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RESEARCH ARTICLE

Cross-cultural Study of Resilience, Stress, and Coping Behavior as Prerequisites for the success of international students

Sandugash Duanaeva[1], Sveta Berdibayeva[2,*], Alena Garber[3], Bibianar Baizhumanova[4] and Elnur Adilova[2]

[1]*Department of General Psychology, M. Auezov South Kazakhstan State University, Shymkent, Republic of Kazakhstan*
[2]*Department of General and Applied Psychology, Al-Farabi Kazakh National University, Almaty, Republic of Kazakhstan*
[3]*Rehabilitation Clinic "Reinhardshöhe", Bad Wildungen, Hessen, Germany*
[4]*Department of Psychology, L.N.Gumilyov Eurasian National University, Astana, Republic of Kazakhstan*

Abstract:

Background and Objective:

More students around the world and from the former Soviet Union seek to study abroadThey frequently lack the knowledge necessary for success about their own resources and the obstacles they would encounter in the new socio-cultural environment. The present study aims to explore the prerequisites for successful learning of foreign students, specifically resilience, stress, and coping behavior.

Methods:

The experimental group consisted of 50 Kazakh students studying abroad. The control groups consisted of 50 Kazakh students studying in the Republic of Kazakhstan, 100 foreign students from India and China studying in the Republic of Kazakhstan. Research methods: Leipzig express test for chronic stress (K. Reschke, G. Schroeder), R. Lazarus coping behavior questionnaire, resilience scale (Wagnild, G. M. & Young, H. M.). Statistical methods: nonparametric Mann-Whitney and Kruskal-Wallis tests, Spearman correlation analysis, factor analysis.

Results:

In terms of the level of resilience, the level of chronic stress in general and the effectiveness of coping strategies, there were no significant differences between Kazakhstani students studying abroad and Kazakhstani students studying in the Republic of Kazakhstan. All groups of students (Kazakhs, Chinese, Indians) studying abroad have more differences than similarities in the level of resilience, stress and coping behavior. The cross-cultural aspect of the level of resilience, experiencing stress, and choosing a coping behavior strategy is decisive for teaching foreign students. There were no significant correlations between the level of stress, resilience and coping behavior with gender. At the same time, the higher the age of foreign students, the less they tend to accept themselves and their lives, and the less they are able to positively overestimate a stressful situation. The latent factors of the success of students studying abroad are revealed, we list them in descending order of their importance: a variety of coping behavior strategies, the predominance, first of all, of confrontation and distance as coping strategies; low level of chronic stress, primarily in terms of: loss of meaning and emotionally negatively colored topic; a high level of resilience, primarily in terms of personal competence; the relationship of the coping strategy "planning" and "positive reassessment" with a younger age of a foreign student; lack of sleep disturbance as an indicator of chronic stress; gender, age and time of study are not interconnected with the level of resilience, chronic stress, coping behavior, that is, Kazakhstani students of any gender, age can successfully study abroad.

Conclusion:

The factorial cross-cultural aspect of the success of studying Kazakhstani students abroad was studied, taking into account the level of stress, resilience and coping behavior, which have a significant impact on both the success of studying abroad and the entire process of psychological adaptation as a whole. With our study, we would like to draw the attention of domestic and foreign colleagues to the study of the problems of Kazakhstani students studying abroad in order to support their desire to study abroad and enrich the countries of Central Asia with modern specialists.

Keywords: Kazakh students studying abroad, International students, Cross-cultural differences, Difficulties in studying abroad, Resilience, Chronic stress, Coping strategies, Factor analysis of international students' success.

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1. INTRODUCTION

In the era of global educational space, the problem of successfully gaining education abroad by international students comes to the fore, which is both a theoretical and practical in terms of the pedagogical psychology of higher education. Nowadays, there is not a huge scope of research that allows us to identify both practical and theoretical prerequisites for the successful study of students abroad. Moreover, when it comes to students from Kazakhstan studying abroad, such kind of research is extremely insufficient, or it is usually conducted on students who receive their education in the Russian Federation. We have tried to fill this deficiency in our research paper.

It should be noted that the problem is not private or unofficial at all. Over the past ten years, the number of students in the world pursuing higher education outside their country of residence (international students) has increased by almost 70%. The current leaders in international education remain the English-speaking countries of the US, Great Britain, Australia, Canada, New Zealand, Germany, and France. They account for more than 60% of international students. The largest number of international students continues to be from China. The number of international students from Kazakhstan is gradually rising. For example, it has doubled from 43 thousand in 2011 to about 90 thousand in 2017 [1].

A. Shuyski indicates several main reasons behind the striving of Kazakh youth to get an education outside Kazakhstan: international educational mobility, great opportunities and prospects of employment in Kazakhstan and abroad, and so far, a fairly low level of higher education in Kazakhstan [2].

According to the data of 2018, about 89 thousand citizens of Kazakhstan study abroad, more than 69 thousand students study in the Russian Federation, almost 5 thousand students study in Kyrgyzstan, Turkey (about 2 thousand Kazakh students), USA (about 2 thousand Kazakh students), Great Britain (1,545 students), Czech Republic (1,515 students), and Malaysia (1,002 students) [1].

Speaking of foreign students studying in Kazakhstan itself, in 2018, about 14 thousand foreign students were studying in Kazakhstan. Among them are, according to different sources, 3,683/3,818 citizens of Uzbekistan, 3,290/2,425 Indian citizens, 1,320/1,293 students from Turkmenistan, 1,290/1,377 Chinese students, and 1,026/1,459 students from Kyrgyzstan (statistical data is indicated through the slash mark, the first number is given according to the Center for International Programs of Kazakhstan, and second number after the slash is according to UNESCO) [3].

In general, the interest of Kazakh youth in studying abroad is growing, as is the interest of many students, such as those from India, to study in Kazakhstan, mainly as doctors and metallurgists.

One of the global challenges of receiving education abroad, which we tried to solve in the framework of our study, is the problem of early termination of students' education abroad or fear of possible studies in a foreign country. Therefore, as part of our research, we studied students who continue to study abroad successfully in order to identify the psychological prerequisites that contribute to their successful studies abroad, using students from Kazakhstan as an example.

For instance, the data from the German Center for Higher Education and Research (DeutschesZentrumfür Hochschul-und Wissenschaftsforschung) show that 45% of students studying in higher education abroad drop out of their undergraduate studies and 29% drop out of graduate studies [4 - 6]. That is, almost half of international undergraduate students and, accordingly, almost one-third of international graduate students, face difficulties that lead to them quitting their studies.

The specially developed German research project "Successful or Unsuccessful Undergraduate and Graduate Studies of International Students in Germany" reveals the reasons for the termination of studies and the elements of international students' success in studying at German universities [7].

A different research project draws conclusions on the most common reasons that hinder the successful education of international students, namely: 1. Differences between the expectations and reality of life abroad; 2. Institutional heterogeneity; 3. Language problems; 4. Lack of preparedness for studying at university and for life abroad; 5. Funding of studies at university; 6. Professional prospects of students; 7. Social isolation or segregation; 8. Residence permits and other necessary administrative conditions; 9. Stress and other emotional strains [8].

The results of the analysis of reasons behind international students' success or failure in studying in Germany conducted as part of the project indicate that the socio-economic and cultural conditions of the country of study have a significant impact on the process and outcome of learning. The psychological component of learning success is outlined in the project in generalized terms, without specific details – as stress and other emotional strains. Let us dwell on this component of international students' learning in more detail, analyzing the conducted research in terms of the predictors of successful or unsuccessful learning.

The main paradox that our study wants to resolve is the following question: what are the vital psychological prerequisites for successful education abroad? The study is based primarily on the example of Kazakhstani students, who, compared to other foreign students, have only recently received an opportunity to study abroad.

In the present study, we focus on the analysis of the psychological aspect of the success of international students' learning on the example of, as of yet, understudied groups of international students – students from Kazakhstan and China, which are more explored as international students, and students from India who have been pursuing higher medical education in Kazakhstan for many years.

Three psychological characteristics chosen to be analyzed are stress, resilience, and coping behavior, which, as we

* Address correspondence to this author at the Department of General and Applied Psychology, Al-Farabi Kazakh National University, Almaty, Republic of Kazakhstan; E-mail: berdibayevasveta03@gmail.com

assume based on the analysis of cross-cultural studies [9], can vary significantly in students from Kazakhstan, China, and India.

These three psychological characteristics for analyzing the success of studying abroad were chosen by us on the basis of both analysis of the literature focused on the problem of our study (see Literature Review), and on the novelty of studying stress, resilience and coping behavior in Kazakhstan, since these studies are generally quite rare or they are recently based on research methods that do not meet the modern requirements of psychological science.

In our article, there will be presented a detailed literature review, the scheme of the research, its results, their discussion and conclusions that were obtained as a result of the study.

2. LITERATURE REVIEW

Analyzing the topics of modern psychological research of the most common difficulties encountered by foreign (international) students when studying abroad, the following thematic blocks can be highlighted:

- difficulties of acculturation, acculturation stress, culture shock, cultural distance, strategies of acculturation and psychological adaptation, intercultural adaptation, especially for 1st-year students, social integration [10 - 14].

- Difficulties related to high levels of anxiety, cultural and academic stress, depression and anxiety, and low self-esteem [15 - 19].
- Difficulties associated with the personal motivations and needs of students who choose to study abroad [20, 21].
- Difficulties connected with ethnic and social identity, especially for international students from Asia studying, for example, in the US, problems in identification with the host culture, with a sense of belonging to the university or the host country [22 - 25].
- Difficulties related to the socio-demographic characteristics of students, such as gender, year of study, field of study, and cultural and religious beliefs [26 - 29].
- Cognitive differences in the inferences of international students due to cultural differences, cultural intelligence [30].
- Alcohol and substance abuse by international students [31].
- New challenges related to the COVID-19 pandemic, followed by online or offline education of international students, unhealthy lifestyles of students during the COVID-19 pandemic [32 - 35].

Therefore, the main reasons for struggles studying abroad should include problems of accultural stress, culture shock, and intercultural adaptation, especially among freshmen. In addition, personal psychological characteristics such as low self-esteem, anxiety, predisposition to depression, alcohol and drug abuse also play a huge role in students' ability to successfully study abroad. More global difficulties are associated with cultural and ethnic identity, and the ability to adapt to a foreign country.

To the components of successful learning of foreign students according to the results of modern psychological research and cross-cultural studies can be attributed:

- Psychological characteristics of international students such as resilience, self-efficacy [36], adequate self-esteem (developed self-concept), the presence of the meaning of life [37], a variety of constructive coping strategies, a sense of emotional and social well-being, and a sense of optimism [38 - 43].
- Characteristics of the social environment of international students: the presence of social support (from the host country, from family, friends from both the host country and the country of origin, from university structures, and social networks) [44 - 49];
- Purposeful work on the development of the intercultural competence of foreign students both during long-term study abroad and short-term internships and preparatory courses, the availability of an intercultural interaction system in the course of international students' university study abroad and during preparation for it [50 - 53].

It is resilience and its impact on stress, self-esteem, emotional well-being, anxiety, and depression that has recently been cited as one of the most important predictors of success for international students [54]. Back in 2009, Michael Ungar and Linda Liebenberg attempted to develop an international project on resilience as a culture-defined construct. The goal of the project was to teach young people under stress to develop positively, to learn to seek and apply their resources, taking into account the understanding of resilience in different cultures, which we believe to still be relevant today and adopt as one of the goals of our research, as well [55].

In general, when analyzing literature focused on the topic of our research, we would like to outline the research related to the study of the psychological characteristics of students that affect their studies abroad, as well as the cross-cultural nature of research. At the same time, there are very few research papers on the formation of relevant competencies among students that contribute to their successful studying abroad. There are no such programs in Kazakhstan as of today.

3. METHODOLOGY

3.1. Sampling

Before the main part of the research there was held a pilot study. It has been conducted three months prior to the main study. There were 30 participants: 10 Kazakh group students studying abroad, 10 Indian students, and 10 Chinese students studying abroad. In each group, we adhered to the gender ratio: 5 female and 5 male students (respectively 10 students of each gender in all groups of the pilot study). The research base for Indian students was Almaty Medical University, study direction: Medicine. For Chinese students we chose Kazakh National al-Farabi University (Almaty), (Confucius Institute in KazNU), study direction: Philology. For Kazakhstani students

studying abroad we chose Turkey as a research base, study direction: Social Sciences. Research methods in pilot study fully repeat the main study methods, *i.e.*: the scale of resilience, G. M. Wagnild & H.M. Young; The Leipzig Express Test for Chronic Stress (K. Reschke, G. Schröder, adapted by A. Garber, L. Karapetyan) ; R. Lazarus and S. Folkman's Ways of Coping Checklist (WCC). The questionnaire for Kazakhstani students was held in Russian, while Chinese and Indian students used English translation. All methods we used in pilot study were validated in both Russian and English. Students, who took part in the pilot study, have also participated in the main one. Let us move on with the main research. We have characterized experimental and control groups of the main part of the research.

The experimental group consisted of 50 Kazakh students studying abroad (26 women, 24 men); the average age in the sample was 21.5 years old. The duration of the students' study abroad was 1 year 8 months. The countries of the study included Turkey, Poland, and Romania. Fields of study: 19 students – natural sciences, 31 students – humanities.

Control group 1 consisted of 50 Kazakh students studying in Kazakhstan (35 women, 15 men); the average age in the sample was 22.3 years old. The places of study were the Kazakh National University named after Al-Farabi (Almaty), Al-Farabi Kazakh National University (Almaty), and Auezov South Kazakh University. Fields of study: 25 students – natural sciences, 25 students – humanities.

Control group 2 included 50 Indian students studying in Kazakhstan (22 women, 28 men) at the average age of 20.8 years old. The place of study was the Medical Institute (Almaty). Area of study: medicine.

Control group 3 was composed of 50 students from China studying in Kazakhstan (20 women, 30 men); the average age in the sample of respondents was 20.6 years old. Place of study: the Kazakh National University named after Al-Farabi (Almaty) (Confucius Institute of the Kazakh National University). Field of study: Philology.

None of the students in all of the studied groups had interrupted their study abroad early and were successfully completing their program. All student groups were randomized.

3.2. Measures

The Leipzig Express Test for Chronic Stress (K. Reschke, G. Schröder, as adapted by A. Garber, L. Karapetyan): there are 8 evaluation parameters: Stress_1 – "Loss of control", Stress_2 – "Loss of meaning", Stress_3 – "Negative emotions", Stress_4 – "Sleep disturbance", Stress_5 – "Inability to rest", Stress_6 – "Emotionally negative theme", Stress_7 – "Lack of social and emotional support from the people around", Stress_Sum– «Total Stress Score» R. Lazarus' Ways of Coping Checklist (WCC): 8 parameters: Coping_1 – "Confrontation", Coping_2 – "Distance", Coping_3 – "Self-control", Coping_4 – "Seeking social support", Coping_5 – "Accepting responsibility", Coping_6 – "Escape-avoidance", Coping_7 – "Planning to solve the problem", Coping_8 – "Positive reappraisal"; The Resilience Scale (Wagnild, G. M. & Young, H. M.) (Garber, A., Karapetyan, L. & Reschke, K., 2018 Reschke, K. & Schröder, H., 2010): 3 parameters: overall score for resilience, personal competencies, and acceptance of oneself and one's life. All questionnaires were standardized and validated on Russian-speaking students.

3.3. Statistical Analysis

Statistical methods: Spearman correlation analysis, principal component factor analysis, nonparametric Mann-Whitney and Kruskal-Wallis criteria. For data processing, the statistical software package SPSS 23.0 is used.

4. RESULTS

First, let us compare the levels of resilience, stress, and coping behavior in Kazakh students studying abroad and in Kazakhstan itself.

4.1. Research Question 1 and Hypothesis 1

Q_1: What are the peculiarities of resilience, the experience of stress, and the coping behavior of Kazakh students studying in Kazakhstan and abroad?

H_1: Kazakh students studying abroad have higher levels of resilience, higher levels of stress, and more effective coping strategies compared to Kazakh students studying in Kazakhstan.

In the present case, n_1=50 (the experimental group) and n_2=50 (control group 1), U_{cr}=1010 for P≤0.05 and U_{cr}=912 for P≤0.01. Let us explore the obtained results (Tables **1-3**).

Table 1. Results of statistical analysis of resilience indicators in students in the experimental group and control group 1 by Mann-Whitney criterion.

Indicators	General Resilience Score	Personal Competencies	Acceptance of Self and Life
Mann-Whitney U-criterion	1,138.5	1,057.0	1,162.0
Significance level	.442	.183	.543

Table 2. Results of statistical analysis of stress indicators of students in the experimental group and control group 1 by Mann-Whitney criterion.

Indicators	Stress_1	Stress_2	Stress_3	Stress_4	Stress_5	Stress_6	Stress_7	Stress_Sum
Mann-Whitney U-criterion	902.0	923.0	1,163.0	1,129.0	999.5	1,182.5	1,148.5	1,006.0
Significance level	**.01**	**.02**	.51	.37	.07	.62	.41	.09

Note: Stress_1 – "Loss of control", Stress_2 – "Loss of meaning", Stress_3 – "Negative emotions", Stress_4– "Sleep disturbance", Stress_5 – "Inability to rest", Stress_6 – "Emotionally negative theme," Stress_7 – "Lack of social and emotional support from the people around", Stress_Sum – "Total Stress Score"

Table 3. Results of statistical analysis of coping behavior indicators of students in the experimental group and control group 1 by Mann-Whitney criterion.

Indicators	Coping_1	Coping_2	Coping_3	Coping_4	Coping_5	Coping_6	Coping_7	Coping_8
Mann-Whitney U-criterion	1,047.0	942.5	1,127.0	1,097.5	975.0	1,013.0	1,145.0	1,197.0
Significance level	.16	**.03**	.39	.29	.06	.10	.47	.71

Note: Coping_1 – "Confrontation", Coping_2 – "Distance", Coping_3 – "Self-control", Coping_4 – "Seeking social support", Coping_5 – "Accepting responsibility", Coping_6 – "Escape-avoidance", Coping_7 – "Planning to solve the problem", Coping_8 – "Positive reappraisal"

The hypotheses put forward are as follows. The null hypothesis:

H_0 : – the experimental group and control group 1 show only random differences in some indicators of resilience, stress, and coping behavior measured by different indicators of the Leipzig Express Test for Chronic Stress, WCC, and the RS. The competing hypothesis:

H_1: – the experimental group and the control group 1 have non-random differences in certain indicators of resilience (general level of resilience, personal competencies, acceptance of self and life), stress (seven indicators of chronic stress: loss of meaning, loss of control, negative emotions, sleep disturbance, inability to rest, emotionally negative theme, lack of social and emotional support, and the general level of chronic stress), and coping behavior (eight coping strategies) measured by different indicators of the Leipzig Express Test for Chronic Stress, WCC, and the RS.

The results obtained in testing H_0 and H_1 are provided in (Tables **1**-**3**).

Analysis of the data by the Mann-Whitney test reveals no significant differences in any of the resilience indicators between students of the experimental group and control group 1. That is, no significant differences are found in the level of resilience, personal competencies, and acceptance of self and life between the Kazakh students studying abroad and in Kazakhstan.

The data analysis using the Mann-Whitney criterion shows only two significant differences in the indicators of "Loss of control" and "Loss of meaning" between students in the experimental group and control group 1. Analyzing the table of average ranks according to the Mann-Whitney test, it should be noted that loss of meaning and control are more characteristic of the Kazakh students studying in Kazakhstan compared to those studying abroad. That is, the ability to control oneself for adaptation to a new life situation and stability, stable life reference points, and the ability to influence the course of one's life are more typical of the Kazakh students studying abroad than of the Kazakh students studying in Kazakhstan.

As a result of data analysis using the Mann-Whitney criterion, only one significant difference in the "Distance" indicator of coping behavior is found between the experimental group and control group 1. The strategy of "Distance" coping behavior involves active attempts to overcome negative emotions concerning the problem of subjectively reducing its significance and degree of emotional involvement in it. The use of intellectual methods of rationalization, switching attention, detachment, humor, devaluation, *etc*. is typical. The positive aspects of this strategy include: possibility of reducing the subjective significance of difficult situations and preventing intense emotional reactions to frustration. The negative aspects include: the possibility of devaluing one's experiences, underestimating the significance and possibilities of effectively overcoming problem situations.

Analyzing the table of average ranks according to the Mann-Whitney test, it should be noted that "Distance" as a coping strategy is more typical of the Kazakh students studying in Kazakhstan compared to the Kazakh students studying abroad. This indicates that Kazakh students studying in Kazakhstan are more likely than those studying abroad to underestimate the significance and possibilities of effectively overcoming problematic situations (for example, by means of rationalization, switching attention, detachment, humor, devaluation, *etc*.).

In relation to all other indicators of coping behavior, the H_1 hypothesis is refuted, that is, the experimental group and control group 1, consisting of Kazakh students studying abroad and in Kazakhstan, respectively, have no differences in most of the coping behavior indicators in the WCC.

Thus, the first study hypothesis is only partially confirmed: virtually no significant statistical differences are found between the Kazakh students who study abroad and in Kazakhstan in the levels of their resilience, stress, and coping behavior.

The only differences found relate to the greater ability of Kazakh students studying abroad to control themselves to adapt to a new life situation, stable life orientations, and the ability to influence the course of their life due to the rare preference for the "distance" coping strategies.

Now we proceed to compare the resilience, stress, and coping behaviors among the international students from Kazakhstan, China, and India.

4.2. Research Question 2 and Hypothesis 2

Q_2: What are the interpersonal differences and similarities in the level of resilience, stress, and coping behavior between the Kazakh students studying abroad and the students from India and China studying in Kazakhstan?

H_2: All international students (Kazakhs, Chinese, and Indians) have more differences than similarities in their levels of resilience, experience of stress, and coping behavior.

In the present case, n_1=50 (the experimental group), n_2=50 (control group 2), n_3=50 (control group 3). The results obtained through Kruskal-Wallis H-criterion are compared and characterized (Tables **4**-**6**).

Table 4. Results of statistical analysis of resilience indicators in students in the experimental group and control groups 2 and 3 by Kruskal-Wallis criterion.

Indicators	General Resilience Score	Personal Competencies	Acceptance of Self and Life
Kruskal-Wallis H-criterion (X^2)	110.14	112.34	102.99
Degree of freedom	2.00	2.00	2.00
Significance level	**0.00**	**0.00**	**0.00**

Table 5. Results of statistical analysis of stress indicators in students in the experimental group and control groups 2 and 3 by Kruskal-Wallis criterion.

Indicators	Stress_1	Stress_2	Stress_3	Stress_4	Stress_5	Stress_6	Stress_7	Stress_Sum
Kruskal-Wallis H-criterion (X^2)	22.31	13.70	0.64	8.72	6.72	6.09	3.21	15.36
Degree of freedom	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Asymp. Sig. (2-tailed)	**0.00**	**0.00**	0.73	**0.01**	**0.03**	**0.05**	0.20	**0.00**

Note: Stress_1 – "Loss of control", Stress_2 – "Loss of meaning", Stress_3 – "Negative emotions", Stress_4– "Sleep disturbance", Stress_5 – "Inability to rest", Stress_6 – "Emotionally negative theme," Stress_7 – "Lack of social and emotional support from the people around", Stress_Sum – "Total Stress Score"

Table 6. Results of statistical analysis of coping behavior indicators in students in the experimental group and control groups 2 and 3 by Kruskal-Wallis criterion.

Indicators	Coping_1	Coping_2	Coping_3	Coping_4	Coping_5	Coping_6	Coping_7	Coping_8
Kruskal-Wallis H-criterion (X^2)	11.84	0.17	17.42	4.30	11.04	0.97	16.56	2.58
Degree of freedom	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Significance level	**0.00**	0.92	**0.00**	0.12	**0.00**	0.62	**0.00**	0.27

Note: Coping_1 – "Confrontation", Coping_2 – "Distance", Coping_3 – "Self-control", Coping_4 – "Seeking social support", Coping_5 – "Accepting responsibility", Coping_6 – "Escape-avoidance", Coping_7 – "Planning to solve the problem", Coping_8 – "Positive reappraisal"

The proposed hypotheses are as follows. The null hypothesis:

H_0 : – the three groups of students show only random differences in particular indicators of resilience, stress, and coping behavior assessed by different scales of the Leipzig Express Test for Chronic Stress, WCC, and the RS. The competing hypothesis:

H_1: – the three groups of students have non-random differences in particular indicators of resilience (general resilience score, personal competencies, acceptance of self and life), stress (seven indicators of chronic stress: loss of meaning, loss of control, negative emotions, sleep disturbance, inability to rest, emotionally negative theme, lack of social and emotional support, and the general level of chronic stress) and coping behaviors (eight coping strategies), measured through various scales of the Leipzig Express Test for Chronic Stress, WCC, and the RS.

The results obtained in testing the H_0 and H_1 hypotheses are presented in (Tables **4**-**6**).

Analysis of Tables **4**-**6** and the related average ranking tables suggests the following conclusions:

1. Students from Kazakhstan, China, and India significantly differ from each other on all three indicators of resilience. The highest level of resilience, personal competencies, and acceptance of themselves and their life is observed in students from India (M=146.9), the lowest – in students from China studying in Kazakhstan (M=114.1). Kazakh students studying abroad are characterized by the average level of resilience compared to students from India and China (M=130.5).

2. Students from Kazakhstan, China, and India significantly differ from each other on six out of eight indicators of chronic stress (loss of control, loss of meaning, sleep disturbance, inability to rest, emotionally negative theme, the general level of chronic stress). Meanwhile, students from India and China show more pronounced indicators of the loss of control and meaning compared to Kazakh students studying abroad (respectively, India: M=2.3/2.5, China: M=2.0/2.4, RK: M=1.4/1.9). Sleep disturbance and emotionally negative themes as indicators of chronic stress are most prominent in students from India compared to the other two groups (respectively, India: M=2.2/2.7, China: M=1.8/2.5, RK: M=1.8/2.3). Inability to rest is more typical of students from China (respectively, China: M=2.3, India: M=2.1, RK: M=1.8). Overall, Kazakh students studying abroad have lower levels of chronic stress compared to students from China and India studying in Kazakhstan (respectively, RK: M=12.6, China: M=14.6, India: M=15.1).

3. Students from Kazakhstan, China, and India differ significantly on four out of eight indicators of coping behavior (confrontation, self-control, taking responsibility, and problem-solving planning). Confrontation as a coping behavior strategy is most common among the students from Kazakhstan and India (respectively, India: M=8.9, RK: M=8.4, China: M=7.4). Self-control as a coping behavior strategy is most typical of Kazakh students studying abroad (respectively, RK: M=12.1, China: M=11.9, India: M=9.6). Acceptance of responsibility is

most characteristic of students from India (respectively, India: M=84, China: M=7.2, RK: M=7.1). Problem-solving planning is more prevalent among students from India and China compared to Kazakh students studying abroad (respectively, India: M=14.2, China: M=13.3, RK: M=11.8).

4.3. Research Question 3 and Hypothesis 3

Q_3: What influence do gender, age, and duration of the study abroad have on the level of stress, resilience, and coping behavior of Kazakh students studying abroad?

$H_{3.1}$: Older students have less stress, higher resilience, more effective coping behavior.

$H_{3.2}$: There are no gender differences in the students' stress levels, resilience, and coping behavior.

$H_{3.3}$: Students with a longer duration of study abroad have greater resilience and stress tolerance and more effective coping behavior.

As shown in Table **7**, the third hypothesis is partially supported. No significant correlations are found between the levels of stress, resilience, and coping behavior and the student's gender. However, the older the Kazakh students studying abroad, the less likely they are to accept themselves and their lives, although they do show the ability to positively reevaluate stressful situations. The duration of studying abroad does not significantly affect the levels of resilience, chronic stress, and coping behavior effectiveness in Kazakh students studying abroad.

4.4. Research Question 4 and Hypothesis 4

Q_4: What is the factor structure of the success of Kazakh students studying abroad as international students?

H_4: There is a factor structure of the success of Kazakh students studying abroad, in which the key role is played by coping behavior strategies, the level of chronic stress, and the level of resilience, which generally allows developing recommendations for psychological training of international students.

Initially, a correlation analysis of the results of Kazakh students studying abroad (three variables – the RS, eight variables – the Leipzig Express Test for Chronic Stress, eight variables – WCC, one variable – gender, one variable – age, one variable – duration of the study) was conducted using Spearman's criterion (Table **8**).

Table 7. Spearman correlation matrix for the indicators of resilience, stress, coping behavior, sex, age, and duration of the study in the experimental group of students

Variables	Sex	Age	Duration of the Study
General resilience score	0.00	-0.21	-0.02
Personal competencies	0.06	-0.07	0.02
Acceptance of self and life	-0.15	**-.401****	-0.09
Stress_1	0.13	-0.01	0.21
Stress_2	0.09	0.14	0.26
Stress_3	-0.17	-0.04	0.07
Stress_4	0.19	0.16	0.06
Stress_5	0.12	-0.01	0.13
Stress_6	0.22	0.20	0.21
Stress_7	0.03	0.22	0.12
Stress_Sum	0.05	0.14	0.19
Coping_1	-0.07	-0.12	-0.05
Coping_2	-0.07	-0.04	0.00
Coping_3	-0.24	-0.07	-0.03
Coping_4	-0.22	-0.28	-0.15
Coping_5	-0.04	-0.06	0.05
Coping_6	-0.20	-0.18	-0.06
Coping_7	0.01	-0.21	-0.15
Coping_8	-0.24	**-.418****	-0.21

Note: Stress_1 – "Loss of control", Stress_2 – "Loss of meaning", Stress_3 – "Negative emotions", Stress_4– "Sleep disturbance", Stress_5 – "Inability to rest", Stress_6 – "Emotionally negative theme," Stress_7 – "Lack of social and emotional support from the people around", Stress_Sum – "Total Stress Score"; Coping_1 – "Confrontation", Coping_2 – "Distance", Coping_3 – "Self-control", Coping_4 – "Seeking social support", Coping_5 – "Accepting responsibility", Coping_6 – "Escape-avoidance", Coping_7 – "Planning to solve the problem", Coping_8 – "Positive reappraisal"

Table 8. Spearman correlation matrix for the Kazakh students studying abroad.

Variables	General Resilience Score	Personal Competencies	Acceptance of Self and Life
Sex	0.00	0.06	-0.15
Age	-0.21	-0.07	**-.401****
Stress_1	0.00	-0.03	0.00

(Table 8) contd.....

Variables	General Resilience Score	Personal Competencies	Acceptance of Self and Life
Stress_2	-0.25	-0.27	-0.07
Stress_3	**-.454****	**-.443****	**-.308***
Stress_4	-0.14	-0.13	-0.20
Stress_5	-0.17	-0.21	-0.04
Stress_6	-0.04	-0.09	0.11
Stress_7	-0.18	-0.18	-0.14
Stress_Sum	**-.305***	**-.335***	-0.14
Coping_1	0.07	-0.04	0.20
Coping_2	0.11	-0.01	0.26
Coping_3	0.06	0.05	0.03
Coping_4	0.22	0.12	**.282***
Coping_5	0.03	-0.03	0.14
Coping_6	-0.06	-0.17	0.09
Coping_7	**.377****	**.310***	**.365****
Coping_8	**.308***	0.16	**.449****
Duration of the study	-0.02	0.02	-0.09

Note: Stress_1 – "Loss of control", Stress_2 – "Loss of meaning", Stress_3 – "Negative emotions", Stress_4– "Sleep disturbance", Stress_5 – "Inability to rest", Stress_6 – "Emotionally negative theme," Stress_7 – "Lack of social and emotional support from the people around", Stress_Sum – "Total Stress Score"; Coping_1 – "Confrontation", Coping_2 – "Distance", Coping_3 – "Self-control", Coping_4 – "Seeking social support", Coping_5 – "Accepting responsibility", Coping_6 – "Escape-avoidance", Coping_7 – "Planning to solve the problem", Coping_8 – "Positive reappraisal"

Due to a large amount of quantitative data, to identify the structure of factors of Kazakh students' successful study abroad, we use factor analysis, the meaning of which is to represent the number of variables obtained during the study by a smaller number of other variables called factors. Factors act as more fundamental variables that characterize the subject under study. In factor analysis, the original variables are combined into groups, each of which represents a factor.

The statistical processing for factor analysis is carried out using the statistical software package SPSS 23.0.

The data processing is conducted using the principal component method with the use of the Varimax rotation procedure with Kaiser normalization, and factors with eigenvalues greater than one are considered. Rotation in the case of 22 variables (three variables – the RS, eight variables – the Leipzig Express Test for Chronic Stress, eight variables – WCC, one variable – gender, one variable – age, one variable – duration of the study) required eight iterations.

The factor analysis produced six new factors, which together account for more than 73.59% of the total variance, which is a good result.

Let us proceed to the interpretation of the results. In the analysis of the data, factor loadings modulo greater than 0.4 are highlighted. The interpretation particularly highlights the largest factor loading in absolute value for each variable (Table **9**).

Table 9. Factor analysis of successful study abroad for Kazakh students (six highlighted factors after rotation) (foreign students).

Variables	Components					
	1	2	3	4	5	6
Sex	-.129	.044	-.036	.081	.150	**.777**
Age	.050	.099	-.196	**-.580**	.150	**.642**
General resilience score	.050	-.116	**.973**	.130	-.056	-.063
Personal competencies	-.015	-.169	**.909**	.061	.035	.009
Acceptance of self and life	.135	.068	**.771**	.201	-.207	-.168
Stress_1	.010	**.468**	-.003	.324	**.633**	-.026
Stress_2	.200	**.824**	-.104	.007	-.026	.102
Stress_3	.333	**.578**	-.374	-.039	.233	-.286
Stress_4	.179	.063	-.173	.003	**.802**	.234
Stress_5	.165	**.618**	-.094	.049	.285	.082
Stress_6	.108	**.768**	.053	.033	.005	.239
Stress_7	.313	**.464**	.011	-.315	**.536**	-.128
Stress_Sum	.280	**.772**	-.147	-.002	**.535**	.063
Coping_1	**.809**	.200	.028	.217	.081	-.039
Coping_2	**.907**	.110	.095	.019	.024	.021
Coping_3	**.753**	.250	.088	.178	.091	-.057

(Table 9) contd.....

Variables	Components					
Coping_4	**.591**	.080	.140	**.561**	.035	-.114
Coping_5	**.547**	**.443**	.025	.355	.221	.012
Coping_6	**.773**	.148	-.176	.079	.205	-.224
Coping_7	**.433**	-.036	.279	**.653**	.044	.169
Coping_8	**.405**	.086	.168	**.683**	.083	-.186
Duration of the study	-.103	.354	-.068	- .143	-.068	**.564**

Note: Stress_1 – "Loss of control", Stress_2 – "Loss of meaning", Stress_3 – "Negative emotions", Stress_4– "Sleep disturbance", Stress_5 – "Inability to rest", Stress_6 – "Emotionally negative theme," Stress_7 – "Lack of social and emotional support from the people around", Stress_Sum – "Total Stress Score"; Coping_1 – "Confrontation", Coping_2 – "Distance", Coping_3 – "Self-control", Coping_4 – "Seeking social support", Coping_5 – "Accepting responsibility", Coping_6 – "Escape-avoidance", Coping_7 – "Planning to solve the problem", Coping_8 – "Positive reappraisal"

The positive factor pole is interpreted based on the positive poles of the variables with the largest positive loads and the negative poles of the variables with the largest modulo negative loads. Accordingly, the negative pole of the factor corresponds to the negative poles of the variables with the largest positive loads and the positive poles of the variables with the largest modulo negative loads.

Let us summarize the results of our work and list the latent factors of the structure of Kazakh students' (international students) success in studying abroad found as a result of the joint analysis of the RS, the Leipzig Express Test for Chronic Stress, WCC, gender, age, and the duration of the study abroad. The factors in descending order of importance are:

1. The diversity of coping strategies, the predominance of confrontation and distance as coping strategies.

2. Low levels of chronic stress, primarily in terms of the loss of meaning and emotionally negative themes.

3. High level of resilience, primarily on the indicator of personal competencies.

4. The relationship between the coping strategies of "planning" and "positive reappraisal" and the younger age of international students.

5. The absence of sleep disturbances as an indicator of chronic stress.

6. Gender, age, and the duration of the study are not associated with the levels of resilience, chronic stress, and coping behavior.

5. DISCUSSION

The results on the resilience, stress, and coping behavior of international students from Kazakhstan obtained in this study are, as of yet, unique and present the first empirical results in this sphere. Before this study, resilience as a phenomenon had not been studied in Kazakhstan in general, especially among Kazakh students. Individual studies were conducted on resilience [56 - 58], to a greater extent on coping behavior, sporadic studies have been conducted on stress in students [59], individual studies explore the topic of PSTD [60]. In addition, there is a small number of studies on the sociolinguistic adaptation of Oralman students in Kazakhstan, which points to the importance of examining the problems of student adaptation [61].

The present study involved preparatory work on the adaptation of the RS (Wagnild, G. M. & Young, H. M.) to Russian as the second official language in Kazakhstan.

The studies of Russian researchers on the problem of the acculturation and psychological adaptation of students and the difficulties in studying experienced by students from Asia, from the so-called post-Soviet space [62] only partially touch on the psychological difficulties of international students from Kazakhstan. The main emphasis is put on the experienced culture shock, the acculturation process, which is relatively mild due to the knowledge of Russian by international students from Kazakhstan, the issues of ethnic identity of international students from Asian countries are also touched upon.

Research by colleagues from Kazakhstan often examines the decision-making process in students from Kazakhstan, their motives, and their needs in studying abroad [63]. Another topic of research is the issues of cognitive processes of inference in international students from Asia, which must be taken into account in the process of study in higher education [30].

The main body of works to which the results of our study can be compared is naturally composed by the research of colleagues who studied the selected characteristics, namely resilience, stress, and coping strategies, in Chinese students. For example, on a sample of Chinese students, the influence of resilience on students' perceived stress and their overall quality of life was studied and this relationship was empirically supported. Our study also reveals a relationship between the level of chronic stress and its indicators and the level of resilience. The study of international students from Asia studying in the US, same as our study, shows students from India having a higher level of resilience compared to students from China [64]. Moreover, a study of Chinese international students in Korea, same as the results of our work, shows no correlation of resilience with any consistent socio-demographic characteristic (such as gender, level of education, or field of study) [64]. However, a study by Zainab Momeny establishes a relationship between resilience and the year of study, which is not supported by our results, whereas the link between stress level and the year of study is demonstrated both in Zainab Momeny's study and in our work [39].

A study of Chinese students in Korea also indicates an interesting relationship between resilience and ethnicity and acculturation stress, which is consistent with the correlations identified in our study [15]. The results of a different study conducted on international students in China indicate the presence of differences in students' resilience depending on their age group, country of origin, duration of living in China, and marital status. Significant differences are also found in the

students' socio-cultural adaptation depending on the duration of their living in China. In our study, we did not collect such detailed information about the international students studying in Kazakhstan, which we would like to supplement and correct in future studies to more accurately compare the impact of all these parameters on the resilience of international students studying in Kazakhstan.

Another work that would be interesting to compare to our results on the resilience of international students is the study conducted by Fatemeh Sabouripour in collaboration with Samsilah Bte Roslan, which shows that African students demonstrate greater resilience compared to students from the Middle East and Asia. Thus, same as our work, this study emphasizes the cross-cultural nature of differences in resilience among international students [65]. In addition, this study reveals a relationship between resilience and optimism, and social support and optimism are found to be predictors of resilience, which we can explore in our future research on the resilience of international students from Kazakhstan. Same as in our study, gender demonstrated no effect as a factor in resilience. The predictors of resilience identified in a study of Indonesian students at Malaysian universities are optimism, social support, and self-efficacy, which also aligns with the results of the study by Fatemeh Sabouripour andSamsilah Bte Roslan and thereby indirectly supports the results of our study [65].

In our study, we did not consider students' religiosity and attitudes toward Muslims, which may need to be taken into account in further research in collecting data on international students from Kazakhstan. One study of international Muslim graduate students in the US provides new insights into stress and resilience [29].

A study by Kim, So Rino on the impact of stress and resilience on depression and overall psychological well-being in Asian students studying in the US does not support the mitigating role of resilience on the relationship between stressors and depression and students' mental health; perhaps suggesting a more differentiated approach to sampling Asian students, examining Central Asian, East Asian, and West Asian students separately. Such an attempt was made in our study by differentiating students from Kazakhstan, China, and India, which has allowed discovering significant differences in resilience.

Research on the coping behavior of international students from Asia shows a connection between emotionally-oriented coping behavior and high levels of acculturation stress, which is partially supported by the results of our study since the coping strategies were found to be the most popular in all three groups of international students are planning and positive reappraisal, while the acceptance of responsibility is not shown to be predominant in any group.

CONCLUSION

Overall, the obtained results need to be taken into account in developing recommendations for training both the Kazakh students planning to study abroad and those going to study in Kazakhstan, since the study demonstrates more cross-cultural differences in the levels of chronic stress, resilience, and coping behavior between the international students from Kazakhstan and the Indian and Chinese students studying in Kazakhstan compared to the rare differences observed between the Kazakh students studying abroad and in Kazakhstan.

In our view, the scientific community has so far paid little attention to students from Kazakhstan as the representatives of Central Asia who increasingly often choose to study abroad. Our study strives to draw the attention of both domestic and foreign colleagues to the study of the problems of Kazakh students studying abroad to support the desire of Central Asian students to be able to successfully complete their higher education abroad for further career development and the enrichment of Kazakhstan and other Central Asian countries with modern specialists, especially since, as revealed in our research, these students do possess the prerequisites necessary for this.

THEORETICAL AND PRACTICAL IMPLICATIONS

1. The Kazakh students studying abroad and in Kazakhstan do not differ significantly in any indicators of resilience. In terms of chronic stress indicators, small significant differences are found between the Kazakhs studying abroad and in Kazakhstan by the indicators of loss of control and loss of meaning. One statistically significant difference is observed in coping behavior for the "distance" strategy, which is more characteristic of the Kazakh students studying in Kazakhstan in comparison with those studying abroad.

Thus, the first study hypothesis is only partially confirmed, the indicators of resilience, chronic stress, and coping behavior demonstrate practically no significant differences between the Kazakh students studying abroad and in Kazakhstan. Studying abroad does not have a significant impact on the increase in the level of resilience and chronic stress in Kazakh students, nor does it significantly affect their choice of coping strategies.

2. Students from Kazakhstan, China, and India significantly differ on all three indicators of resilience. The Kazakh students studying abroad are characterized by an average level of resilience compared to students from India and China. Moreover, the students from Kazakhstan, China, and India have significant differences in six indicators of chronic stress out of eight (loss of control, loss of meaning, sleep disturbance, inability to rest, emotionally negative themes, the general level of chronic stress).In general, Kazakh students studying abroad have a lower level of chronic stress compared to students from China and India studying in Kazakhstan. Students from Kazakhstan, China, and India also show significant differences in four out of eight indicators of coping strategies (confrontation, self-control, taking responsibility, planning problem-solving). Confrontation as a coping behavior strategy is most likely to be used by students from Kazakhstan and India. The self-control coping strategy is most typical of Kazakh students studying abroad. Acceptance of responsibility is the most characteristic of Indian students. Planning problem solving is most typical for students from India and China compared to the Kazakh international students.

Thus, the second hypothesis of the study has found its confirmation, as the students studying abroad (Kazakhs, Chinese, Indians) demonstrate more differences than

similarities in the level of resilience, the experience of stress, and coping behavior. The importance of the cross-cultural (interethnic) aspect of resilience, the experience of stress, and the choice of a coping behavior strategy when studying abroad are clear.

3. The third hypothesis is partially supported. No significant correlations are observed between the levels of stress, resilience, and coping behavior and the student's gender. However, the higher the age of the Kazakh students studying abroad, the less characteristic it is of them to accept themselves and their life and the less capable they are of positively reassessing the stressful situation. The duration of the study abroad does not significantly affect the level of resilience, chronic stress, and the efficiency of coping behavior of the Kazakh students studying abroad.

4. The latent factors of Kazakh students' success in studying abroad (as foreign students) are identified. In the descending order of their importance for a successful study abroad, they are as follows: 1. The diversity of coping behavior strategies, primarily the prevalence of the strategies of confrontation and distance; 2. Low level of chronic stress, first of all, by the indicators of loss of meaning and emotionally negative themes; 3. High level of resilience, primarily by the indicator of personal competencies; 4. Correlation of the coping strategies of "planning" and "positive reappraisal" with the younger age of the international student; 5. The absence of sleep disturbances as an indicator of chronic stress; 6. Gender, age, and the duration of the study show no correlation with the level of resilience, chronic stress, and coping behavior.

LIMITATIONS

In our study, we did not collect detailed information about foreign students studying in the Republic of Kazakhstan, which we would like to supplement and correct in subsequent studies in order to be able to more accurately compare the impact of all these parameters on the resilience of foreign students studying in the Republic of Kazakhstan. So, for example, a study conducted in China revealed significant differences in the sociocultural adaptation of students by time of residence. We did not take into account the time of residence in the country of study.

In our study, we also did not take into account the religiosity of students, and attitudes towards Islam, which may need to be taken into account in further studies when collecting data on foreign students from the Republic of Kazakhstan. One of the studies of foreign Muslim graduate students in the USA provided new knowledge about stress and resilience [29].

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The study was approved by the Al-Farabi Kazakh National University, Kazakhstan, under ethical approval number 2668/20 IRB00010790.

HUMAN AND ANIMAL RIGHTS

No animals were used in this research. All procedures performed in studies involving human participants were in accordance with the ethical standards of institutional and/or research committees and with the 1975 Declaration of Helsinki, as revised in 2013.

CONSENT FOR PUBLICATION

Informed consent was taken from all the participants when they were enrolled.

STANDARDS OF REPORTING

STROBE guidelines were followed.

AVAILABILITY OF DATA AND MATERIALS

All data of the pilot and main parts of the study were stored only on the personal computer of the main author of the study Duanayeva S., a doctoral student of Al-farabi Kazakh National University. No other data storage archive was envisaged, since the study was carried out as part of a dissertation work. Its defense is scheduled for September 2023.

FUNDING

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CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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REFERENCES

[1] Tashimov T. The number of students from Kazakhstan abroad more than doubled - expert. 2019. Available from: https://kaztag.kz/ru/news/bolee-chem-v-dva-raza-uvelichilos-kolichestvo-studentov-iz-kazakhstana-za-rubezhom-ekspert

[2] Shuyski A. Higher Eastern. 2009. Available from: https://www.kommersant.ru/doc/1122362

[3] How many foreign students study in Kazakhstan? 2018. Available from:https://forbes.kz/process/education/skolko_inostrannyih_studentov_uchatsya_v_kazahstane

[4] Heublein U, Schmelzer R. The development of the study dropout rates at the German colleges Calculations based on Graduate class 2016. 2018. Available from:https://idw-online.de/en/attachmentdata66127.pdf

[5] Heublein U, Ebert J, Hutzsch C, *et al.* Between academic expectations and academic reality. Reasons for dropping out, career whereabouts of dropouts and development of the dropout rate at German universities. 2017. Available from:https://www-fachportal--paedagogik-de.translate.goog/literatur/vollanzeige.html?FId=1126891_x_tr_sl=de_x_tr_tl=en_x_tr_hl=en_x_tr_pto=sc

[6] Ebert J, Heublein U. Students dropping out with migration background 2017. Available from:https://www.stiftung-mercator.de/content/uploads/2020/12/Ursachen_des_Studienabbruchs_bei_Studierenden_mit_Migrationshintergrund_Langfassung.pdf

[7] problems and challenges international students in Germany. 2018. Available from:https://static.daad.de/media/daad_de/pdfs_nicht_barrierefrei/der-daad/analysen-studien/veroeffentlichungen_vorstudie_pineda_2018.pdf

[8] Morris-Lange S. All publications Advisory Council. 2017. Available from:https://www-svr--migration-de.translate.goog/publikation/hochschuldschungel/?_x_tr_sl=de_x_tr_tl=en_x_tr_hl=en_x_tr_pto=sc

[9] Karen G. Contributions of cross-cultural psychology to a successful experience for students at study abroad programs. FAUBAI 2019 conference. Belem, Campinas, Galoá, 2019

[10] Narayanan SS, Alexius Weng Onn C. The influence of perceived social support and self-efficacy on resilience among first year Malaysian students. Kajian Malaysia 2016; 34(2): 1-23. [http://dx.doi.org/10.21315/km2016.34.2.1]

[11] Gilberte B, Tanja S-A, Johnson LR. Striving for success: Academic adjustment of international students in the U.S. J Int Stud 2018; 8(2): 1198-219. [http://dx.doi.org/10.5281/zenodo.1250421]

[12] Yuerong C, Susan LR, Samantha MM, Joni S, Anthony TS. Challenges facing Chinese International students studying in the United States. Educ Res Rev 2017; 12(8): 473-82. [http://dx.doi.org/10.5897/ERR2016.3106]

[13] Zhou Y, Jindal-Snape D, Topping K, Todman J. Theoretical models of culture shock and adaptation in international students in higher education. Stud High Educ 2008; 33(1): 63-75. [http://dx.doi.org/10.1080/03075070701794833]

[14] Frank S, McAbee S. The HEXACO personality traits, cultural intelligence, and international student adjustment. Personal Ind Diff 2017; 106: 21-5. [http://dx.doi.org/10.1016/j.paid.2016.10.024]

[15] Yoo MR, Choi SY, Kim YM, *et al.* Acculturative stress, resilience, and depression among chinese students in korea. J Korean Acad Soc Nurs Educ 2013; 19(3): 320-9. [http://dx.doi.org/10.5977/jkasne.2013.19.3.320]

[16] Yakunina ES, Weigold IK, Weigold A, Hercegovac S, Elsayed N. International students' personal and multicultural strengths: reducing acculturative stress and promoting adjustment. J Couns Dev 2013; 91(2): 216-23. [http://dx.doi.org/10.1002/j.1556-6676.2013.00088.x]

[17] Kim SR. Impact of Stressors and Resilience on Depression and Psychological Wellbeing of Asian International Students. 2020. PhD Thesis, The Pennsylvania State University.

[18] Ra YA, Trusty J. Coping strategies for managing acculturative stress among asian international students. Int J Adv Couns 2015; 37(4): 319-29. [http://dx.doi.org/10.1007/s10447-015-9246-3]

[19] Gebregergis WT, Huang F, Hong J. The impact of emotional intelligence on depression among international students studying in China: The mediating effect of acculturative stress. Int J Intercult Relat 2020; 79: 82-93. [http://dx.doi.org/10.1016/j.ijintrel.2020.08.008]

[20] Abdullaeva N. Tertiary Student Migration from Central Asia to Germany. In: Cham: Springer 2020. [http://dx.doi.org/10.1007/978-3-658-29020-7_4]

[21] Ying Yang, Zhang Yixin, Sheldon Kennon M. Self-determined motivation for studying abroad predicts lower culture shock and greater well-being among international students: The mediating role of basic psychological needs satisfaction. Int J Intercult Relat 2018; 63: 95-104. [http://dx.doi.org/10.1016/j.ijintrel.2017.10.005]

[22] Larionova AL, Liventsova EYu, Fakhretdinova AP, Kostyukova TA. 2020; International student migrants from Asian countries: features of their ethnic identity and acculturation strategies. Perspect Sci Edu 2020; 48(6): 311-23. [http://dx.doi.org/10.32744/pse.2020.6.24]

[23] MinJung D. The experiences of Korean early arrived international students (E A-I students) and recently arrived international students (R A-I students): a comparison of attachment styles, Acculturation, psychological distress, loneliness, and Resilience PhD Thesis, University of South Carolina, 2017.

[24] Michael Grüttner. Belonging as a resource of resilience: psychological wellbeing of international and refugee students in study preparation at german higher education institutions. Stud Succ 2019; 10(3): 1-9. [http://dx.doi.org/10.5204/ssj.v10i3.1275]

[25] Raja R, Zhou W, Li XY, Ullah A, Ma J. Social identity change as an integration strategy of international students in China. Int Migr 2021; 59(5): 230-47. [http://dx.doi.org/10.1111/imig.12827]

[26] Cheung C, Yue XD. Sustaining Resilience Through Local Connectedness Among Sojourn Students. Soc Indic Res 2013; 111(3): 785-800. [http://dx.doi.org/10.1007/s11205-012-0034-8]

[27] Thiri ST, Soe KTT, Thi NW, Ahmad FS. The Relationship between Resilience and Cross- Cultural Adaptation among International Students from a Chinese University. Int J Sci Res 2020; 9(1): 1128-33. [IJSR]. [http://dx.doi.org/10.21275/ART20204273]

[28] Alexandra S. The impact of religious coping and resilience on psychological well- being among international students in Hungary. Master, Psychology of Intercultural Relations, 2020.

[29] Tummala-Narra P, Claudius M. A Qualitative Examination of Muslim Graduate International Students' Experiences in the United States. Int Perspect Psychol 2013; 2(2): 132-47. [http://dx.doi.org/10.1037/ipp0000003]

[30] Martin Davies W. Cognitive contours: recent work on cross-cultural psychology and its relevance for education. Stud Philos Educ 2007; 26(1): 13-42. [http://dx.doi.org/10.1007/s11217-006-9012-4]

[31] Kyoung Y, Kim L. Testing the Mediating Effects of Resilience and mental Health on the Relationship between acculturative Stress and binge drinking among International Students. PhD Thesis, The University of Texas at Arlington, 2016.

[32] Van Der Feltz-Cornelis CM, Varley D, Allgar VL, de Beurs E. Workplace Stress, Presenteeism, Absenteeism, and Resilience Amongst University Staff and Students in the COVID-19 Lockdown. Front Psychiatry 2020; 11: 588803. [http://dx.doi.org/10.3389/fpsyt.2020.588803] [PMID: 33329135]

[33] Lai AY, Lee L, Wang M, *et al.* Mental Health Impacts of the COVID-19 Pandemic on International University Students, Related Stressors, and Coping Strategies. Front Psychiatry 2020; 11: 584240. [http://dx.doi.org/10.3389/fpsyt.2020.584240] [PMID: 33329126]

[34] Vsevolod K, Saule B, Gulnara S, Alexander R, Richard I. COVID-19 Impact on Kazakhstan University Student Fear, Mental Health, and Substance Use. Int J Ment Health Addict 2020. [http://dx.doi.org/10.1007/s11469-020-00412-y] [PMID: 33192199]

[35] Oducado RMF, Parreño-Lachica GM, Rabacal JS. Resiliencia personal y su influencia en el estrés, la ansiedad y el miedo de COVID-19 entre los estudiantes graduados en Filipinas. Int J Edu Res Innov (IJERI) 15: 431-43.2021; [http://dx.doi.org/10.46661/ijeri.5484]

[36] Sabouripour F, Roslan S, Ghiami Z, Memon MA. Mediating Role of Self-Efficacy in the Relationship Between Optimism, Psychological Well-Being, and Resilience Among Iranian Students. Front Psychol 2021; 12: 675645. [http://dx.doi.org/10.3389/fpsyg.2021.675645] [PMID: 34194372]

[37] Pan JY, Wong DFK, Chan CLW, Joubert L. Meaning of life as a protective factor of positive affect in acculturation: A resilience framework and a cross-cultural comparison. Int J Intercult Relat 2008; 32(6): 505-14. [http://dx.doi.org/10.1016/j.ijintrel.2008.08.002]

[38] Claire B, Carmel C. Stress, Health and Coping among international Students at the University of MaltaSecond Monograph in Resilience and Health, Centre for Resilience and Socio-Emotional Health. PhD Thesis, University of Malta, 2014.

[39] Zainab M. The effective of self-concept on academic stress and resilience of international students in Near East University. PhD Thesis, East University, 2020

[40] Pidgeon AM, Rowe NF, Stapleton P, Magyar HB, Lo BCY. Examining characteristics of resilience among university students: an international study. Open J Social Sci 2014; 2(11): 14-22. [http://dx.doi.org/10.4236/jss.2014.211003]

[41] Cross SE. Self-Construals, Coping, and Stress in Cross-Cultural Adaptation. J Cross Cult Psychol 1995; 26(6): 673-97. [http://dx.doi.org/10.1177/0022022195026006l0]

[42] Khawaja NG, Stallman HM. Understanding the Coping Strategies of International Students: A Qualitative Approach. Aust J Guid Couns 2011; 21(2): 203-24. [http://dx.doi.org/10.1375/ajgc.21.2.203]

[43] Pan JY, Fu Keung Wong D, Joubert L, Chan CLW. Acculturative stressor and meaning of life as predictors of negative affect in acculturation: a cross-cultural comparative study between Chinese international students in Australia and Hong Kong. Aust N Z J Psychiatry 2007; 41(9): 740-50. [http://dx.doi.org/10.1080/00048670701517942] [PMID: 17687660]

[44] Bender M, van Osch Y, Sleegers W, Ye M. Social support benefits psychological adjustment of international students: evidence from a meta-analysis. J Cross Cult Psychol 2019; 50(7): 827-47. [http://dx.doi.org/10.1177/0022022119861151]

[45] Young-An Ra. The Impact of social Support and Coping on Acculturation and acculturative Stress among east Asian International Students. PhD Thesis, The Pennsylvania State University, 2014.

[46] Nish Belford. International students from melbourne describing their cross-cultural transitions experiences: culture shock, social interaction, and friendship development. J Int Stud 2017; 7(3): 499-521. [http://dx.doi.org/10.5281/zenodo.569941]

[47] Ladum Ariel M. Cultural Distance, Acculturative Stress, Social Support, and Psychological Adaptation of International Students. PhD Thesis, Walden University, 2019.

[48] Ng TK, Wang KWC, Chan W. Acculturation and cross-cultural adaptation: The moderating role of social support. Int J Intercult Relat 2017; 59: 19-30. [http://dx.doi.org/10.1016/j.ijintrel.2017.04.012]

[49] Li L, Peng W. Transitioning through social media: International students' SNS use, perceived social support, and acculturative stress. Comput Human Behav 2019; 98: 69-79. [http://dx.doi.org/10.1016/j.chb.2019.03.011]

[50] Martinez Maria L, Colaner Kevin T. 2017; Experience of international education of east asian students in english-speaking countries: a four-dimensional approach. J Stud Affairs Africa 2017; 5(1): 15-26. [http://dx.doi.org/10.24085/jsaa.v5i1.2479]

[51] Sacre S, Lock J, Nash R. Development of a resource to promote resilience in international students undertaking health courses.Curriculum, technology & transformation for an unknown future Proceedings ascilite Sydney 2010. Sydney: Concise: Sacre, Nash and Lock . 2010; pp. 838-43.

[52] Spencer-Oatey H, Dauber D, Jing J, Lifei W. Chinese students' social integration into the university community: hearing the students' voices. High Educ 2017; 74(5): 739-56. [http://dx.doi.org/10.1007/s10734-016-0074-0]

[53] Yu Y, Moskal M. Missing intercultural engagements in the university experiences of Chinese international students in the UK. Compare 2018; 49(4): 1-18. [http://dx.doi.org/10.1080/03057925.2018.1448259]

[54] Brailovskaia J, Schönfeld P, Zhang XC, Bieda A, Kochetkov Y, Margraf J. A cross-cultural study in germany, russia, and china: are resilient and social supported students protected against depression, anxiety, and stress? Psychol Rep 2018; 121(2): 265-81. [http://dx.doi.org/10.1177/0033294117727745] [PMID: 28836915]

[55] Michael U, Linda L. Cross-cultural consultation leading to the development of a valid measure of youth resilience: The international resilience project. Resilience across Cultures. Stud Psychol 2009.

[56] Reschke K, Schröder H. Optimistisch den Stress meistern. Tübingen: DGVT Verlag 2010.

[57] Garber A, Karapetyan L, Reschke K. Optimistisch den Stress meistern. Göttingen: Cuvillier Verlag 2018.

[58] Aigerim M, Pepa M, Anarbek N, Aigul B. The Comparative Analysis of the Kazakhstani and Bulgarian Students' Resilience. Int J Human Cult Stud 2016; 2016: 759-69.

[59] Serikova KD, Mynbayeva AK. Diagnostics of stress and development of students` stress resistance by creative methods. J Psychol Sociol 2019; 2: 103-10.

[60] Man Cheung C, Kobylanovna SG, Pobedovna KM, Kenesovna KE, Zhakanbaevna KA. 2020.The relationship between posttraumatic stress disorder, trauma centrality, interpersonal sensitivity and psychiatric co-morbidity among students in Kazakhstan: a Latent Class Analysis. Available from: www.tandfonline.com/doi/abs/10.1080/09638237.2020.1818704

[61] Valieva , Sagimbayeva , Kurmanayeva , Tazhitova . The Socio-Linguistic Adaptation of Migrants: The Case of Oralman Students' Studying in Kazakhstan. Educ Sci 2019; 9(3): 164. [http://dx.doi.org/10.3390/educsci9030164]

[62] Tarasova AN. Acculturation and psychological adjustment of foreign students (the Experience of Elabuga Institute of Kazan Federal University). Procedia - Social Behavioral Sci 2016; 237: 1173-8. [http://dx.doi.org/10.1016/j.sbspro.2017.02.175]

[63] Abdullaeva N. Profiles and Decision-Making of Students and Graduates Enrolled at German HEIs from Kazakhstan, Kyrgyzstan and Uzbekistan/ Tertiary Student Migration from Central Asia to Germany. In: Springer 2020. [http://dx.doi.org/10.1007/978-3-658-29020-7_4]

[64] Cheung C, Yue XD. Sojourn students' humor styles as buffers to achieve resilience. Int J Intercult Relat 2012; 36(3): 353-64. [http://dx.doi.org/10.1016/j.ijintrel.2011.10.001]

[65] Fatemeh S, Samsilah BR. Resilience, Optimism and Social Support among International Students. Asian Social Sci 2015; 11: 159-70. [http://dx.doi.org/10.5539/ass.v11n15p159]