

Evaluating the effectiveness of counseling interventions on university students' mental health and academic performance in Uzbekistan

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Abstract

The aim of the present study was to examine the effect of structured counseling interventions on mental health and academic performance of university students in Uzbekistan, using a quasi-experimental design with pre-test-post-test and control group. The statistical population was 240 undergraduate students with mild to moderate symptoms of depression or anxiety from three national universities (Samarkand, Bukhara, Tashkent) who were randomly allocated in two intervention groups (5 individual cognitive-behavioral counseling sessions) and control (usual care). Data were gathered by valid tools (BDI-II, BAI, PSS-10 and semester grade point average) and were analyzed by independent/paired t-tests, ANCOVA and Pearson correlation. The outcomes were that, compared with the control group, the intervention group showed significant reduction in depression (25.3%; $\Delta=-7.5$, $d=1.32$), anxiety (28.0%; $\Delta=-7.4$, $d=1.48$), and perceived stress (22.1%; $\Delta=-5.6$, $d=1.29$) symptoms, and improvement in academic achievement (14.5%; $\Delta=+0.45$ GPA). An extremely high negative correlation was reported between improved mental health and academic development ($r=-0.53$ to -0.61). More than 65% of the students in the intervention group achieved clinically significant improvement. The results confirm the effectiveness of short-term counseling interventions for enhancing at once psychological and

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Received on July 4, 2025 and approved for publication on August 13, 2025.



learning indicators in higher education in Uzbekistan and indicate the need to develop student-centered counseling infrastructure as a key strategy in educational policy development.

Keywords: counseling interventions; student mental health; academic performance; higher education in Uzbekistan.

Avaliação da eficácia de intervenções de aconselhamento na saúde mental e no desempenho acadêmico de estudantes universitários no Uzbequistão

Resumo

O objetivo do presente estudo foi examinar o efeito de intervenções estruturadas de aconselhamento na saúde mental e no desempenho acadêmico de estudantes universitários no Uzbequistão, utilizando um desenho quase-experimental com pré-teste, pós-teste e grupo de controle. A população estatística foi composta por 240 estudantes de graduação com sintomas de depressão ou ansiedade de gravidade leve a moderada, provenientes de três universidades nacionais (Samarcanda, Bucara, Tashkent), que foram alocados aleatoriamente em dois grupos: um de intervenção (5 sessões individuais de aconselhamento cognitivo-comportamental) e um de controle (cuidados habituais). Os dados foram coletados por meio de instrumentos validados (BDI-II, BAI, PSS-10 e média de notas do semestre) e analisados por meio de testes t independentes/emparelhados, ANCOVA e correlação de Pearson. Os resultados mostraram que, em comparação com o grupo controle, o grupo de intervenção apresentou redução significativa na depressão (25,3%; $\Delta = -7,5$, $d = 1,32$), ansiedade (28,0%; $\Delta = -7,4$, $d = 1,48$) e estresse percebido (22,1%; $\Delta = -5,6$, $d = 1,29$), além de melhora no desempenho acadêmico (14,5%; $\Delta = +0,45$ na média de notas). Foi relatada uma correlação negativa extremamente alta entre a melhora na saúde mental e o desenvolvimento acadêmico ($r = -0,53$ a $-0,61$). Mais de 65% dos estudantes do grupo de intervenção alcançaram uma melhora clinicamente significativa. Os resultados confirmam a eficácia das intervenções de aconselhamento de curto prazo para melhorar simultaneamente os indicadores psicológicos e de aprendizagem no ensino superior no Uzbequistão e indicam a necessidade de desenvolver uma infraestrutura de aconselhamento centrada no estudante como estratégia-chave no desenvolvimento de políticas educacionais.

Palavras-chave: intervenções de aconselhamento; saúde mental dos estudantes; desempenho acadêmico; ensino superior no Uzbequistão.

Evaluación de la eficacia de las intervenciones de asesoramiento sobre la salud mental y el rendimiento académico de los estudiantes universitarios en Uzbekistán

Resumen

El objetivo del presente estudio fue examinar el efecto de las intervenciones de asesoramiento estructuradas sobre la salud mental y el rendimiento académico de los estudiantes universitarios en Uzbekistán, utilizando un diseño cuasi-experimental con pruebas previas y posteriores y un grupo de control. La población estadística estuvo compuesta por 240 estudiantes universitarios con síntomas de depresión o ansiedad de gravedad leve a moderada, procedentes de tres universidades nacionales (Samarcanda, Bujará y Tashkent), que fueron asignados aleatoriamente a dos grupos: un grupo de intervención (5 sesiones individuales de asesoramiento cognitivo-conductual) y un grupo de control (atención habitual). Los datos se recopilaron mediante herramientas válidas (BDI-II, BAI, PSS-10 y nota media semestral) y se analizaron mediante pruebas t independientes/emparejadas, ANCOVA y correlación de Pearson. Los resultados mostraron que, en comparación con el grupo de control, el grupo de intervención presentó una reducción significativa de los síntomas de depresión (25,3 %; $\Delta = -7,5$, $d = 1,32$), ansiedad (28,0 %; $\Delta = -7,4$, $d = 1,48$) y estrés percibido (22,1 %; $\Delta = -5,6$, $d = 1,29$), así como una mejora en el rendimiento académico (14,5 %; $\Delta = +0,45$ en la nota media). Se observó una correlación negativa extremadamente alta entre la mejora de la salud mental y el desarrollo académico ($r = -0,53$ a $-0,61$). Más del 65 % de los estudiantes del grupo de intervención lograron una mejora clinicamente significativa. Los resultados confirman la eficacia de las intervenciones de orientación a corto plazo para mejorar simultáneamente los indicadores psicológicos y de aprendizaje en la educación superior en Uzbekistán, e indican la necesidad de desarrollar una infraestructura de orientación centrada en el estudiante como estrategia clave en el desarrollo de la política educativa.

Palabras clave: intervenciones de orientación; salud mental de los estudiantes; rendimiento académico; educación superior en Uzbekistán.

Évaluation de l'efficacité des interventions de soutien psychologique sur la santé mentale et les résultats scolaires des étudiants universitaires en Ouzbékistan

Résumé

L'objectif de la présente étude était d'examiner l'effet d'interventions de soutien psychologique structurées sur la santé mentale et les résultats scolaires des étudiants universitaires en Ouzbékistan, à l'aide d'un plan d'étude quasi-expérimental comprenant un pré-test, un post-test et un groupe témoin. La population statistique était composée de 240 étudiants de premier cycle présentant des symptômes de dépression ou d'anxiété d'intensité légère à modérée, issus de trois universités nationales (Samarcande, Boukhara, Tachkent), qui ont été répartis de manière aléatoire en deux groupes : un groupe d'intervention (5 séances individuelles de conseil cognitivo-comportemental) et un groupe témoin (soins habituels). Les données ont été recueillies à l'aide d'outils validés (BDI-II, BAI, PSS-10 et moyenne pondérée cumulative semestrielle) et analysées par des tests t indépendants/appariés, une ANCOVA et une corrélation de Pearson. Les résultats ont montré que, par rapport au groupe témoin, le groupe d'intervention présentait une réduction significative des symptômes de dépression (25,3 % ; $\Delta = -7,5$, $d = 1,32$), d'anxiété (28,0 % ; $\Delta = -7,4$, $d = 1,48$) et du stress perçu (22,1 % ; $\Delta = -5,6$, $d = 1,29$), ainsi qu'une amélioration des résultats scolaires (14,5 % ; $\Delta = +0,45$ de moyenne semestrielle). Une corrélation négative extrêmement forte a été observée entre l'amélioration de la santé mentale et la progression scolaire ($r = -0,53$ à $-0,61$). Plus de 65 % des étudiants du groupe d'intervention ont connu une amélioration cliniquement significative. Les résultats confirment l'efficacité des interventions de conseil à court terme pour améliorer à la fois les indicateurs psychologiques et d'apprentissage dans l'enseignement supérieur en Ouzbékistan et soulignent la nécessité de développer une infrastructure de conseil centrée sur l'étudiant en tant que stratégie clé dans l'élaboration des politiques éducatives.

Mots-clés : interventions de conseil ; santé mentale des étudiants ; résultats scolaires ; enseignement supérieur en Ouzbékistan.

评估乌兹别克斯坦大学生心理健康与学业表现的咨询干预效果

摘要

本研究旨在探讨结构化咨询干预对乌兹别克斯坦大学生心理健康及学业表现的影响, 采用包含前测、后测及对照组的准实验设计。研究对象为来自三所国立大学(撒马尔罕、布哈拉、塔什干)的240名本科生, 这些学生均表现出轻度至中度的抑郁或焦虑症状, 并被随机分配至两个干预组(接受5次个体认知行为咨询)和一个对照组(接受常规照护)。数据收集采用有效量表(BDI-II、BAI、PSS-10)及学期平均绩点(GPA), 并利用独立/配对t检验、协方差分析(ANCOVA)及皮尔逊相关分析进行处理。结果显示, 与对照组相比, 干预组在抑郁(25.3%; $\Delta = -7.5$, $d = 1.32$)、焦虑(28.0%; $\Delta = -7.4$, $d = 1.48$)及感知压力(22.1%; $\Delta = -5.6$, $d = 1.29$)症状方面均有显著减轻, 同时学业成绩也有所提升(14.5%; $\Delta = +0.45$ GPA)。心理健康的改善与学业进步之间呈现出极高的负相关性($r = -0.53$ 至 -0.61)。干预组中超过65%的学生获得了具有临床意义的改善。研究结果证实了短期咨询干预在同时提升乌兹别克斯坦高等教育领域心理与学业指标方面的有效性, 并表明建立以学生为中心的咨询服务体系是教育发展政策中的一项关键策略。

关键词: 咨询干预; 学生心理健康; 学业表现; 乌兹别克斯坦高等教育。

Bewertung der Wirksamkeit von Beratungsmaßnahmen auf die psychische Gesundheit und die akademischen Leistungen von Studierenden in Usbekistan

Zusammenfassung

Ziel der vorliegenden Studie war es, die Wirkung strukturierter Beratungsmaßnahmen auf die psychische Gesundheit und die akademischen Leistungen von Studierenden in Usbekistan zu untersuchen. Dazu wurde ein quasi-experimentelles Design mit Vor- und Nachtest sowie einer Kontrollgruppe verwendet. Die statistische Grundgesamtheit bestand aus 240 Bachelor-Studierenden mit leichten bis mittelschweren Symptomen einer Depression oder Angststörung an drei staatlichen Universitäten (Samarkand, Buchara, Taschkent), die nach dem Zufallsprinzip zwei Interventionsgruppen (5 individuelle kognitiv-verhaltenstherapeutische Beratungssitzungen) und einer Kontrollgruppe (übliche Versorgung) zugeordnet wurden. Die Daten wurden

mit validierten Instrumenten (BDI-II, BAI, PSS-10 und semesterbezogener Notendurchschnitt) erhoben und mittels unabhängiger/gepaarter t-Tests, ANCOVA und Pearson-Korrelation analysiert. Die Ergebnisse zeigten, dass die Interventionsgruppe im Vergleich zur Kontrollgruppe eine signifikante Verringerung der Symptome von Depressionen (25,3 %; $\Delta = -7,5$, $d = 1,32$), Angstzuständen (28,0 %; $\Delta = -7,4$, $d = 1,48$) sowie des wahrgenommenen Stresses (22,1 %; $\Delta = -5,6$, $d = 1,29$) sowie eine Verbesserung der akademischen Leistungen (14,5 %; $\Delta = +0,45$ Notendurchschnitt). Es wurde eine extrem hohe negative Korrelation zwischen verbesserter psychischer Gesundheit und akademischer Entwicklung festgestellt ($r = -0,53$ bis $-0,61$). Mehr als 65 % der Studierenden in der Interventionsgruppe erzielten eine klinisch signifikante Verbesserung. Die Ergebnisse bestätigen die Wirksamkeit kurzfristiger Beratungsmaßnahmen zur gleichzeitigen Verbesserung psychologischer und lernbezogener Indikatoren im Hochschulwesen in Usbekistan und weisen auf die Notwendigkeit hin, eine studierendenzentrierte Beratungsinfrastruktur als Schlüsselstrategie in der bildungspolitischen Entwicklung aufzubauen.

Schlüsselwörter: Beratungsmaßnahmen; psychische Gesundheit von Studierenden; akademische Leistung; Hochschulbildung in Usbekistan.

Introduction

Mental health of students, as prospective constructors of society and human capital, is considered a core pillar of the effective dynamics of the higher education system and national development. Simultaneously, making social transformation more complex, increasing competitive pressures, and transformation into adulthood challenges subject students to a broad range of stressors that have the ability to lead to the incidence or accumulation of problems such as stress, depression, and anxiety. These psychic disorders, apart from evoking strong personal agony for the individual, also have a decisive impact on their educational career and professional life; loss of focus, loss of interest, impaired cognitive function, and ultimately educational failure are the common consequences of these disorders (Delgadillo *et al.*, 2020). For Uzbekistan whose higher education system is still in development and in active transformation, pointing to this problem is twice as necessary (Boymurodova; Muxtorova, 2025).

The quantitative growth of universities and increases in the student number are a case in favor of qualitative harmonization of support services, especially mental health services (Priestley *et al.*, 2021). Despite the growing attention to this issue, systematic evidence-based evidence on the effectiveness of support interventions, especially organized counseling services, aimed at improving at the same time mental health indicators and students' academic performance in Uzbekistan is not common (Yunusovich; Khan, 2024). This knowledge deficit has hindered optimal planning and resource allocation for the advancement of student services. Therefore, to carry out research directly examining the influence of standard counseling interventions in Uzbek learning environments on the two most significant determinants of mental health and academic achievements is not only a scientific necessity, but also an imperative necessity to design efficient educational and support policies to meet the real needs of Uzbek students (Nawaz *et al.*, 2024).

Student mental health and how it contributes to academic achievement, being an important problem, has been discussed widely by researchers across the globe. Robust empirical evidence from all over the world indicates that such mental health problems as anxiety, depression, and stress have a worrying prevalence among students and directly and indirectly negatively impact all areas of academic performance, including motivation, concentration, learning, class participation, and ultimately students' GPAs and grades (Bruffaerts *et al.*, 2018). In response to this challenge, interventions in counseling should be prepared as structured and short-term interventions as one of the most important pillars for assisting students at school. Among them, cognitive-behavioral paradigm-based interventions have a unique position in school counseling services due to their realistic, structured, and problem-solving nature (González-Valero *et al.*, 2019).

Different studies across different communities have proven the effectiveness of various types of such interventions in significantly reducing neurotic symptoms in addition to increasing students' attitudes toward psychological well-being (Kalvāns, 2024). But most of the existing knowledge relies on studies conducted in Western or East Asian educational and cultural contexts. The Central Asian context, specifically that in Uzbekistan, which is undergoing an accelerated socio-economic change and whose system of higher education is undergoing far-reaching qualitative and quantitative reform, requires more in-depth studies based on local data. While anxiety regarding the role of student mental health in Uzbekistan is developing, the counseling infrastructure in the majority of universities remains in its infancy and grapples with challenges of limited resources, underqualified counselors, and sometimes cultural issues pertaining to stigmatizing the requirement for professional help (Oktaviani; Putri; Mulyeni, 2025). Published literature on the systematic and rigorous assessment of the impact of these new services on objective mental health outcomes as well as academic performance indicators of Uzbek students is limited and largely descriptive or qualitative (Yunusovich; Khan, 2024).

This empirical gap is particularly evident in well-designed intervention studies (i.e., controlled group studies and longitudinal surveys) that have better ability to infer causality. The lack of high-quality, local empirical evidence on the effectiveness of standard counseling interventions in enhancing mental well-being as well as important indicators of academic success, such as GPA, at Uzbek universities has undermined the development and optimization of evidence-based services. Therefore, a review of existing literature clearly indicates the need for research specifically on this gap in knowledge in the Uzbek higher education environment. The current research attempts to bridge this fundamental gap and offer reliable data for future purposes.

Methodology

Research Design

This study used quasi-experimental design and a pretest-posttest control group. The participants were assigned randomly to two intervention groups (recipients of structured counseling services) and control (recipients of regular university services). Dependent variables (academic performance and mental well-being) were assessed in two stages: the initial (pretest) and at the end of the academic semester (posttest).

Population and Sample

The statistical population was all undergraduate students with mild to moderate anxiety and depression symptoms in three of the largest national universities of Uzbekistan (Tashkent, Samarkand, Bukhara) in the 2023-2024 academic year. Employing multistage cluster random sampling and gender and academic level matching, the final sample of 240 students was chosen. Inclusion criteria were: 1) primary diagnosis of symptoms of anxiety/depression (based on initial screening questionnaires), 2) not simultaneously receiving psychotherapy intervention, and 3) willing and informed participation.

Table 1. Demographic Characteristics

Variable	Intervention Group (n=120)	Control Group (n=120)	Total (n=240)
Age (Mean $\pm$ SD)	20.4 $\pm$ 1.7 years	20.6 $\pm$ 1.9 years	20.5 $\pm$ 1.8 years
Gender			
Female	74 (61.7%)	72 (60.0%)	146 (60.8%)
Male	46 (38.3%)	48 (40.0%)	94 (39.2%)
University			
Tashkent State	44 (36.7%)	42 (35.0%)	86 (35.8%)
Samarkand State	40 (33.3%)	41 (34.2%)	81 (33.8%)
Bukhara State	36 (30.0%)	37 (30.8%)	73 (30.4%)
Study Year			
First Year	38 (31.7%)	36 (30.0%)	74 (30.8%)
Second Year	42 (35.0%)	43 (35.8%)	85 (35.4%)
Third Year	28 (23.3%)	29 (24.2%)	57 (23.8%)
Fourth Year	12 (10.0%)	12 (10.0%)	24 (10.0%)

Source: Authors findings:

Research Instrument

The three validated questionnaires, which were employed to investigate mental health, were used to investigate mental health. The 21-item, four-point Likert scale (0 to 3) Beck Depression Inventory-Second Edition (BDI-II) was employed to measure the severity of depressive symptoms (Beck; Steer; Brown, 1996). The 21-item Beck Anxiety Inventory (BAI) and the same scale were used to measure the severity of anxiety symptoms (Beck *et al.*, 1988). Stress was also scored using the Perceived Stress Questionnaire (PSS-10) with 10 questions and a five-point Likert scale from 0 to 4 (Cohen; Kamarck; Mermelstein, 1983). Academic achievement was measured using the semester GPA of the students, which was obtained from the data of the university grading system with an accuracy of 0.01.

Intervention Protocol

Intervention participants in this study received five one-on-one cognitive-behavioral counseling (CBT) sessions by certified and trained counselors. The sessions were held weekly for 50 to 60 minutes each at the university counseling center. Intervention content was patterned after the general CBT treatment protocol for students' depression and anxiety and included psychological education on symptoms, cognitive restructuring, behavioral activation, and coping skills training and stress management. On the other hand, the control group was given only the regular university services, including access to study brochures or participation in occasional public sessions.

Data Analysis Method

The data collected were computed using SPSS version 26. Independent t-test was used in comparing the mean of groups during pre-test. Intrast group changes from pre-test to post-test were examined using paired t-test. In addition, analysis of covariance (ANCOVA) was used to equate post-test scores with the control of the pre-test effect. Pearson correlation coefficient was calculated to examine the correlation between mental health variables and semester grade point average (GPA). The level of significance in all the tests was set at less than 0.05.

Results and Discussions

Table 2: Baseline Demographic and Clinical Characteristics of Participants

Characteristic	Intervention (n=120)	Control (n=120)	p-value
Age (years), M $\pm$ SD	20.4 $\pm$ 1.7	20.6 $\pm$ 1.9	0.421
Female, n (%)	74 (61.7%)	72 (60.0%)	0.789
Baseline BDI-II, M $\pm$ SD	29.8 $\pm$ 6.2	30.1 $\pm$ 5.9	0.682
Baseline BAI, M $\pm$ SD	26.5 $\pm$ 5.8	25.9 $\pm$ 6.1	0.437
Baseline PSS, M $\pm$ SD	25.3 $\pm$ 4.7	24.8 $\pm$ 5.0	0.398
Baseline GPA, M $\pm$ SD	3.12 $\pm$ 0.41	3.09 $\pm$ 0.38	0.553

Source: Authors findings

No statistically significant differences between intervention and control groups at baseline were observed among all demographic and clinical variables that were assessed (all $p > 0.05$), reflecting successful randomization. Both intervention groups reported moderate depression (BDI-II), anxiety (BAI), and perceived stress (PSS), with equivalent academic functioning (GPA).

Table 3: Pre-Post Changes in Depression Scores (BDI-II)

Group	Pre-test, M $\pm$ SD	Post-test, M $\pm$ SD	Mean Δ (95% CI)	p-value	Cohen's d
Intervention	29.8 $\pm$ 6.2	22.3 $\pm$ 5.1	-7.5 (-8.2, -6.8)	<0.001	1.32
Control	30.1 $\pm$ 5.9	29.4 $\pm$ 6.0	-0.7 (-1.4, 0.1)	0.083	0.12

Source: Authors findings

Cognitive-behavioral treatment had a statistically and clinically significant reduction in depressive symptoms. Intervention group showed a 25.3% reduction in BDI-II scores (Cohen's $d = 1.32$, large effect), whereas control group shifted slightly ($p = 0.083$). Between-group difference in mean change was extremely significant ($F(1,237) = 24.75$, $p < 0.001$).

Table 4: Pre-Post Changes in Anxiety Scores (BAI)

Group	Pre-test, M $\pm$ SD	Post-test, M $\pm$ SD	Mean Δ (95% CI)	p-value	Cohen's d
Intervention	26.5 $\pm$ 5.8	19.1 $\pm$ 4.3	-7.4 (-8.0, -6.8)	<0.001	1.48
Control	25.9 $\pm$ 6.1	25.2 $\pm$ 5.9	-0.7 (-1.3, -0.1)	0.031	0.12

Source: Authors findings

Symptoms of anxiety were lowered significantly in the intervention group, 28.0% reduction in BAI scores following intervention ($d = 1.48$, large effect). In the control group, minimal reduction (1.7% decrease) was observed. ANCOVA confirmed that the intervention effect remained significant after baseline anxiety control ($F(1,237) = 31.82$, $p < 0.001$).

Table 5: Pre-Post Changes in Perceived Stress (PSS-10)

Group	Pre-test, M $\pm$ SD	Post-test, M $\pm$ SD	Mean Δ (95% CI)	p-value	Cohen's d
Intervention	25.3 $\pm$ 4.7	19.7 $\pm$ 3.9	-5.6 (-6.2, -5.0)	<0.001	1.29
Control	24.8 $\pm$ 5.0	24.1 $\pm$ 4.8	-0.7 (-1.3, -0.1)	0.024	0.14

Source: Authors findings

Perceived levels of stress decreased significantly in the intervention group, by a 22.1% reduction after treatment ($d = 1.29$). The change size was 8 times greater than in the control group. The group $\times$ time interaction effect was highly significant in repeated-measures ANOVA ($F(1,238) = 28.93$, $p < 0.001$).

Table 6: Academic Performance (GPA) Changes

Group	Pre-test, M $\pm$ SD	Post-test, M $\pm$ SD	Mean Δ (95% CI)	p-value
Intervention	3.12 $\pm$ 0.41	3.57 $\pm$ 0.39	+0.45 (0.39, 0.51)	<0.001
Control	3.09 $\pm$ 0.38	3.14 $\pm$ 0.40	+0.05 (0.01, 0.09)	0.022

Source: Authors findings

Counseling recipients demonstrated significant improvement in academic achievement with a 14.4% improvement in semester GPA ($\Delta = +0.45$). The control group, albeit small, subtly improved ($\Delta = +0.05$). Between-group difference in change in GPA was statistically significant ($t(238) = 8.67$, $p < 0.001$, $d = 1.08$).

Table 7: Correlations between Mental Health Improvements and GPA Change

Variable	Δ GPA	Δ BDI-II	Δ BAI	Δ PSS
Δ GPA	1			
Δ BDI-II (r)	-0.61**	1		
Δ BAI (r)	-0.58**	0.79**	1	
Δ PSS (r)	-0.53**	0.72**	0.68**	1

**p < 0.001

Source: Authors findings

Spearman's correlations of large negative values were indicated between improvement in academic performance and the development of mental health. Reductions in depression ($r = -0.61$), anxiety ($r = -0.58$), and stress ($r = -0.53$) were strongly correlated with GPA improvements (all $p < 0.001$), implying that psychological change accounted for 28-37% of the variance in academic performance improvement (R^2 range = 0.28-0.37).

Table 8: Clinically Significant Change Classification

Outcome	Group	Improved (%)	Unchanged (%)	Deteriorated (%)
Depression	Intervention	68.3%	29.2%	2.5%
(BDI-II)	Control	10.8%	83.3%	5.9%
Anxiety	Intervention	72.5%	25.8%	1.7%
(BAI)	Control	12.5%	80.0%	7.5%
Academic	Intervention	65.0%*	33.3%	1.7%
Performance	Control	15.8%	77.5%	6.7%

**GPA increase ≥ 0.3 points*

Source: Authors findings

Over two-thirds of intervention participant's demonstrated clinically significant depression (68.3%) and anxiety (72.5%) improvement compared to 10-12% controls. Similarly, 65% of students counseled demonstrated significant academic improvement (GPA $\Delta \geq 0.3$) compared to 15.8% controls. Decline was overwhelmingly lower in the intervention group on all scales.

The findings of this study provide robust proof of the effectiveness of structured counseling interventions, in the present instance cognitive-behavioral strategies, to improve the mental health and academic performance of Uzbek university students. The dramatic 25% reduction in depressive symptoms, 28% reduction in anxiety symptoms, and 22% reduction in perceived stress in the intervention group are consistent with a vast body of international literature on short-term effectiveness of CBT with student populations. These statistically significant improvements weren't merely numerically large, but clinically significant as well, with more than two-thirds of the intervention group showing clinically significant improvement in symptoms of psychological distress.

Even more poignant was the simultaneous positive impact of these interventions on an objective measure of academic success, grade point average (GPA), which increased by 0.45 points (or 14.5%) in the intervention group, strongly demonstrating the inextricable link between mental well-being and academic success. The strong negative correlations

between reductions in depression, anxiety, and stress scores and their respective increases in GPA ($r = -0.53$ to -0.61) represent empirical support for the hypothesis that improved psychological well-being, through channels such as improved concentration, increased intrinsic motivation, improved cognitive functioning, and reduced absenteeism, provides the contextual foundation for improved academic performance. In the particular context of higher education in Uzbekistan, such findings have highest policy implications. The success of the relatively brief (5-session) protocol employed in this study shows that it is achievable to use effective interventions even with restricted resources.

This is promising because the majority of the nation's universities are under the strain of scarce trained counselors, budget constraints, and cultural concerns in getting students involved in counseling centers. Their effectiveness observed on academic achievement can be a strong argument in persuading academic leaders and national policymakers, who like to focus on objective measures in learning. Investment in the construction of student counseling services not only is a humane step for the psychological support of students but can also be regarded as an intelligent educational policy for enhancing the most important indicators of educational success and minimizing educational dropout in Uzbekistan's emerging higher education system.

Though the outcomes are promising, this research has some shortcomings. Sampling only three large universities might create concerns about the generalizability of findings to smaller universities or in rural areas. The failure to have long-term follow-up of participants precludes assessment of the sustainability of the intervention effects. Lastly, focusing solely on individual CBT interventions emphasizes the need to assess the efficacy of other approaches (e.g., group interventions, acceptance and commitment-based interventions, or integrated designs) in future research. Subsequent research can provide greater understanding of the processes of the effects of these interventions within Uzbekistan's specific cultural context through identification of mediating and moderator variables (e.g., social support, psychological resilience, and cultural beliefs).

In conclusion, this study has taken a stride towards filling the knowledge gap regarding the measurement of the performance of university guidance services in Central Asia and Uzbekistan as a case. The results clearly show that structured counseling interventions are a valuable asset to the higher education system and can foster both of the two fundamental priorities of "student mental health" and "quality of academic performance" with good efficiency. Based on this data, quantitative and qualitative enhancement of university counseling centers, evidence-based expert training of counselors (such as CBT),

and production of campaigns to reduce the stigma of psychological service seeking must be on the agenda of educational policymakers and university administrators in Uzbekistan.

Conclusion

Providing strong empirical evidence from the Uzbek higher education environment, the present study clearly shows that cognitive-behavioral therapy (CBT) structured counseling interventions have a distinct and two-way influence on improving mental health and enhancing students' academic achievement. The significant 25-28% reduction in depression, anxiety, and stress symptoms in the intervention group, and clinical improvement for more than two-thirds of the sample, is robust evidence of the effectiveness of these services in reducing students' psychological distress. In the meantime, the 14.5% increase in GPA and the strong negative correlation between improved mental health and academic achievement ($r = -0.53$ to -0.61) confirm the unprecedented supportive role of these interventions to academic achievement.

The findings suggest that the investment in the student-focused development of counseling services is not so much a moral response to the psychological needs of the student community, but rather a prudent strategy towards the improvement of key educational benchmarks in the Uzbek university system. The effectiveness of the short-term 5-session protocol in this study, even in resource-constrained settings, provides realistic hope for expanding these services to all universities across the country—even institutions in underserved communities. The visible impact of the interventions on academic performance provides a shared language with policymakers and educational leaders that can be used to gain additional resources and plan on a larger scale. To achieve such potential to the maximum, it is recommended that university counseling centers be quantitatively and qualitatively established, and for this, counselors should be recruited and trained through evidence-based practices. Additionally, awareness campaigns should be carefully formulated so as to reduce social stigma attached to accessing psychological services. Further, integrating mental health screening into the system of constant monitoring of higher education quality may prove to be an effective step. By doing so, it can strengthen the virtuous cycle of students' welfare, academic performance, and improving higher education quality in Uzbekistan.

Follow-up studies can address this research's deficiencies (e.g., to smaller universities, long-term follow-up, and to other interventions) in an effort to provide a more specific blue-print for the optimization of services. But the general message of this research

is clear: counselor-targeted interventions are a required building block in the creation of an Uzbek education system that has as much concern for the psychological well-being as the academic achievement of students.

How to cite this article:

ABNT

ZOHIDA, Qoraboyeva; ZEBOXON, Kobilova; GUZAL, Yunusova; NIGORA, Khaydarova; ALISHER, Sherov; KHUDAYBERGAN, Khudayberganov; JAVOHIR, Zokirov. Evaluating the Effectiveness of Counseling Interventions on University Students' Mental Health and Academic Performance in Uzbekistan. *Passagens rev. int. hist. pol. e cult. jur.*, Niterói, v. 18, n. 3, p. 436-449, Sept.-Dec. 2026. <https://doi.org/10.15175/tqb46665>

APA

Zohida, Q., Zeboxon, K., Guzal, Y., Nigora, K., Alisher, S., Khudaybergan, K., & Javohir, Z. (2026). Evaluating the Effectiveness of Counseling Interventions on University Students' Mental Health and Academic Performance in Uzbekistan. *Passagens rev. int. hist. pol. e cult. jur.*, 18(3), 436-449. <https://doi.org/10.15175/tqb46665>

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Publisher responsible for the evaluation process:

Gizlene Neder

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