

# Psychological research on stress in Kazakhstan – past, present and future

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**Abstract:** This article describes the progress of stress research in Kazakhstan during the last years. The past, present and future research will be described briefly. The leading role of the Kazakh National University of Almaty (Faculty of Philosophy and Political Science, Department of general and applied Psychology) will be illustrated by the analysis of a Symposium held in October 2019 in Almaty. The method of research is a systematic literature analysis. The results of analyses and examples can show the growing amount of articles and publications of stress research in the last years. This implicates the higher importance of stress and the role of psychosocial risks in stressful situations of life. The results come to the conclusion that psychology more and more fulfills its important role in the analysis of stress in the Kazakh society and is using all kinds of methods from identity research, resiliency research up to modern neuropsychological approaches. In all parts of work and life in Kazakhstan stressful conditions can be detected as well as cultural forms of resources which come from tradition and history of middle Asian people.

**Keywords:** stress research in Kazakhstan, stress in educational, work and clinical research, neuropsychological perspectives, research perspectives in stress research in Kazakhstan.

## 1 Introduction

Stress is a widely researched subject in all societies around the world. By founding the republic of Kazakhstan after the end of the Soviet Union a rapid development started in all spheres of work and life. The new formation of the universities and high schools in Kazakhstan opened new opportunities to direct psychological research to new challenges

and hazards caused by stress in the development. The Russian stress research history could be used on the one hand, but many new western approaches, methodical and theoretical issues must be taken into account to analyse new forms and processes of stress in the society. In 2019 in the Al-Farabi Kazakh National University of Almaty a very important conference took place: Stress management: Theory and Practice of stress management within implementation of the program “Ruhani Zhangryru”. This Conference was devoted to the 60<sup>th</sup> Anniversary of the Doctor of Psychological Sciences, Prof. Sveta Kydyrbekovna Berdibayeva. The volume published in honor of Prof. Berdibayeva represented a wide variety of works of his colleagues and doctoral students. The volume delivers a very good overview about the actual level and scope of stress research in the present.

## 2 Stress research in the past – leading stress-relevant theories of Russian Psychology

There is no full overview about the Russian stress Psychology. First to be mentioned are the leading Russian psychologists and researchers of the Russian Physiology School, of the Action Theory and the Cultural History School like Wygotski (1972), Simonow (1975, 1982), Nebylizyn (1971), Lurija (1987), Leontjew (1967, 2012). We find a good and comprehensive view on the influences of Russian Stress Psychology in the past up to now in the book of Scheuch and Schröder (1990). This overview about Russian Stress Psychology draws the attention to the following authors (see Table 1).

**Table 1**

*Overview about leading stress research in Russia in the past*

<b>Author</b>	<b>Definition and description of stress</b>
Gorizontov (1975)	Unspecific neuro-humorale reaction of defense and adaption of the organism as a response of the influence of different extraordinary stimuli, threat for the homeostasis
Kondratova (1975)	General stress: extra-cellular reaction of homeostasis caused by hormones which increase the anaerobe glycolysis and change the cat ions and anions ratio between intra- and extracellular fractions and biologically active amines of brain, local stress comes from intra cellular changes
Suvorova (1975)	Stress is influenced by extreme conditions and shows disorganizations of intellectual processes and actions

Pogodaev (1976)	State of demand of overloading of processes of metabolic adaptation of the brain
Kosmolinskij (1976)	System of reactions of the organism on emotional stimuli (or stressors) of meaningful level, which are directed to the creation of a new adaptation level or the formation of behavior of the organism as a response on changing conditions
Korolenko (1978)	Way and mode of coming to a resistance of the organism against harmful factors
Furduj, Barbare & Beloust (1980)	Unspecific reaction of organism as a response on the influences of extraordinary stimuli of different kinds, which are a demand of the functions of organs and systems and cause a mobilization of resources with the goal of the conservation of homeostasis or adaptation
Rotenberg & Warschawskij (1980)	Responses to each overloading physical or psychological stimuli
Sudakov (1981)	Stress arise in conflict situations, if the person cannot satisfy his basic social or biological needs and cannot reach his personal, occupational, social, or biological goals of life
Jumatov (1982)	Stress arise in longer, undisrupted and repeated negative emotional states of the subject
Kitaev-Smyk (1983a, b)	Unspecific physiological and psychological reactions of the activity to adapt in confrontation with strong, extreme and meaningful factors

In Table 1 the reader will find only a few articles and works of soviet researchers about stress. We assume that much more research was done, but it is difficult to review all, because not all research can be obtained in digital resources or databases. As we can see too, the most articles are published not in international journals. On the other hand we can find a very modern format of stress research, i.e., the neurobiological and psychophysiological perspective. After the political changes of the former Soviet Union we believe, there is an increase of research about stress in Russia and the other former republics. The next chapter reports on modern research in Kazakhstan.

### **3 Recent stress research**

#### **3.1 Example 1**

In October 2019 the International Conference “Stress Management: Theory and Practice of stress management within implementation of the program “Ruhani Zhangryru” took place. This Conference was devoted to the 60<sup>th</sup> Anniversary of the Doctor of Psychological Sciences, Prof. Dr. Sveta Kydyrbekovna Berdibayeva. The volume which contains the materials and abstracts of the conference shows very impressive on 238 pages the many faces of stress research today (Al Farabi, 2019). It’s a fact, that Prof. Berdibaeva belongs to the most important stress researchers of Kazakhstan and has published a lot of work in different areas of stress. Today Prof. Sveta Kydyrbekovna Berdibayeva and PhD Kassymzhanova Anar Aliakparovna, from Turan University, Almaty, Kazakhstan are the most eminent instructors for doctoral thesis of young scientists working with modern stress concepts. Both try to include new concepts in the psychological research area, i.e. stress resistance, salutogenesis, resiliency, and stability of identity and are looking for new methods for research and practice (biofeedback).

Berdibayeva supported the first publication of a manualized and theoretically based stress management program in Russian Language (Garber, Karapetyan & Reschke, 2018). She published together with Reschke and Garber a comprehensive book about stress (Reschke, Garber & Berdibayeva, 2019) with some Russian practical methods for stress reduction. The spectrum of scientific work in stress is very wide. Berdibayeva et al. (2016) published on identity crisis resolution among psychological correction of deviant behavior of adolescent and about the Image of Pedagogical Higher Education Institution as Psycho-pedagogical Problem (Berdibayeva et. al., 2014).

### **3.2 Example 2**

The following table 2 shows some actual research which is done in Kazakh National University of Almaty, the Turan University of Almaty, Kazakhstan and in the Center for Longevity in Almaty (Kazakhstan). Some research will be outlined in brief.

Bikadamova (2019) try to study the stress of students in exams. She published some articles in local journals and studied test anxiety and stress in exams in different samples of students in the first and the fourth year of study. Her work contains theoretical consideration of factors that influence examination anxiety; but also a description of protective factors as well as risk factors of examination anxiety among students. She tried to develop some program basics to improve the adaptation to an examination situation.

Van (2020) developed new modules for the improvement of stress tolerance of school graduates in the process of psychological preparation. The goal of her work is to develop the stress management program “Mastering stress optimistically” for the target group of pupils from 9th and 11th grades and thus to make a necessary contribution in education to prepare the final exams for young people in Kazakhstan. Above all, training elements of the stress management program “Mastering stress optimistically” (Reschke & Schröder, 2010) were adapted. Some of the training elements (relaxation exercises) have been

redesigned including elements of the Katathym Imaginative Psychotherapy (symbol drama) by Carlfried Leuner (1994).

**Table 2**

*Overview about examples of recent stress research in Almaty*

<b>Author</b>	<b>Description of area of stress research</b>
Bikadamova (2019)	Effects of stress, resilience and self-efficacy on exam anxiety and student success (Исследование влияния стресса, резильентности, самооффективности на страх проверки знаний и успешность обучения студентов)
Sarbasova (2019)	Psychological development of conditions of emotional flexibility (including stress and resiliency) for future psychologists during their studies Психологическое содержание и условия развития эмоциональной гибкости у будущих психологов
Van (2020)	The development of stress tolerance of school graduates in the process of psychological preparation (Развитие стрессоустойчивости выпускников школ в процессе психологической подготовки)
Sarinova (2020)	Managing Cognitive Functions under Stress Based Upon Health-saving Technologies; (Управление когнитивными функциями в условиях стресса на основе здоровье-сберегающих технологий)
Turekhanova (2020)	Stress management as a basis for maintaining a student's psychological health using the concept of salutogenesis of Antonowsky (Управление стрессом как основа психологического здоровья студента)
Schneider (2020)	Stress research with a group high risk professionals in the areas of medicine. Burn out studies of personal, occupational, social, and biological factors (Психологические особенности проявления профессионального выгорания у сотрудников медицинских учреждений)
Ganieva (2020)	Stress, burn out, and negative emotional states of fire workers, with conclusions for the development of prevention approaches; (Эмоциональное выгорание сотрудников противопожарной службы)
Duanaeva (2020)	Cross-cultural studies of stress resistance and resilience of students studying abroad; (Кросс-культурные аспекты стресса и резильентности обучающихся за рубежом)
Ferber (2020)	Research on the possibilities of application of biological

	feedback method in the differential diagnosis of chronic stress, depression and chronic fatigue syndrome in adult patients of different age groups
Gusseinova (2020)	The dynamics of emotional status and stress resistance in old and aged people (Динамика эмоционального состояния и стрессоустойчивости лиц среднего и пожилого возраста (на примере Центров Активного Долголетия г. Алматы)

The study of cross-cultural differences of stress resistance and resilience of students studying abroad is done by Duanayeva (2020). Over the past ten years in the world, the number of students receiving higher education outside the country of residence (mobile students) has increased by almost 70%. The number of students from Kazakhstan abroad has doubled. According to 2018 About 89 thousand citizens of Kazakhstan are studying abroad, of which more than 69 thousand students are studying in the Russian Federation, almost 5 thousand students in Kyrgyzstan, Turkey, the United States, Great Britain, the Czech Republic and Malaysia. Study abroad can be stressful and have premature end. The causes are for example: 1. The differences between expectations and the reality of life; 2. Institutional heterogeneity; 3. Language problems; 4. Lack of preparedness for studying at the university and for everyday life; 5. Financing studies at a university; 6. Professional prospects of students; 7. Social exclusion or segregation; 8. Residence permit and other necessary administrative conditions; 9. Stress and other emotional stress. The causes of the problems and difficulties of teaching Kazakh students abroad are currently not well analyzed. This is the starting point, of which the author starts her research. A psychological analysis of the difficulties and ways to cope with them by Kazakh students in order to successfully complete their studies abroad has not yet been carried out. Included in this research is an analysis of the level of stress and other emotional stress factors of students during the entire training abroad.

The study of Gusseinova (2020, Consultant PhD Assiya Akanova) at the Centre of Active Ageing (CAE) in Almaty, Kazakhstan on the dynamics of emotional status changes and stress resistance amongst middle-aged and elderly people applying the Leipzig Screening Questionnaire on Chronic Stress (LKCS) showed that out of 100% of participants 80.6% had an increased level of stress, 150 and 121 participants respectively. A month later, with a secondary survey, after attending classes at the CAE, the level of stress above the norm was detected in 67.3%, 101 participants respectively. Therefore, it was concluded, that attending classes at CAE is associated with reduced stress levels ( $p \leq 0.01$ ,  $n = 150$ ). It was also found that there is a relationship between the level of subjective assessment of the lack of communication in routine life and the level of stress ( $p \leq 0.01$ ,  $n = 150$ ), between the level of loneliness and the level of stress ( $p \leq 0.01$ ,  $n = 150$ ) (we used the UCLA Loneliness Scale, adaptation and translation to Russian by Raygorodsky D.Y.).

### 3.3 Example 3

In the study of Kamysbayeva (2020), the testing of a training program on stress management "Mastering stress optimistically" in the Republic of Kazakhstan was described. The first-year students of various Higher Educational Institutions were participants in this training. The results underline the importance of the need to introduce stress tolerance development programs in the Kazakhstani educational system.

This fact indicates the need for the introduction of advanced approaches and technologies, which are published in the program "Mastering stress optimistically" in Russian language (Garber, Karapetyan & Reschke 2018).

Obviously, after passing this training program, faced with various problems and stressful situations, students will be able to rely on the acquired practical knowledge and will be able to successfully cope with various life situations, constantly increasing their level of stress resistance. In addition, passing this training can certainly contribute to effective prevention for stress. Many other applications and target groups for stress management programs are possible only in the area of higher education, school and education.

## 4 Future of Stress Research in Kazakhstan

The future of stress research in Kazakhstan is very broad and includes all aspects of stress under a developmental, clinical, health psychological and educational perspective. Also the area of sports, aviation and space research, high risk group research, other applied areas of psychology like traffic-, police- and military psychology will come under the perspective of stress research. Professor Berdibayeva (see Figure 1) will also in the future play an important role in the development of stress research. The role of new and interdisciplinary research methods (like imaging producing techniques of the brain) growing and new theoretical approaches will come into the use of psychological research.

### Figure 1

*Sveta Berdibayeva – nestor of stress research in Kazakhstan*



## 5 Conclusion

Our findings provide some conclusions. Stress research in the former Russian republics existed long time before, that means research of stress is not a new subject today. In the opposite, how Scheuch and Schröder (1990) showed very instructive, there is a

wide theoretical basis and a broad variety of empirical results of stress research coming from sooner soviet time of psychological research. The best starting point to get an overview is in fact the book given in Scheuch and Schröder (1990). Unfortunately no Russian comprehensive work exist, summarizing the riche collection of stress related research from the past. In the present we see a new and growing potential in the use of new concepts and methods in stress research (Al-Farabi, 2019). Stress is a leading research concept in all areas of Psychology. Not only in the traditional disciplines of Psychology like Clinical and Educational Psychology for instances, but also in Sport Psychology, Military Psychology, Aviation Psychology and Psychology and Arts today the research of stress is to find.

In the future, Psychology in all parts of life should try to use the results of psychological stress research to develop culturally sensitive methods of prevention and intervention to help people suffering from stress, related symptoms and consequences. Here it seems to be useful to have a look on international main stream developments of interventions and the role of evidence based approaches, which should be used primarily.

It can be seen as a handicap of development, if methods of psychological theory and practice find new ground to grow up without having empirical evidence and further support worldwide. Therefore it seems to be necessary to follow international approaches and commonly accepted theories of intervention, prevention and research in stress in the future.

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