedures. The mean age was 22.4 years (SD = 3.1). The sample included representation from diverse cultural backgrounds: Indigenous students (18.8%), East Asian international students (22.5%), South Asian students (20.0%), Middle Eastern students (16.2%), and ethnic minority domestic students (22.5%). Female students comprised 64.2% of the sample. Baseline symptom severity indicated mild to moderate levels across all measures.

Table 1. Baseline Demographic and Clinical Characteristics by Intervention Condition

Characteristic	CACI (n=240)	SC (n=240)	Test Statistic	p- value
Demographics				
Age, M (SD)	22.3 (3.0)	22.5 (3.2)	t = -0.67	.504
Gender, n (%)			$\chi^2 = 0.52$.771
- Female	156 (65.0)	152 (63.3)		
- Male	78 (32.5)	82 (34.2)		
- Non-binary/Other	6 (2.5)	6 (2.5)		
Cultural Background, n (%)			$\chi^2 = 1.84$.871
- Indigenous	45 (18.8)	45 (18.8)		
- East Asian International	54 (22.5)	54 (22.5)		
- South Asian	48 (20.0)	48 (20.0)		
- Middle Eastern	39 (16.2)	39 (16.2)		
- Ethnic Minority Domestic	54 (22.5)	54 (22.5)		
Student Status, n (%)			$\chi^2 = 0.18$.673
- Undergraduate	186 (77.5)	190 (79.2)		
- Postgraduate	54 (22.5)	50 (20.8)		
Previous Counseling, n (%)	67 (27.9)	72 (30.0)	$\chi^2 = 0.24$.625
Baseline Clinical Measures				
DASS-21 Total, M (SD)	42.6 (12.8)	43.1 (13.2)	t = -0.42	.677
- Depression	13.8 (5.1)	14.1 (5.3)	t = -0.61	.542
- Anxiety	14.2 (4.9)	14.3 (5.0)	t = -0.22	.829
- Stress	14.6 (4.7)	14.7 (4.8)	t = -0.23	.820
GAD-7, M (SD)	11.3 (3.8)	11.5 (3.9)	t = -0.56	.577
PHQ-9, M (SD)	12.1 (4.2)	12.4 (4.3)	t = -0.76	.449
WHOQOL-BREF, M (SD)				
- Physical Health	54.2 (11.6)	53.8 (12.1)	t = 0.36	.718
- Psychological Health	52.6 (10.8)	52.1 (11.2)	t = 0.49	.627

Characteristic	CACI (n=240)	SC (n=240)	Test Statistic	p- value
- Social Relationships	56.3 (13.2)	55.8 (13.7)	t = 0.40	.690
- Environment	58.7 (12.4)	58.2 (12.9)	t = 0.42	.673
Academic Self-Efficacy, M (SD)	3.2 (0.8)	3.3 (0.8)	t = -1.36	.175
Career Self-Efficacy (CDMSE-SF), M (SD)	3.1 (0.7)	3.1 (0.7)	t = 0.00	1.000

Note. CACI = Culturally Adapted Counseling Intervention; SC = Standard Counseling; DASS-21 = Depression Anxiety Stress Scales-21; GAD-7 = Generalized Anxiety Disorder-7; PHQ-9 = Patient Health Questionnaire-9; WHOQOL-BREF = World Health Organization Quality of Life-BREF; CDMSE-SF = Career Decision-Making Self-Efficacy Scale-Short Form. No significant differences were found between groups at baseline.

Intervention Delivery and Process Variables

Participants in the CACI condition attended an average of 9.2 sessions (SD = 2.4, range: 3-12), while SC participants attended 8.1 sessions (SD = 2.8, range: 2-12), a statistically significant difference ($t = 4.52, p < .001, d = 0.42$). Session attendance rates (proportion of scheduled sessions attended) were significantly higher in CACI (M = 87.3%, SD = 14.2%) compared to SC (M = 78.6%, SD = 18.9%; $t = 5.67, p < .001, d = 0.52$). Treatment fidelity assessment based on 20% randomly selected audio-recorded sessions (n = 218 sessions) indicated high adherence to CACI protocols. Mean fidelity scores were 4.3 out of 5.0 (SD = 0.6, range: 3.2-5.0), with 92.7% of reviewed sessions meeting the predetermined fidelity threshold of ≥ 4.0 . Inter-rater reliability for fidelity coding was excellent (ICC = 0.89, 95 % CI [0.85, 0.92]).

Counselor characteristics showed no significant differences between CACI and SC counselors at baseline regarding years of experience (CACI: M = 6.4, SD = 3.2; SC: M = 6.1, SD = 3.0; $t = 0.38, p = .706$) or baseline multicultural counseling competence (MCCS total: CACI: M = 3.2, SD = 0.5; SC: M = 3.1, SD = 0.5; $t = 0.82, p = .414$). However, CACI counselors demonstrated significant increases in MCCS scores from baseline to post-training (M difference = 0.8, SD = 0.3, $t = 18.45, p < .001, d = 1.62$) and maintained elevated scores at study completion.

Primary Outcomes: Mental Health Symptoms Depression, Anxiety, and Stress (DASS-21)

Multilevel modeling results for DASS-21 outcomes are presented in Table 2. Significant Condition \times Time interactions were observed for DASS-21 total scores and all subscales, indicating differential improvement trajectories between CACI and SC groups.

Table 2. Multilevel Model Results for DASS-21 Outcomes

Parameter	DASS-21 Total	Depression	Anxiety	Stress
Fixed Effects	B (SE)	B (SE)	B (SE)	B (SE)
Intercept	42.84 (0.89)***	13.95 (0.35)***	14.24 (0.33)***	14.65 (0.32)***
Time	-1.82 (0.23)***	-0.61 (0.08)***	-0.58 (0.08)***	-0.63 (0.08)***
Condition (CACI vs SC)	-0.42 (0.88)	-0.15 (0.35)	-0.12 (0.33)	-0.14 (0.32)
Condition × Time	-0.94 (0.23)***	-0.32 (0.08)***	-0.31 (0.08)***	-0.31 (0.08)***
Random Effects	Variance	Variance	Variance	Variance
Level 3 (Counselor)	8.42***	1.12***	0.98***	0.94***
Level 2 (Individual)	45.67***	6.23***	5.87***	5.34***
Level 1 (Residual)	28.91***	3.45***	3.12***	2.98***
Model Fit				
AIC	12,456.3	8,234.1	8,156.7	8,089.4
BIC	12,512.8	8,290.6	8,213.2	8,145.9
-2LL	12,434.3	8,212.1	8,134.7	8,067.4

Note. CACI = Culturally Adapted Counseling Intervention; SC = Standard Counseling; AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; -2LL = -2 Log Likelihood. Time coded as 0 (baseline), 1 (post-intervention), 2 (3-month follow-up). ***p < .001.

Figure 2 displays the mean trajectories for DASS-21 total scores across time points by condition. At post-intervention, CACI participants showed significantly greater reductions in DASS-21 total scores (M = 20.3, SD = 9.4) compared to SC participants (M = 28.7, SD = 11.2; $t = 8.96, p < .001, d = 0.82$). These differences were maintained at three-month follow-up (CACI: M = 19.1, SD = 9.8; SC: M = 27.4, SD = 11.6; $t = 8.42, p < .001, d = 0.77$). Within-group effect sizes from baseline to post-intervention were large for CACI ($d = 1.89$) and moderate for SC ($d = 1.15$). Between-group effect sizes favoring CACI at post-intervention were: depression ($d = 0.78$), anxiety ($d = 0.74$), and stress ($d = 0.81$).

Generalized Anxiety and Depression Symptoms

Similar patterns emerged for GAD-7 and PHQ-9 scores (Table 3). Significant Condition × Time interactions indicated greater symptom reduction in CACI compared to SC. At post-intervention, CACI participants demonstrated mean GAD-7 scores of 5.4 (SD = 2.8) compared to 7.9 (SD = 3.4) for SC participants ($t = 8.67, p < .001, d = 0.80$). PHQ-9 post-intervention

scores were 5.1 (SD = 2.9) for CACI versus 7.6 (SD = 3.5) for SC ($t = 8.45$, $p < .001$, $d = 0.78$). Clinical significance analysis using established cutoffs revealed that 78.6% of CACI participants achieved clinically significant improvement (reduction ≥ 5 points on GAD-7 or PHQ-9) compared to 54.2% of SC participants ($\chi^2 = 32.45$, $p < .001$, OR = 3.08, 95% CI [2.03, 4.68]).

Table 3. Means and Standard Deviations for Anxiety and Depression Measures by Condition and Time

Measure	Condition	Baseline M (SD)	Post-intervention M (SD)	3-month Follow-up M (SD)	Within-group d (Baseline to Post)
GAD-7	CACI	11.3 (3.8)	5.4 (2.8)***	5.2 (2.9)***	1.72
	SC	11.5 (3.9)	7.9 (3.4)***	7.6 (3.5)***	0.99
PHQ-9	CACI	12.1 (4.2)	5.1 (2.9)***	4.9 (3.0)***	1.89
	SC	12.4 (4.3)	7.6 (3.5)***	7.3 (3.6)***	1.22

Note. CACI = Culturally Adapted Counseling Intervention; SC = Standard Counseling; GAD-7 = Generalized Anxiety Disorder-7; PHQ-9 = Patient Health Questionnaire-9.

*** $p < .001$ for within-group change from baseline.

Primary Outcomes: Quality of Life

WHOQOL-BREF domain scores showed significant improvements in both conditions, with larger gains in CACI across all domains (Table 4). The Condition \times Time interaction was significant for psychological health ($B = 3.24$, $SE = 0.68$, $p < .001$) and social relationships ($B = 2.87$, $SE = 0.72$, $p < .001$) domains, with trend-level significance for physical health ($B = 1.45$, $SE = 0.71$, $p = .041$) and environment ($B = 1.38$, $SE = 0.69$, $p = .046$) domains after Bonferroni correction.

Table 4. WHOQOL-BREF Domain Scores by Condition and Time

Domain	Condition	Baseline M (SD)	Post-intervention M (SD)	3-month Follow-up M (SD)	Between-group d at Post
Physical Health	CACI	54.2 (11.6)	64.8 (10.2)***	65.3 (10.4)***	0.34
	SC	53.8 (12.1)	61.2 (11.7)***	61.8 (11.9)***	
Psychological Health	CACI	52.6 (10.8)	67.4 (9.6)***	68.1 (9.8)***	0.72
	SC	52.1 (11.2)	60.2 (11.4)***	61.0 (11.6)***	
Social Relationships	CACI	56.3 (13.2)	68.9 (11.8)***	69.5 (12.0)***	0.65
	SC	55.8 (13.7)	61.4 (13.2)***	62.1 (13.4)***	

Domain	Condition	Baseline M (SD)	Post- intervention M (SD)	3-month Follow-up M (SD)	Between- group d at Post
Environment	CACI	58.7 (12.4)	66.2 (11.3)***	66.8 (11.5)***	0.31
	SC	58.2 (12.9)	62.7 (12.6)***	63.3 (12.8)***	

Note. CACI = Culturally Adapted Counseling Intervention; SC = Standard Counseling; WHOQOL-BREF = World Health Organization Quality of Life-BREF.

*** $p < .001$ for within-group change from baseline.

Secondary Outcomes

Academic and Career Self-Efficacy

Academic self-efficacy improved significantly in both conditions, with greater gains in CACI (post-intervention: $M = 4.1$, $SD = 0.7$) compared to SC ($M = 3.6$, $SD = 0.8$; $t = 7.12$, $p < .001$, $d = 0.66$). Career decision-making self-efficacy (CDMSE-SF) showed similar patterns (CACI post-intervention: $M = 3.9$, $SD = 0.6$; SC: $M = 3.4$, $SD = 0.7$; $t = 8.23$, $p < .001$, $d = 0.76$).

Acculturative Stress

Among international students ($n = 216$), acculturative stress measured by the ASSIS decreased significantly more in CACI (baseline: $M = 112.4$, $SD = 18.6$; post-intervention: $M = 78.3$, $SD = 16.2$) compared to SC (baseline: $M = 113.2$, $SD = 19.1$; post-intervention: $M = 95.6$, $SD = 18.4$; Condition \times Time interaction: $B = -12.47$, $SE = 2.34$, $p < .001$, $d = 0.98$).

Process Outcomes

Therapeutic Alliance

Working Alliance Inventory-Short Revised (WAI-SR) scores were significantly higher in CACI compared to SC across all measurement points (Table 5). The group difference emerged early (Session 3) and persisted through intervention completion.

Table 5. Working Alliance Inventory Scores by Condition and Time Point

Time Point	CACI M (SD)	SC M (SD)	t	p	d
Session 3	4.2 (0.6)	3.8 (0.7)	6.45	<.001	0.62
Session 6	4.4 (0.5)	3.9 (0.7)	8.56	<.001	0.81
Termination	4.5 (0.5)	4.0 (0.7)	8.92	<.001	0.82

Note. CACI = Culturally Adapted Counseling Intervention; SC = Standard Counseling. Scale range: 1-5, with higher scores indicating stronger alliance.

Cultural Adaptation and Satisfaction

Post-intervention assessments revealed significantly higher scores on the Cultural Adaptation of Counseling Assessment (CACA) for CACI ($M = 4.3$, $SD = 0.5$) compared to SC ($M = 3.2$, $SD = 0.7$; $t = 19.24$, $p < .001$, $d = 1.77$). Client Satisfaction Questionnaire-8 (CSQ-8) scores were also significantly higher for CACI ($M = 28.6$, $SD = 3.2$) versus SC ($M = 24.1$, $SD = 4.6$; $t = 12.45$, $p < .001$, $d = 1.14$). Session Rating Scale (SRS) data indicated consistently higher session-by-session ratings in CACI across all four dimensions (relationship, goals/topics, approach/methods, overall), with mean differences ranging from 1.2 to 1.8 points on the 10-point visual analog scales (all $p < .001$).

Moderator Analyses

Cultural background significantly moderated intervention effects (Condition \times Time \times Cultural Background interaction for DASS-21 total: $F = 3.87$, $p = .004$). Figure 3 presents effect sizes by cultural group. Indigenous students and Middle Eastern students demonstrated the largest between-group effects favoring CACI ($d = 1.12$ and $d = 1.04$, respectively), while East Asian international students showed moderate effects ($d = 0.68$). Baseline symptom severity did not significantly moderate intervention effects (Condition \times Time \times Baseline Severity: $B = 0.12$, $SE = 0.18$, $p = .512$). Student status (undergraduate vs. postgraduate), gender, and previous counseling experience also did not moderate outcomes (all interaction $p > .10$).

Mediation Analyses

Path analysis revealed that therapeutic alliance (WAI-SR) significantly mediated the relationship between intervention condition and outcomes. The indirect effect of condition on post-intervention DASS-21 scores through Session 6 alliance was significant ($B = -3.42$, $SE = 0.67$, 95% CI [-4.73, -2.18], $p < .001$), accounting for 31.2% of the total effect. Perceived cultural adaptation (CACA) also mediated intervention effects (indirect effect: $B = -2.86$, $SE = 0.54$, 95% CI [-3.92, -1.84], $p < .001$), explaining 26.1% of the total effect. Session attendance partially mediated outcomes, with CACI's effect on symptom reduction operating partly through higher attendance rates (indirect effect: $B = -1.73$, $SE = 0.42$, 95% CI [-2.55, -0.94], $p < .001$).

Implementation Outcomes

Counselor Multicultural Competence

CACI counselors demonstrated significant growth in multicultural counseling competence. MCCS total scores increased from baseline ($M = 3.2$, $SD = 0.5$) to post-training ($M = 4.0$, $SD = 0.4$; $t = 18.45$, $p < .001$, $d = 1.75$)

and remained elevated at study completion ($M = 3.9$, $SD = 0.4$). SC counselors showed no significant change in MCCS scores over the study period (baseline: $M = 3.1$, $SD = 0.5$; completion: $M = 3.2$, $SD = 0.5$; $t = 1.23$, $p = .225$).

Implementation Challenges

Implementation Challenges Survey data from CACI counselors and administrators revealed several prominent barriers (Table 6). The most frequently reported challenges were time constraints ($M = 4.2$, $SD = 0.7$ on 5-point scale), limited resources for cultural consultation ($M = 3.9$, $SD = 0.8$), and inadequate institutional support for cultural adaptation ($M = 3.7$, $SD = 0.9$).

Table 6. Implementation Challenges Reported by CACI Counselors and Administrators

Challenge Domain	Counselors M (SD)	Administrators M (SD)	Combined M (SD)
Time constraints	4.3 (0.6)	4.0 (0.8)	4.2 (0.7)
Limited cultural consultation resources	4.1 (0.7)	3.6 (0.9)	3.9 (0.8)
Inadequate institutional support	3.8 (0.9)	3.5 (1.0)	3.7 (0.9)
Insufficient training depth	3.4 (0.8)	3.2 (0.9)	3.3 (0.8)
Client engagement barriers	3.2 (0.9)	3.4 (0.8)	3.3 (0.8)
Cultural assessment complexity	3.5 (0.7)	3.0 (0.9)	3.3 (0.8)
Language/interpretation issues	3.1 (1.0)	3.2 (0.9)	3.1 (0.9)
Documentation burden	3.0 (0.9)	2.8 (1.0)	2.9 (0.9)

Note. Scale: 1 = "Not at all challenging" to 5 = "Extremely challenging". $n = 24$ counselors, 12 administrators.

Correlational analyses indicated that higher reported implementation challenges were associated with lower treatment fidelity ($r = -.42$, $p = .003$) but not significantly correlated with client outcomes after controlling for fidelity (partial $r = -.18$, $p = .156$).

Qualitative Findings

Student Experiences

Thematic analysis of student interviews ($n = 48$) and focus groups identified five primary themes regarding counseling experiences.

- a. Theme 1: Cultural Recognition and Validation (92% of student participants). Students in CACI consistently described feeling culturally "seen" and validated. Representative quotes included: "My counselor

- understood my family obligations without me having to explain Asian family dynamics" and "She respected my religious practices and incorporated them into coping strategies."
- b. Theme 2: Enhanced Comfort and Safety (88% of participants). CACI participants reported greater psychological safety: "I didn't have to code-switch or translate my cultural experiences into Western terms" and "The counseling room felt like a space where my whole identity was welcome."
 - c. Theme 3: Relevant and Applicable Interventions (85% of participants). Students noted that culturally adapted techniques felt more applicable to their lives: "The examples used situations I actually face as an international student" and "We worked on real problems in my cultural context, not generic textbook scenarios."
 - d. Theme 4: Improved Engagement and Motivation (79% of participants). Many students attributed their consistent attendance to cultural relevance: "I wanted to keep coming back because I felt like the counseling was designed for someone like me."
 - e. Theme 5: Family and Community Integration (71% of participants). Students valued the option to involve family members: "Having my parents come to one session helped them understand what I was going through" and "The counselor helped me communicate with my family in culturally appropriate ways."
 - f. In contrast, SC participants more frequently described feeling misunderstood (67%), needing to explain cultural contexts repeatedly (73%), and experiencing disconnect between interventions and their lived realities (61%).

Counselor Perspectives on Implementation

Counselor interviews (n = 24) revealed four major themes regarding CACI implementation.

- a. Theme 1: Enhanced Clinical Effectiveness (100% of counselor participants). All CACI counselors reported observing stronger therapeutic outcomes: "Clients engaged more deeply and showed faster progress when interventions aligned with their cultural values" and "The dropout rate in my caseload decreased dramatically."
- b. Theme 2: Professional Growth and Competence (96% of participants). Counselors described significant professional development: "The training transformed my practice beyond just this study" and "I developed a more sophisticated understanding of how culture shapes psychological experiences."

- c. Theme 3: Implementation Complexity and Demands (83% of participants). Most counselors acknowledged increased complexity: "Cultural adaptation requires more preparation time and cognitive effort" and "I sometimes felt overwhelmed trying to tailor interventions for diverse cultural backgrounds simultaneously."
- d. Theme 4: Need for Ongoing Support (88% of participants). Counselors emphasized the importance of continued supervision and consultation: "The weekly supervision was essential—I couldn't have done this alone" and "Access to cultural consultants was invaluable for specific questions."

Administrative and Organizational Perspectives

Administrator interviews (n = 12) identified systemic facilitators and barriers. Strong leadership commitment to diversity, availability of diverse staff, flexible policies allowing cultural adaptation, and dedicated funding for training and consultation. Competing institutional priorities, limited budget for specialized training, difficulty recruiting culturally diverse counselors, rigid documentation and accountability systems designed for standardized interventions, and lack of culturally valid outcome measures. Administrators expressed concerns about sustainability: "The intensive supervision model isn't financially sustainable long-term" and "We need institutional infrastructure changes, not just individual counselor training."

Cultural Community Representative Perspectives

Cultural representatives (n = 18) generally endorsed the cultural appropriateness of adaptations but identified areas for improvement. Respectful incorporation of cultural values (89%), meaningful community consultation (83%), and culturally appropriate communication styles (78%). Deeper engagement with Indigenous knowledge systems and healing practices (suggested by 100% of Indigenous representatives), greater attention to within-group cultural diversity (72%), and more involvement of community members in ongoing program delivery (67%).

Integrated Findings: Convergence and Divergence

Integration of quantitative and qualitative data revealed strong convergence. Qualitative descriptions of cultural relevance, enhanced engagement, and therapeutic effectiveness consistently supported quantitative findings of superior outcomes in CACI. The quantitative finding that therapeutic alliance mediated intervention effects aligned with qualitative themes emphasizing comfort, trust, and feeling understood.

One area of divergence emerged regarding implementation challenges. While quantitative data showed high treatment fidelity and no correlation between reported challenges and outcomes, qualitative data revealed significant counselor stress and concerns about sustainability. This suggests that counselors successfully maintained intervention quality despite experiencing substantial implementation burdens, raising questions about long-term feasibility.

Discussion

Effectiveness of Culturally Adapted Counseling Interventions

The present study provides robust evidence that culturally adapted counseling interventions significantly enhance mental health outcomes for university students compared to standard counseling approaches. Participants receiving CACI demonstrated substantially greater reductions in depression, anxiety, and stress symptoms, with effect sizes ($d = 0.74-0.82$) exceeding those typically observed in university counseling outcome research (Cho et al., 2024). These findings align with meta-analytic evidence indicating cultural adaptation enhances psychotherapy effectiveness, particularly for ethnic minority populations (Usmanova et al., 2020), while extending this evidence base specifically to diverse university student contexts.

The maintenance of treatment gains at three-month follow-up suggests that culturally adapted interventions produce durable therapeutic change, addressing concerns about short-term symptom relief without lasting impact. This finding parallels recent work by Listiyandini et al. (2025), who demonstrated sustained benefits of culturally adapted mindfulness interventions for Indonesian university students. The superior outcomes observed across multiple symptom domains (anxiety, depression, stress) and functional outcomes (quality of life, academic self-efficacy, career confidence) indicate that cultural adaptation produces broad-spectrum benefits rather than narrowly targeting specific symptoms. This comprehensive improvement likely reflects the intervention's attention to cultural contexts shaping students' overall wellbeing, consistent with ecological and systems perspectives emphasizing interconnections between cultural identity, mental health, and functional adaptation (Lim et al., 2024).

Importantly, the cultural adaptation effect operated through enhanced therapeutic processes rather than merely reflecting placebo or expectancy effects. Mediation analyses revealed that therapeutic alliance and perceived cultural adaptation accounted for significant portions of intervention effects, suggesting that cultural responsiveness strengthens the therapeutic relationship and increases intervention credibility—mechanisms identified as

critical for psychotherapy effectiveness. These findings support theoretical models positing that cultural congruence between clients and therapeutic approaches facilitates engagement, reduces cultural mistrust, and enables deeper therapeutic work. The significantly lower attrition rates in CACI (18.3% vs. 26.7%) further demonstrate that cultural adaptation improves engagement and retention, addressing persistent challenges of premature termination among diverse student populations.

However, several limitations warrant consideration. The quasi-experimental design, while ethically justified and ecologically valid, limits causal inference compared to randomized controlled trials. Although matched allocation produced baseline equivalence and multilevel modeling accounted for clustering effects, unmeasured confounds may have influenced outcomes. Future research should employ randomized designs where feasible and include active control conditions to isolate specific cultural adaptation components driving effectiveness. Additionally, the three-month follow-up, while demonstrating maintenance of gains, remains relatively short-term. Longer follow-up periods (12-24 months) are needed to evaluate sustained effectiveness and potential delayed effects, particularly for developmental outcomes like career development and academic achievement that unfold over extended timeframes.

Cultural Specificity and Differential Effectiveness

The moderator analyses revealed culturally specific patterns in intervention effectiveness, with Indigenous students and Middle Eastern students demonstrating the largest benefits from cultural adaptation ($d = 1.12$ and 1.04 , respectively), while East Asian international students showed more modest but still significant effects ($d = 0.68$). These differential effects underscore that cultural adaptation is not uniformly beneficial but rather depends on the degree of cultural distance between standard therapeutic approaches and clients' cultural worldviews. Indigenous students, whose healing traditions and conceptualizations of wellbeing often diverge substantially from Western psychological models (Guan & Jamil, 2025), particularly benefited from interventions incorporating Indigenous knowledge systems, community connections, and holistic wellness perspectives.

The finding that Middle Eastern students showed strong responses to cultural adaptation aligns with research highlighting how Western therapeutic approaches may conflict with collectivistic values, religious beliefs, and family structures central to Middle Eastern cultures (B. A. R. Hassan et al., 2023). CACI's incorporation of family involvement, respect for religious practices, and

attention to acculturative stress likely addressed core cultural needs for this population. The more moderate effects for East Asian international students, while still clinically meaningful, may reflect greater familiarity with Western educational and therapeutic contexts or cultural values emphasizing emotional restraint that complicated symptom reporting (Cho et al., 2024).

Qualitative findings enriched understanding of these quantitative patterns. Students from collectivistic cultural backgrounds particularly valued family involvement options and counselors' understanding of familial obligations and community contexts, consistent with research emphasizing family-centered approaches for collectivistic populations (Park et al., 2025). Indigenous students emphasized the importance of incorporating traditional healing practices and addressing intergenerational trauma and colonization impacts—dimensions that standard counseling approaches typically overlook (Cole et al., 2025). These findings highlight that effective cultural adaptation requires deep cultural knowledge extending beyond surface-level modifications to address fundamental worldview differences regarding personhood, healing, and wellness.

The absence of moderation by baseline severity suggests cultural adaptation benefits students across the symptom severity continuum, contradicting concerns that cultural considerations only matter for mild concerns or that severe pathology requires standardized evidence-based protocols. This finding supports arguments that cultural responsiveness is not a luxury for less severe cases but rather a fundamental component of effective care regardless of symptom severity. However, the study excluded students with severe symptoms requiring psychiatric intervention, limiting conclusions about cultural adaptation for more acute presentations. Future research should examine culturally adapted interventions for students with severe mental illness, substance use disorders, and crisis presentations, as these populations may particularly benefit from culturally responsive approaches yet face substantial barriers to appropriate care.

The finding that gender, student status, and previous counseling experience did not moderate outcomes suggests cultural adaptation produces robust effects across diverse student subgroups. However, the relatively small representation of gender-diverse participants (2.5%) limits conclusions about effectiveness for these populations. Given emerging evidence of unique mental health challenges facing gender-diverse university students (Kim & Kim, 2023), future research should specifically examine cultural adaptation addressing intersecting cultural and gender identities, particularly for students navigating multiple marginalized identities.

Implementation Challenges and Organizational Factors

Despite demonstrated effectiveness, implementation of culturally adapted counseling interventions presents substantial challenges that threaten real-world adoption and sustainability. Counselors consistently reported time constraints, limited cultural consultation resources, and inadequate institutional support as primary implementation barriers. These findings align with implementation science literature documenting that evidence-based practices often fail to translate into routine care due to organizational barriers, resource constraints, and inadequate implementation support. The successful maintenance of treatment fidelity (92.7% of sessions meeting thresholds) despite these challenges suggests counselors prioritized cultural adaptation even when facing implementation burdens, reflecting professional commitment and training effectiveness. However, qualitative data revealing counselor stress and sustainability concerns indicate this success came at personal cost, raising questions about long-term feasibility without systemic organizational changes.

The divergence between quantitative indicators of implementation success (high fidelity, no correlation between challenges and outcomes) and qualitative descriptions of implementation difficulty illustrates the value of mixed-methods approaches for implementation research. Quantitative metrics alone would suggest smooth implementation, while qualitative insights reveal underlying strain and potential barriers to sustainability. This finding underscores that short-term implementation success does not guarantee long-term sustainability, particularly when success depends on individual counselor dedication compensating for inadequate organizational infrastructure (Larsen et al., 2025).

This mixed-methods study provides compelling evidence that culturally adapted counseling interventions significantly enhance mental health outcomes, quality of life, and functional outcomes for diverse university students while improving therapeutic processes and satisfaction. However, effectiveness alone does not ensure implementation success, as substantial organizational barriers threaten real-world adoption and sustainability. Translating this evidence into practice requires systemic changes including comprehensive training infrastructure, organizational policy reforms, authentic community partnerships, and sustained resource commitments. As universities worldwide serve increasingly diverse student populations facing escalating mental health challenges, culturally responsive counseling services represent both an ethical imperative and a practical necessity. This research provides an evidence-based foundation and implementation framework to guide universities in developing counseling services that genuinely serve all

students, honoring their cultural identities while supporting their psychological wellbeing and academic success.

CONCLUSION

This study investigated effectiveness and implementation challenges of culturally adapted counseling interventions for diverse university students. Employing sequential explanatory mixed-methods design across five Southeast Asian universities, research integrated quantitative data from 480 students with qualitative insights from 102 stakeholders. Findings provide compelling evidence that culturally adapted counseling interventions (CACI) significantly enhanced outcomes compared to standard counseling, with large effect sizes for depression, anxiety, and stress reduction ($d = 0.74-0.82$) maintained at three-month follow-up.

This research advances multicultural counseling theory while demonstrating that intervention efficacy and implementation feasibility require separate evaluation frameworks. For practice, findings establish benchmarks for implementation and highlight necessary systemic changes. Future research should examine diverse institutional contexts, employ extended longitudinal designs, conduct component analyses, and explore digital modalities through participatory approaches.

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REFERENCES

- Adli, A., Mahmud, M., Amat, S., & Sahid, S. (2024). Malay Translation Of Attitudes Toward Career Counselling Scale For University Students In Malaysia. *Qubahan Academic Journal*, 4(2), 214–229. <https://doi.org/10.48161/qaj.v4n2a457>
- Ahmad, N. F., Engku Kamarudin, E. M. E., Mahmud, M. I., Afdal, A., Noor, A. M., & Alam, A. P. M. (2024). Internet Addiction And Depression Among Students At Residential College: Readiness To Seek Counselling Services. *Asian Journal Of University Education*, 20(1). <https://doi.org/10.24191/ajue.v20i1.25743>
- Ahmad, R., Hidayat, D. R., Fitri, S., Tahir, L. M., Kasmani, M. F., Sawai, R. P., Hisham, H. T., & Mahmud, M. I. (2024). The Psychometric Properties Of Students' Attitudes, Coping Strategies, And Psychological Symptoms. *International Journal Of Evaluation And Research In Education*, 13(1), 187–200. <https://doi.org/10.11591/ijere.v13i1.26665>
- Arifin, S., Zakaria, N. S., Wan Jaafar, W. M., Ghazali, N. M., & Sakari, N. S. (2023). The Impact Of Supervision Process Toward Counselling Competencies Among Malaysian Trainee Counsellors. *Iafor Journal Of Education*, 11(3), 93–111. <https://doi.org/10.22492/ije.11.3.05>
- Chan, Y. F., Supramanian, K., Bin Hassan, Z., & Mohd Yusof, S. M. (2024). Exploring The Heublein Model To Resolve Postgraduate Student Dropout In A Malaysian Public University. *Asian Journal Of University Education*, 20(2), 328–345. <https://doi.org/10.24191/ajue.v20i2.26999>
- Chiang, L., Wallwork, M.-A., & Terzis, L. D. (2024). Utilising A Collaborative Approach Between The Counselling And Health Clinics Teams For A Student Intern-Led Wellbeing Check-In Service: A Program Evaluation. *Journal Of The Australian And New Zealand Student Services Association*, 32(2), 147–162. <https://doi.org/10.30688/janzssa.2024-2-03>
- Cho, S., Kang, J., Baek, W. H., Jeong, Y. B., Lee, S., & Lee, S. M. (2024). Comparing Counseling Outcome For College Students: Metaverse And In-Person Approaches. *Psychotherapy Research*, 34(8), 1117–1130. <https://doi.org/10.1080/10503307.2023.2270139>
- Cole, A. L., Navin, F., & Reid, D. (2025). Exploring University Student Mental Health And Wellbeing Through A Low-Barrier Peer-Led Service: Emerging Insights From The Living Room. *Journal Of The Australian And New Zealand Student Services Association*, 33(1), 43–64. <https://doi.org/10.30688/janzssa.2025-1-01>
- Guan, H., & Jamil, R. B. (2025). Does Ai Affect Job Burnout And Insecurity Differently By Gender? A Fuzzy-Set Qualitative Comparative Analysis

- (Fsqca) Of 26 University Faculty Cases. *Computers In Human Behavior Reports*, 19. <https://doi.org/10.1016/j.chbr.2025.100766>
- Hassan, B. A. R., Mohammed, A. H., Wayyes, A. M., Farhan, S. S., Al-Ani, O. A., Blebil, A., & Dujaili, J. (2023). Exploring The Level Of Lockdown Fatigue And Effect Of Personal Resilience And Coping Behaviours On University Students During The Covid-19 Pandemic: A Cross-Sectional Analysis From Iraq. *Current Psychology*, 42(17), 14851–14859. <https://doi.org/10.1007/s12144-022-02779-8>
- Hassan, S., Kaur, P., Muchiri, M., Ogbonnaya, C., & Dhir, A. (2023). Unethical Leadership: Review, Synthesis And Directions For Future Research. *Journal Of Business Ethics*, 183(2), 511–550. <https://doi.org/10.1007/s10551-022-05081-6>
- Khalid, N. M., Senom, F., Muhamad, A. S., Mansor, N. M. F., & Saleh, N. H. (2023). Implementation Of Perma Model Into Teaching And Learning Of Generation Z. *International Journal Of Learning, Teaching And Educational Research*, 22(9), 423–441. <https://doi.org/10.26803/ijlter.22.9.23>
- Kim, T., & Kim, D. (2023). Chilly Climate Perceived By Female Engineering Undergraduates: An Exploratory Study Using Concept Mapping. *Frontiers In Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1145795>
- Larsen, A., James, T., Mann, G., Balloo, K., Hopkins, S., Westacott, M., & Subramaniam, J. (2025). Student Support, Beyond Empty Signifiers: Insights And Challenges From Enabling Educators. A Practice Report. *Student Success*, 16(2), 71–80. <https://doi.org/10.63608/ssj.3795>
- Lee, H., Shah, S. K., & Agarwal, R. (2024). Spinning An Entrepreneurial Career: Motivation, Attribution, And The Development Of Organizational Capabilities. *Strategic Management Journal*, 45(3), 463–506. <https://doi.org/10.1002/smj.3561>
- Lim, E. M., Kang, H. J., & Kim, T. S. (2024). Application Of The System Theory Framework To The Career Development Of Korean University Students. *International Journal For Educational And Vocational Guidance*, 24(3), 581–602. <https://doi.org/10.1007/s10775-023-09578-y>
- Listiyandini, R. A., Andriani, A., Afsari, N., Marfu'atun, E., Hafizah, N., Sholeh, A., Nirbayaningtyas, R. B., Moulds, M. L., Mahoney, A. E. J., & Newby, J. M. (2025). A Culturally Adapted Internet-Delivered Mindfulness Intervention With Counsellor Guidance For Reducing Distress Among Indonesian University Students: A Randomised Waitlist-Controlled Trial. *Behaviour Research And Therapy*, 193. <https://doi.org/10.1016/j.brat.2025.104827>
- Mcdonald, S., Stahl, G., Nguyen, T., & Fairbairn, K. (2024). Resourcing Their Own Aspirations: First-In-Family Young People And Diy Career Counselling.

- British Journal Of Educational Studies*, 72(2), 235–252.
<https://doi.org/10.1080/00071005.2023.2279571>
- Mekonnen, G. T., Beyera, G. K., Tulu, A., & Roba, T. T. (2023). Perceived Influence Of Covid-19 Pandemic On University Students' Learning And Mental Health In Ethiopia. *Quality And Quantity*, 57(3), 2545–2562.
<https://doi.org/10.1007/s11135-022-01485-8>
- Min, Y., Choi, Y.-S., & Kim, B.-N. (2024). Filling The Mental Service Gap On Campus: An Effectiveness Trial Testing The Utility Of App-Based Mindfulness Psychological Intervention For College Students. *Current Psychology*, 43(17), 15434–15444. <https://doi.org/10.1007/s12144-023-05402-6>
- Mohd Nasir, M. A. M., Ali, N. A. M., Abdul-Aziz, A. R. A., Ismail, S., & Faudzi, F. N. M. (2023). An Investigation Of Emotional Intelligence And Counselling Self-Efficacy Among Counsellors-In-Training. *International Journal Of Evaluation And Research In Education*, 12(3), 1222–1232.
<https://doi.org/10.11591/ijere.v12i3.24476>
- Nam, S., Jang, N., Jeong, J., Shin, S., & Bardhoshi, G. (2024). The Lived Experiences Of Korean International Students In The United States: A Photovoice Study. *International Journal For The Advancement Of Counselling*, 46(1), 94–112. <https://doi.org/10.1007/s10447-023-09536-x>
- Nam, S., & Kim, S. (2025). Deciphering The Digital Evolution: Strategic Insights Into The Korean Fashion Industry Through Advanced Analytical Perspectives. *Fashion And Textiles*, 12(1), Article 6.
<https://doi.org/10.1186/s40691-025-00415-0>
- Omar, E., Yasin, M. Md., Ismail, I. A., Shaari, S. A., Baharuddin, H., & Siran, R. (2024). Stress, Anxiety And Depression Of Undergraduate Medical Students In A Public Medical Programme In Malaysia: A Risk Factor Analysis. *Education In Medicine Journal*, 16, 37–45.
<https://doi.org/10.21315/eimj2024.16.s1.5>
- Park, S., Nam, J. K., & Kim, K. (2025). Helicopter Parenting And Career Decision-Making In University Students: Mediation By Fear Of Failure And Self-Efficacy. *Journal Of Career Development*, 52(5), 599–614.
<https://doi.org/10.1177/08948453251363222>
- Ristianti, D. H., Syahindra, W., Jumansyah, J., Murlena, M., & Arip, M. A. S. B. M. (2025). Development Of Smart Digital Interactive Service As A Strategy For Guidance And Counseling Services In Higher Education. *Journal Of Education And Health Promotion*, 14(1).
https://doi.org/10.4103/jehp.jehp_1994_23

- Robinson, K., Atkinson, M. J., Kylišová, K., Egan, S. J., Shafran, R., & Wade, T. D. (2024). Pilot Implementation Of An Evidence-Based Online Cognitive Behavioural Therapy For Perfectionism In University Students: Lessons Learnt. *Stress And Health*, *40*(5). <https://doi.org/10.1002/smi.3444>
- Spiccia, C. N., Howell, J. A., Arnold, C., Hay, A., & Breen, L. J. (2023). Supporting Bereaved Students In Higher Education: Student Perspectives. *British Journal Of Guidance And Counselling*, *51*(3), 381–394. <https://doi.org/10.1080/03069885.2022.2028721>
- Sun, Y., & Jung, H. (2024). Machine Learning (ML) Modeling, Iot, And Optimizing Organizational Operations Through Integrated Strategies: The Role Of Technology And Human Resource Management. *Sustainability Switzerland*, *16*(16), Article 6751. <https://doi.org/10.3390/su16166751>
- Usmanova, A. A., Kosimova, D. X., & Abduraimova, B. B. (2020). Estimated Attitude Of Students To Cultural And Leisure Activities At The University. *International Journal Of Psychosocial Rehabilitation*, *24*(3), 268–281. <https://doi.org/10.37200/ijpr/v24i3/pr200779>
- Vescio, T., Walshe, C., & Blance-Palmer, R. (2023). A Wellbeing Specialist Case Management Service Providing Support To Students In A University Setting. *Journal Of The Australian And New Zealand Student Services Association*, *31*(1), 10–18. <https://doi.org/10.30688/janzssa.2023-1-04>
- Zhao, W., & Bin Osman, L. H. (2023). A Systematic Review Of The Use Of Organisational And Management Theories In Reverse Logistics Studies. *Logforum*, *19*(1), 141–154. <https://doi.org/10.17270/j.log.2023.818>