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THE PSYCHOLOGICAL ROLE OF HEALTHY THINKING IN REDUCING ACADEMIC STRESS AMONG UNIVERSITY STUDENTS

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Annotatsiya Mazkur ishda talabalarda sog‘lom fikrlashning akademik stressni kamaytirishdagi psixologik roli empirik jihatdan tadqiq etilgan. Tadqiqotda O‘zbekiston davlat jahon tillari universiteti (n=123), Farg‘ona davlat universiteti (n=109) va Samarqand davlat universiteti (n=113) talabalaridan iborat jami 345 nafar sinaluvchi ishtirok etdi. Sog‘lom fikrlash N.A.Zaremboning “Sog‘lom fikrlash darajasini aniqlash testi” hamda Yu.M.Orlov va S.N.Morozyukning “Kognitiv-emotiv test” metodikasi, akademik stress “Akademik stress shkalasi”, koping strategiyalari esa S.Folkmanning “Stressli vaziyatlarni yenga olishni diagnostika qilish” testi yordamida baholandi; ma’lumotlar SPSS 18 dasturida Kolmogorov–Smirnov mezoni, bir omilli dispersion tahlil (ANOVA), Styudent t-mezoni va Pirsonning r-korrelyatsiya koeffitsiyenti asosida qayta ishlandi. Natijalarga ko‘ra, sog‘lom fikrlash akademik talablar stressi ($r=-0,239$; $p<0,01$), o‘z-o‘zini baholash va xavotir ($r=-0,354$; $p<0,01$) hamda psixofizik zo‘riqish ($r=-0,289$; $p<0,01$) bilan teskari, emotsional regulyatsiya ($r=0,402$; $p<0,01$), muammoga yo‘naltirilgan koping ($r=0,351$; $p<0,01$) bilan esa to‘g‘ri bog‘liq bo‘lib, qochish va inkor strategiyalari bilan teskari bog‘liqlik ($r=-0,286$; $p<0,01$) aniqlandi. Patogen tafakkur umumiy ko‘rsatkichi akademik talablar stressi bilan to‘g‘ri bog‘liq bo‘ldi ($r=0,337$; $p<0,01$). Ishlab chiqilgan 7 mashg‘ulotdan iborat psixokorreksion dastur (“O‘zim va stress”) tajriba guruhida (n=170) sog‘lom fikrlash ko‘rsatkichini 6,49 dan 8,45 ballgacha oshirdi ($t=8,12$; $p<0,01$), nazorat guruhida (n=175) esa o‘zgarish ishonchli bo‘lmadi ($t=0,93$; $p>0,05$). Tadqiqot natijalari oliy ta’lim muassasalarida psixologik xizmat, profilaktika va psixokorreksiya faoliyatini takomillashtirishda qo‘llanilishi mumkin.

Kalit so‘zlar: sog‘lom fikrlash; akademik stress; talabalar; koping strategiyalari; kognitiv qayta baholash; refleksiv tafakkur; emotsional regulyatsiya; psixokorreksiya.

Аннотация В работе эмпирически изучена психологическая роль здорового мышления в снижении академического стресса у студентов. В исследовании приняли участие 345 студентов трёх вузов: Узбекского государственного университета мировых языков (n=123), Ферганского государственного университета (n=109) и Самаркандского государственного университета (n=113). Здоровое мышление оценивалось с помощью теста Н.А. Зарембо и «Когнитивно-эмотивного теста» Ю.М. Орлова и С.Н. Морозюк, академический стресс — «Шкалой академического стресса», копинг-стратегии — тестом С. Фолкмана; данные обработаны в SPSS 18 (критерий Колмогорова–Смирнова, однофакторный дисперсионный анализ, t-критерий Стьюдента, корреляция Пирсона). Здоровое мышление обратно связано со стрессом академических требований ($r=-0,239$; $p<0,01$), самооценкой и тревожностью ($r=-0,354$; $p<0,01$) и психофизическим напряжением ($r=-0,289$; $p<0,01$) и прямо — с

эмоциональной регуляцией (r=0,402; p<0,01) и проблемно-ориентированным копингом (r=0,351; p<0,01); связь со стратегией избегания и отрицания отрицательная (r=−0,286; p<0,01). Общий показатель патогенного мышления положительно коррелировал со стрессом академических требований (r=0,337; p<0,01). Психокоррекционная программа из 7 занятий «Я и стресс» повысила показатель здорового мышления в экспериментальной группе (n=170) с 6,49 до 8,45 балла (t=8,12; p<0,01); в контрольной группе (n=175) изменение незначимо (t=0,93; p>0,05). Результаты могут быть использованы в работе психологических служб вузов, профилактике и психокоррекции.

Ключевые слова: здоровое мышление; академический стресс; студенты; копинг-стратегии; когнитивная переоценка; рефлексивное мышление; эмоциональная регуляция; психокоррекция.

Annotation : This study empirically examines the psychological role of healthy thinking in reducing academic stress among university students. The sample comprised 345 students from three universities: the Uzbekistan State University of World Languages (n=123), Fergana State University (n=109) and Samarkand State University (n=113). Healthy thinking was assessed with N.A. Zarembo's Healthy Thinking Level Test and the Cognitive-Emotive Test of Yu.M. Orlov and S.N. Morozyuk; academic stress was measured with the Academic Stress Scale, and coping strategies with S. Folkman's Stressful Situation Coping Diagnostics. Data were processed in SPSS 18 using the Kolmogorov–Smirnov test, one-way ANOVA, Student's t-test and Pearson's r. Healthy thinking correlated negatively with academic-demands stress (r=−0.239, p<0.01), self-evaluation and anxiety (r=−0.354, p<0.01) and psychophysical strain (r=−0.289, p<0.01), and positively with emotional regulation (r=0.402, p<0.01) and problem-focused coping (r=0.351, p<0.01); its link with avoidance and denial was negative (r=−0.286, p<0.01). The total pathogenic-thinking score was positively related to academic-demands stress (r=0.337, p<0.01). A seven-session psychocorrection programme ("Me and Stress") raised healthy thinking in the experimental group (n=170) from 6.49 to 8.45 points (t=8.12, p<0.01), while the change in the control group (n=175) was not significant (t=0.93, p>0.05). The findings can be applied in university counselling, prevention and psychocorrection work.

Keywords: healthy thinking; academic stress; university students; coping strategies; cognitive reappraisal; reflective thinking; emotional regulation; psychocorrection.

Terminology note. Throughout this paper the construct is called healthy thinking (Uzbek: sog'lom fikrlash; Russian: здоровое мышление), in place of the term "sanogenic thinking" used in part of the source literature. All numerical values are reproduced from the dissertation tables.

1. Introduction

1.1. Relevance

The rapid development of education systems, the expansion of the digital learning environment, the growing flow of information and the increasingly complex demands of higher education make the psychological well-being of students and the reduction of academic stress a pressing scientific and practical problem. According to a 2025 American Psychological Association report cited in the dissertation, a survey of 42,331 students from 41 countries found stress symptoms in 36% of respondents: 15% mild, 32% moderate, 11% severe and 4% very severe stress [1]. Academic stress is therefore among the problems that seriously affect student health.

Healthy thinking develops a student's resilience to stress together with self-regulation, reflection, emotional intelligence and the effective use of adaptive coping strategies. In Uzbekistan,

strengthening young people's psychological health and the quality of higher education is a stated policy priority, which is why research on the cognitive-emotional resources that protect students from academic stress is timely.

1.2. Aim and objectives

The aim of the research is to study the psychological role of healthy thinking in reducing academic stress among students and to develop practical recommendations. The objectives are:

1. to analyse the scientific literature on healthy thinking and clarify its psychological essence;
2. to study the concept of academic stress, its sources and psychological characteristics in students;
3. to establish empirically the psychological relationship between healthy thinking and academic stress;
4. to determine students' levels of healthy thinking and academic stress with psychodiagnostic methods;
5. to analyse the role of healthy thinking in reducing academic stress in connection with coping strategies.

1.3. Object, subject and scientific novelty

The object of the study is 345 students: 123 from the Uzbekistan State University of World Languages, 109 from Fergana State University and 113 from Samarkand State University. The subject is the psychological role of healthy thinking in reducing academic stress and its psychological characteristics.

The novelty lies in (a) a complex psychodiagnostic study of healthy thinking in relation to academic stress; (b) an analysis of students' coping strategies in relation to both constructs, showing that constructive strategies (problem-focused coping, emotional regulation, cognitive reappraisal) are positively, and destructive strategies (avoidance and denial, aggression and impulsivity) negatively, related to healthy thinking; and (c) a psychocorrection programme for developing healthy thinking.

2. Theoretical Framework

Healthy thinking is treated here as a complex cognitive-emotional system that helps students understand their inner states, process negative emotional reactions constructively and form a rational, adaptive attitude to stressful situations. Its core is reflective control of one's own thinking, the reconstruction of negative automatic thoughts and the maintenance of psychological stability.

Academic stress is understood through the stress tradition that runs from Selye's general adaptation syndrome [3] to the cognitive-transactional theory of Lazarus and Folkman [4]. In that theory stress arises from primary appraisal ("What does this situation mean for me?") and secondary appraisal ("Can I cope; are my resources sufficient?"). Two students facing the same examination therefore respond differently because their appraisals and resources differ. The Yerkes–Dodson law [5] adds that the aim is not to eliminate arousal but to keep it at an effective level.

The cognitive-behavioural tradition of Beck [6] and Ellis [7] supplies the mechanism: emotions follow from the interpretation of an event, not from the event itself, so a distorted belief such as "Failure is a catastrophe" can be identified and replaced. Bandura's self-efficacy [8], Seligman's explanatory style [9], Salovey and Mayer's emotional intelligence [10] and Karpov's reflexivity [11] complete the framework on which the intervention was built.

3. Methods

3.1. Participants and design

A total of 345 students took part, mainly first- and second-year undergraduates. The research proceeded in stages: justification of relevance; collection and comparative analysis of the literature; definition of aim, object and subject; and empirical work with method selection, testing, statistical processing and conclusions. For the experimental stage the sample was divided into an experimental group (n=170) and a control group (n=175).

3.2. Instruments

- Healthy Thinking Level Test (N.A. Zarembo): scales of independent thinking, non-standard thinking, healthy thinking and reflective thinking; it addresses conscious management of negative emotions, constructive appraisal of stressful situations and maintenance of inner balance.
- Cognitive-Emotive Test (Yu.M. Orlov and S.N. Morozyuk): measures how students manage negative emotional states through thinking strategies; the scales used here are resentment and blaming others, guilt and self-punishment, shame and social anxiety, fear of failure, and the total scores for pathogenic and healthy thinking.
- Academic Stress Scale (5-point ratings): academic demands, time scarcity, self-evaluation and anxiety, external academic environment, psychophysical personal factors, social-family pressure, and total academic stress.
- Stressful Situation Coping Diagnostics (S. Folkman; 100 yes/no items, 8 scales): problem-focused coping, emotional regulation, social support, cognitive reappraisal, avoidance and denial, aggression and impulsivity, self-control, passivity and giving up.

3.3. Statistical analysis

Data were processed in SPSS 18. Normality was checked with the Kolmogorov–Smirnov Z test; scales with $p>0.05$ were treated as suitable for parametric analysis and those with $p<0.05$ as calling for non-parametric tests. Differences between universities were tested by one-way ANOVA, relationships by Pearson's r, and pre-/post-training change by Student's t-test. Significance is marked *$p<0.05$, **$p<0.01$.

3.4. The psychocorrection programme "Me and Stress"

The programme consists of seven sessions built on the components of healthy thinking: (1) Me and stress – stress map and stress thermometer, diaphragmatic breathing; (2) the thought–feeling link (Ellis's A-B-C model); (3) identifying irrational thoughts ("irrational thought detective", alternative thoughts); (4) managing emotions; (5) reflection and self-analysis (expressive writing); (6) a constructive approach to stress (stress management plan, social support, time management); and (7) consolidating healthy thinking with final diagnostics. The sequence is: identify negative automatic thoughts and emotional reactions, reappraise them through cognitive work, then consolidate healthy-thinking skills, with metacognitive control, reflection and emotional self-regulation throughout.

4. Empirical Indicators

4.1. Descriptive statistics and distribution checks (N=345)

Of the four Healthy Thinking Test scales, independent, non-standard and reflective thinking met the normality requirement, whereas the healthy thinking scale did not ($Z=1.387$, $p=0.022$), indicating uneven development of this construct across students (Table 1). In the Cognitive-Emotive Test, shame and social anxiety and the total pathogenic-thinking score departed from normality (Table 2). All academic-stress scales were normally distributed, with a mean total of 113.39 (SD=20.47; range 48–162) (Table 3). Among coping scales, social support, avoidance and denial, and passivity and giving up were not normally distributed (Table 4), so non-parametric tests are appropriate for them.

Table 1. Healthy Thinking Test: descriptive statistics and Kolmogorov–Smirnov test

Scale	Min	Max	M	SD	Z	p
Independent thinking	22	48	34.52	5.64	1.116	0.148
Non-standard thinking	18	44	32.47	5.81	1.054	0.179
Healthy thinking	30	68	51.86	8.10	1.387	0.022*
Reflective thinking	24	62	43.29	8.46	1.232	0.068

Note. N=345. *p<0.05 (distribution differs from normal).

Table 2. Cognitive-Emotive Test: descriptive statistics and Kolmogorov–Smirnov test

Scale	Min	Max	M	SD	Z	p
Resentment and blaming others (relations with teachers and peers)	1	8	4.32	1.64	1.073	0.171
Guilt and self-punishment (attitude to mistakes)	0	8	4.67	1.79	1.267	0.080
Shame and social anxiety (fear before audience and group)	1	8	4.49	1.76	1.521	0.019*
Fear of failure (exam and session stress)	0	8	4.44	1.72	1.134	0.107
Pathogenic thinking, total	3	16	7.84	2.21	1.136	0.021*
Healthy thinking, total	4	16	9.26	2.78	1.101	0.175

Note. N=345. *p<0.05.

Table 3. Academic Stress Scale: descriptive statistics and Kolmogorov–Smirnov test

Scale	Min	Max	M	SD	Z	p
Academic demands stress	8	29	17.64	5.10	1.116	0.148
Time scarcity stress	7	30	21.57	5.16	1.214	0.105
Self-evaluation and anxiety	6	30	17.92	5.13	1.327	0.062
External academic environment factors	9	28	18.47	4.86	1.083	0.191
Psychophysical personal factors	8	30	21.15	5.34	1.372	0.051
Social-family pressure	6	24	14.84	4.11	1.078	0.196
Total academic stress	48	162	113.39	20.47	1.141	0.092

Note. N=345. All p>0.05.

Table 4. Coping Diagnostics: descriptive statistics and Kolmogorov–Smirnov test

Scale	Min	Max	M	SD	Z	p
Problem-focused coping	2	12	6.96	2.11	1.000	0.149
Emotional regulation	1	12	7.12	2.47	1.029	0.179
Social support	2	13	5.83	2.26	1.392	0.022*
Cognitive reappraisal	2	12	7.89	2.27	1.113	0.105
Avoidance and denial	0	12	5.86	2.33	1.431	0.017*
Aggression and impulsivity	0	12	4.52	2.39	1.071	0.164
Self-control	2	12	7.28	2.24	1.117	0.148
Passivity and giving up	0	12	4.45	2.62	1.548	0.030*

Note. N=345. *p<0.05.

4.2. Differences between universities (one-way ANOVA)

Healthy thinking differed significantly across the three universities (F=5.226, p=0.007), with the highest mean at Samarkand State University (32.05) and the lowest at the Uzbekistan State University of World Languages (29.94) (Table 5). Academic-demands stress was highest at UzSUWL (4.17 versus 3.45 and 3.38; F=5.278, p=0.001), while social-family pressure rose from 3.90 to 5.72 across the same order of universities (F=3.435, p=0.009) (Table 6). Cognitive reappraisal (F=6.028, p=0.003) and emotional regulation (F=5.116, p=0.007) were strongest in the Samarkand sample, and avoidance and denial also differed significantly (F=4.194, p=0.016) (Table 8).

Table 5. Healthy Thinking Test by university

Scale	UzSUWL (n=123)	FerSU (n=109)	SamSU (n=113)	F	p
Independent thinking	16.14	15.09	13.22	4.324	0.014*
Non-standard thinking	12.66	13.85	14.52	3.924	0.023*
Healthy thinking	29.94	31.16	32.05	5.226	0.007**
Reflective thinking	14.53	15.11	15.76	3.691	0.026*

Note. UzSUWL = Uzbekistan State University of World Languages; FerSU = Fergana State University; SamSU = Samarkand State University. Cells show group means. *p<0.05, **p<0.01.

Table 6. Academic stress by university

Scale	UzSUWL (n=123)	FerSU (n=109)	SamSU (n=113)	F	p
Academic demands stress	4.17	3.45	3.38	5.278	**0.001****
Time scarcity stress	3.75	3.42	3.40	2.324	0.089
Self-evaluation and anxiety	3.55	3.47	3.38	1.445	0.242
External academic environment	3.95	3.89	3.76	1.081	0.344
Psychophysical personal factors	3.22	3.58	3.74	3.927	0.006**
Social-family pressure	3.90	4.65	5.72	3.435	0.009**

Note. UzSUWL = Uzbekistan State University of World Languages; FerSU = Fergana State University; SamSU = Samarkand State University. Cells show group means. *p<0.05, **p<0.01.

Table 7. Cognitive-Emotive Test by university

Scale	UzSUWL (n=123)	FerSU (n=109)	SamSU (n=113)	F	p
Resentment and blaming others	17.42	19.26	21.05	4.786	0.017*
Guilt and self-punishment	17.95	18.94	18.02	3.127	0.077
Shame and social anxiety	12.18	13.47	14.86	2.964	0.059
Fear of failure	22.74	21.35	20.16	4.215	0.016*
Pathogenic thinking, total	78.79	80.82	81.19	4.534	0.013*
Healthy thinking, total	86.42	90.15	93.47	5.482	**0.005****

Note. UzSUWL = Uzbekistan State University of World Languages; FerSU = Fergana State University; SamSU = Samarkand State University. Cells show group means. *p<0.05, **p<0.01.

Table 8. Coping strategies by university

Scale	UzSUWL (n=123)	FerSU (n=109)	SamSU (n=113)	F	p
Problem-focused coping	7.14	6.38	6.71	3.642	0.020*
Emotional regulation	6.75	7.47	8.13	5.116	0.007**
Social support	7.90	8.12	8.06	0.211	0.808
Cognitive reappraisal	8.14	8.76	9.28	6.028	0.003**
Avoidance and denial	5.42	6.18	6.74	4.194	0.016*
Aggression and impulsivity	4.86	5.01	4.94	0.087	0.917
Self-control	8.39	8.01	7.38	3.586	0.027*
Passivity and giving up	4.21	4.35	4.28	0.156	0.856

Note. UzSUWL = Uzbekistan State University of World Languages; FerSU = Fergana State University; SamSU = Samarkand State University. Cells show group means. *p<0.05, **p<0.01.

4.3. Correlational indicators

The central result is the inverse relationship between healthy thinking and academic stress (Table 9). The healthy thinking scale correlated negatively with academic-demands stress ($r=-0.239$, $p<0.01$), self-evaluation and anxiety ($r=-0.354$, $p<0.01$) and psychophysical personal factors ($r=-0.289$, $p<0.01$). Independent thinking was linked mainly to lower academic-demands ($r=-0.223$, $p<0.05$) and time-scarcity stress ($r=-0.267$, $p<0.01$), and reflective thinking to lower self-evaluation anxiety ($r=-0.264$, $p<0.01$).

Table 9. Correlations between healthy-thinking components and academic stress

Academic stress scale	Independent thinking	Non-standard thinking	Healthy thinking	Reflective thinking
Academic demands stress	−0.223*	0.126	−0.239**	−0.164*
Time scarcity stress	−0.267**	−0.153*	0.101	−0.111
Self-evaluation and anxiety	−0.117	−0.108	−0.354**	−0.264**
External academic environment	0.112	0.147*	−0.096	0.131
Psychophysical personal factors	0.132	−0.171*	−0.289**	−0.103

Note. Pearson's r, N=345. *p<0.05, **p<0.01; significant values at p<0.01 in bold.

Healthy thinking was also tied to the way students cope (Table 10). It correlated most strongly with emotional regulation ($r=0.402$, $p<0.01$) and problem-focused coping ($r=0.351$, $p<0.01$), and negatively with avoidance and denial ($r=-0.286$, $p<0.01$) and aggression and impulsivity ($r=-0.254$, $p<0.01$). Reflective thinking was associated with cognitive reappraisal ($r=0.314$, $p<0.01$). In turn, coping strategies related to stress itself (Table 11): cognitive reappraisal with lower academic-demands stress ($r=-0.361$, $p<0.01$) and lower self-evaluation anxiety ($r=-0.321$, $p<0.01$); emotional regulation with lower psychophysical strain ($r=-0.339$, $p<0.01$); and problem-focused coping with lower time-scarcity stress ($r=-0.331$, $p<0.01$).

Table 10. Correlations between healthy-thinking components and coping strategies

Coping strategy	Independent thinking	Non-standard thinking	Healthy thinking	Reflective thinking
Problem-focused coping	0.284**	0.142	0.351**	0.116
Emotional regulation	0.317**	0.195*	0.402**	0.291**
Social support	0.118	0.086	0.107	0.127
Cognitive reappraisal	0.114	0.228*	0.125	0.314**
Avoidance and denial	−0.215*	−0.104	−0.286**	−0.174*
Aggression and impulsivity	−0.193*	−0.088	−0.254**	−0.101
Self-control	0.108	0.167*	0.117	−0.113

Note. Pearson's r, N=345. *p<0.05, **p<0.01; significant values at p<0.01 in bold.

Table 11. Correlations between coping strategies and academic stress

Coping strategy	Academic demands	Time scarcity	Self-eval. and anxiety	External environment	Psycho-physical factors
Problem-focused coping	−0.266**	−0.331**	−0.147	−0.129	−0.131
Emotional regulation	−0.324**	−0.107	−0.125	−0.185*	−0.339**
Social support	−0.118	−0.156*	−0.142	−0.081	−0.174*
Cognitive reappraisal	−0.361**	−0.134	−0.321**	−0.193*	−0.116
Avoidance and denial	0.145	0.142	0.122	0.205*	0.142
Aggression and impulsivity	0.104	0.187*	0.106	0.164	0.221**
Self-control	−0.115	−0.117	−0.317**	−0.171*	−0.115

Note. Pearson's r, N=345. *p<0.05, **p<0.01; significant values at p<0.01 in bold.

The Cognitive-Emotive Test shows the same picture from the opposite side. Its total healthy-thinking score correlated positively with cognitive reappraisal (r=0.401, p<0.01), self-control (r=0.352, p<0.01) and problem-focused coping (r=0.291, p<0.01), and negatively with avoidance and denial (r=−0.298, p<0.01) (Table 12). Pathogenic thinking correlated positively with aggression and impulsivity (r=0.296, p<0.01) and negatively with problem-focused coping (r=−0.318, p<0.01) and self-control (r=−0.336, p<0.01). The two measures of healthy thinking converge (r=0.391 between the Cognitive-Emotive healthy-thinking total and the Healthy Thinking Test scale, p<0.01; Table 13), which supports the validity of the construct.

Table 12. Correlations between Cognitive-Emotive Test scales and coping strategies

Cognitive-Emotive scale	Problem-focused	Emotional regulation	Social support	Cognitive reapprais-al	Avoid. and denial	Aggression, impulsivity	Self-control
Resentment and blaming others	−0.127	−0.213**	−0.118	−0.286**	0.314**	0.132	−0.209*
Guilt and self-punishment	−0.172*	−0.118	−0.094	−0.301**	0.106	0.186*	−0.244**
Pathogenic thinking, total	−0.318**	−0.137	−0.162	−0.119	0.104	0.296**	−0.336**
Healthy thinking, total	0.291**	0.113	0.148	0.401**	−0.298**	−0.214*	0.352**

Note. Pearson's r, N=345. *p<0.05, **p<0.01; significant values at p<0.01 in bold.

Table 13. Correlations between Cognitive-Emotive Test scales and healthy-thinking components

Cognitive-Emotive scale	Independent thinking	Non-standard thinking	Healthy thinking	Reflective thinking
Resentment and blaming others	−0.162	−0.086	−0.262**	−0.128
Guilt and self-punishment	−0.109	−0.104	−0.192*	−0.136
Shame and social anxiety	−0.164*	−0.132	−0.223*	−0.158
Fear of failure	−0.183*	−0.121	−0.276**	−0.211*
Pathogenic thinking, total	−0.228*	−0.167	−0.298**	−0.287**
Healthy thinking, total	0.318**	0.156	0.391**	0.281**

Note. Pearson's r, N=345. *p<0.05, **p<0.01; significant values at p<0.01 in bold.

Finally, pathogenic thinking showed the strongest positive links with academic stress (Table 14): with academic-demands stress (r=0.337, p<0.01) and psychophysical factors (r=0.279, p<0.01). Fear of failure was tied to self-evaluation anxiety (r=0.304, p<0.01), and shame and social anxiety to the same scale (r=0.271, p<0.01). The total healthy-thinking score correlated negatively with self-evaluation anxiety (r=−0.296, p<0.01), psychophysical factors (r=−0.182, p<0.05) and academic-demands stress (r=−0.128, p<0.05).

Table 14. Correlations between Cognitive-Emotive Test scales and academic stress

Cognitive-Emotive scale	Academic demands	Time scarcity	Self-eval. and anxiety	External environment	Psycho-physical factors
Resentment and blaming others	0.286**	0.154	0.193*	0.126	0.177*
Guilt and self-punishment	0.182*	0.131	0.148	0.117	0.142
Shame and social anxiety	0.165	0.204*	0.271**	0.149	0.189*
Fear of failure	0.142	0.213*	0.304**	0.176	0.241**
Pathogenic thinking, total	0.337**	0.214*	0.108	0.187	0.279**
Healthy thinking, total	−0.128*	−0.138	−0.296**	−0.106	−0.182*

Note. Pearson's r, N=345. *p<0.05, **p<0.01; significant values at p<0.01 in bold.

4.4. Effect of the psychocorrection programme

After the training, the experimental group improved significantly on all four healthy-thinking components (all p<0.01), whereas the control group did not change (all p>0.05) (Table 15). The largest gain was on the healthy thinking scale (M from 6.49 to 8.45; t=8.12).

Table 15. Healthy-thinking components before and after training

Component	Group	n	Before (M)	After (M)	t	p
Independent thinking	Experimental	170	6.32	8.34	7.25	<0.01
	Control	175	6.42	6.74	0.91	>0.05
Non-standard thinking	Experimental	170	6.10	7.89	6.69	<0.01
	Control	175	6.11	6.78	0.71	>0.05
Healthy thinking	Experimental	170	6.49	8.45	8.12	<0.01
	Control	175	6.42	6.85	0.93	>0.05
Reflective thinking	Experimental	170	6.28	8.28	7.21	<0.01
	Control	175	6.35	6.44	0.65	>0.05

Note. Student's t-test for pre-/post-training comparison within each group.

5. Discussion

The results consistently place healthy thinking among the cognitive resources that reduce students' academic stress. Higher healthy thinking goes with less academic-demands stress, less self-evaluation anxiety and less psychophysical strain, and it goes with a coping repertoire dominated by emotional regulation, problem solving and reappraisal rather than avoidance, denial and impulsive reactions. This matches the appraisal logic of the transactional model [4] and the cognitive-behavioural view that distressing emotions are driven by interpretations [6, 7]: students who reappraise demands more constructively experience them as less overwhelming.

Two cautions apply. First, most coefficients are moderate (|r| roughly 0.22–0.40), so healthy thinking explains only part of the variance in academic stress; other determinants, such as workload, assessment systems and family expectations, remain important. Second, correlations in a cross-sectional sample do not by themselves prove direction of effect; the pre-/post-training contrast with a control group provides the stronger evidence that raising healthy thinking is feasible, and the programme should be re-tested on academic-stress outcomes directly. The university differences also show that the level of healthy thinking and the sources of stress are context-dependent, which argues for diagnostics before intervention.

6. Conclusions and Recommendations

6.1. Conclusions

1. The level of healthy thinking is closely related to how students perceive and manage academic stress; reflective thinking, emotional self-regulation, constructive processing of irrational thoughts and metacognitive control are its key components.

2. Correlation analysis revealed statistically significant inverse relationships between healthy thinking and academic stress, especially self-evaluation and anxiety ($r=-0.354$), psychophysical strain ($r=-0.289$) and academic-demands stress ($r=-0.239$).

3. Healthy thinking is positively related to emotional regulation ($r=0.402$), problem-focused coping ($r=0.351$) and reflective thinking, and negatively to avoidance and denial ($r=-0.286$) and aggression and impulsivity ($r=-0.254$).

4. Healthy thinking, academic stress and coping differ significantly between universities, with the strongest effects for healthy thinking ($F=5.226$), academic-demands stress ($F=5.278$) and cognitive reappraisal ($F=6.028$).

5. The seven-session programme “Me and Stress” significantly increased all components of healthy thinking in the experimental group ($p<0.01$) with no significant change in the control group.

6.2. Recommendations

1. Introduce systematic training programmes and seminars on healthy thinking into the learning process of higher-education institutions.
2. Include a battery of psychodiagnostic methods on healthy thinking and academic stress in university psychological services for early detection and prevention.
3. Encourage professors and tutors to use interactive pedagogical technologies that develop students’ emotional self-regulation and constructive thinking strategies.
4. Organise counselling, psychoprevention and psychocorrection work around reducing academic stress to strengthen academic adaptation.
5. Extend research on the links of healthy thinking with academic success, psychological well-being and stress resilience, and put the findings into educational practice.

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