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Psychological analysis of risk factors and protective factors under exam stress

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Abstract

The purpose of this paper is to identify protective factors for students' anxiety management under exam stress. Students experience a range of negative emotions in addition to exam anxiety throughout university exams including stress, fear of knowledge assessments and fear of low performance. However, students 'exam preparation and passing can be changed by identifying protective factors for exam stress coping while focusing less on reducing risk factors. Possible protective factors for exam anxiety coping in the present study were resilience, self-efficacy, stress tolerance, overall life satisfaction and coping behavior. In general, our assumption was confirmed that stress tolerance, proactive coping behavior, overall life satisfaction and resilience are the most important factors in overcoming exam fear. Self-efficacy as a latent factor that has a significant impact on overcoming exam fear was not identified. The study validated that stress tolerance, proactive coping, life satisfaction and resilience are pivotal in conquering exam-related fear. However, self-efficacy did not emerge as a significant factor.

Keywords: Exam fear, Protective factors, Resilience, Risk factors, Self-efficacy, Stress tolerance, Stressors, Wellbeing.

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Contents

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Contribution of this paper to the literature

Our study contributes by conducting a unique psychological analysis that not only identifies traditional risk factors for exam stress but also reveals previously overlooked protective factors. This holistic approach enhances our understanding of student well-being during exams and provides valuable insights for tailored intervention strategies.

1. Introduction

Identifying defensive mechanisms that help students cope with anxiety during exam stress is the primary objective of this paper. Academic evaluation-related negative emotions, worry and anxiety are common among university students which can make it difficult to prepare and perform well. Finding these protective characteristics will enable us to focus on improving coping skills rather than just reducing risk factors. Our investigation highlights potential protective elements including resilience, self-efficacy, stress tolerance, overall life satisfaction and coping behaviors.

Exam anxiety is the feeling of both excitement and anxiety that people have when they are in an evaluation situation that they believe threatens their own self-esteem (Schwarzer, 2000; Zeidner & Matthews, 2007). This happens frequently. The prevalence of exam fear even reaches 41 percent among students (Fehm & Fydrich, 2011). Exams can have strong negative consequences for both the overall well-being and academic performance of students. According to Steinmayr, Crede, McElvany, and Wirthwein (2016), exam anxiety can have detrimental effects on students' well-being as well as their academic performance, therefore this is a cause for concern.

Exam anxiety's negative effects include: a violation of the sense of general well-being (Pekrun & Götz, 2006) which is an important indicator of mental health (Diener, 1984; Diener, Emmons, Larsen, & Griffin, 1985), low performance (Cassady & Johnson, 2002; Eysenck, Derakshan, Santos, & Calvo, 2007; Steinmayr et al., 2016), impairment of cognitive resources (see (Pekrun, 2006; Pekrun & Götz, 2006)), motivation disorders (Rost & Schermer, 2007; Steinmayr et al., 2016); see also Elliott (2013); dysfunctionality of exam preparation (Culler & Holahan, 1980; Zeidner & Matthews, 2005), avoidant behavior and procrastination (Patzelt & Opitz, 2014).

Several models of the elements that predispose, trigger and sustain exam anxiety have been established in the last several decades of research.

In this regard, we find the most interesting model of examination fear as a violation (Fehm & Fydrich, 2011).

Based on the theories of other authors, Fehm and Fydrich (2011) created a heuristic working model for practice-oriented work on the diagnosis, explanation and therapy of exam anxiety. The model states that both predisposing factors, triggering conditions or mechanisms and supporting factors are involved in the occurrence, maintenance and even amplification of exam fear. Predisposing factors comprised personal factors, learning or study history and biological vulnerability. Trigger factors include negative exam experiences, experiences of incompetence during preparation and interfering or problematic life situations. The predisposing and triggering factors cause fear of exams. In addition, there are supportive factors which consist of situational and personal variables as well as coping behavior in a situation. These factors inhibit fear reduction.

The authors provide a selection of modules for the therapy of exam anxiety based on the heuristic disorder model (see Figure 1).

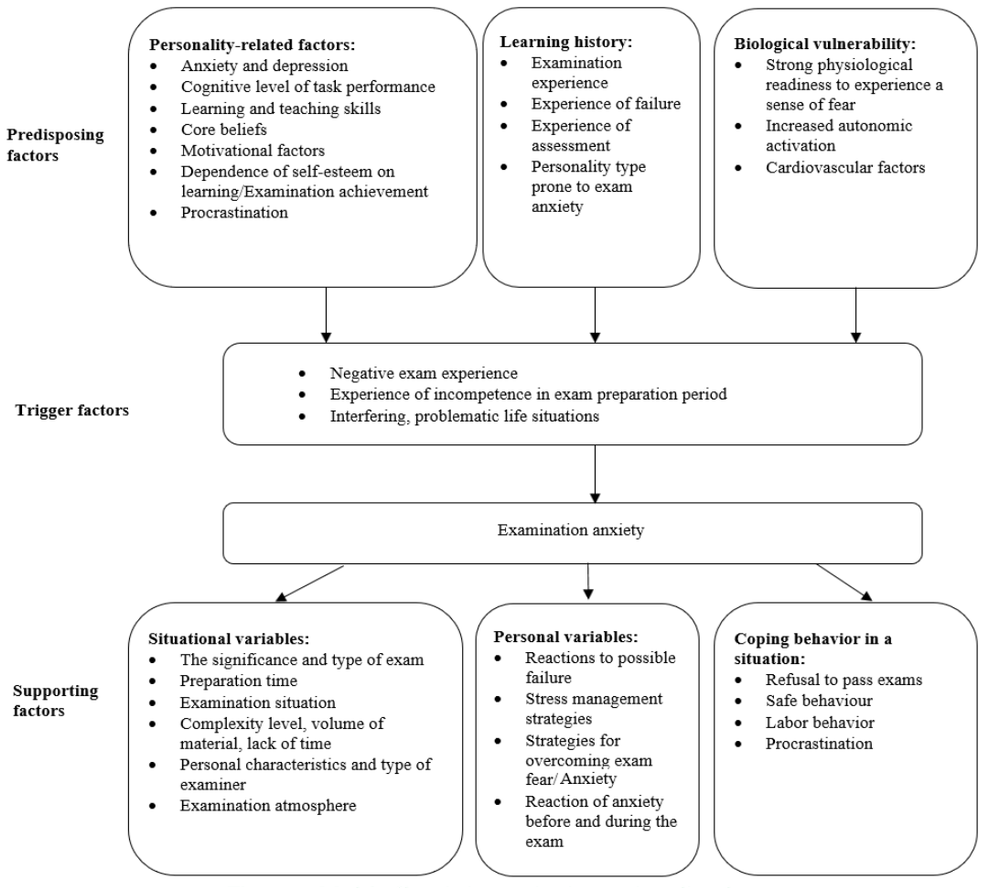

Figure 1. Model of heuristic examination anxiety disorder.

Note: Fehm and Fydrich (2011).

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2. Literature Review

Zeidner and Matthews (2007) and Zeidner and Matthews (2005) are also interesting in this context since they enable an integrative analysis of the key variables and their relationships with exam anxiety with respect to other variables. It is based on the S-REF model (self- regulatory executive function) of emotional disorders (Wells & Matthews, 1994) and describes the cognitive architecture of information processing in situations of suffering, despair, and anxiety (see Figure 2).

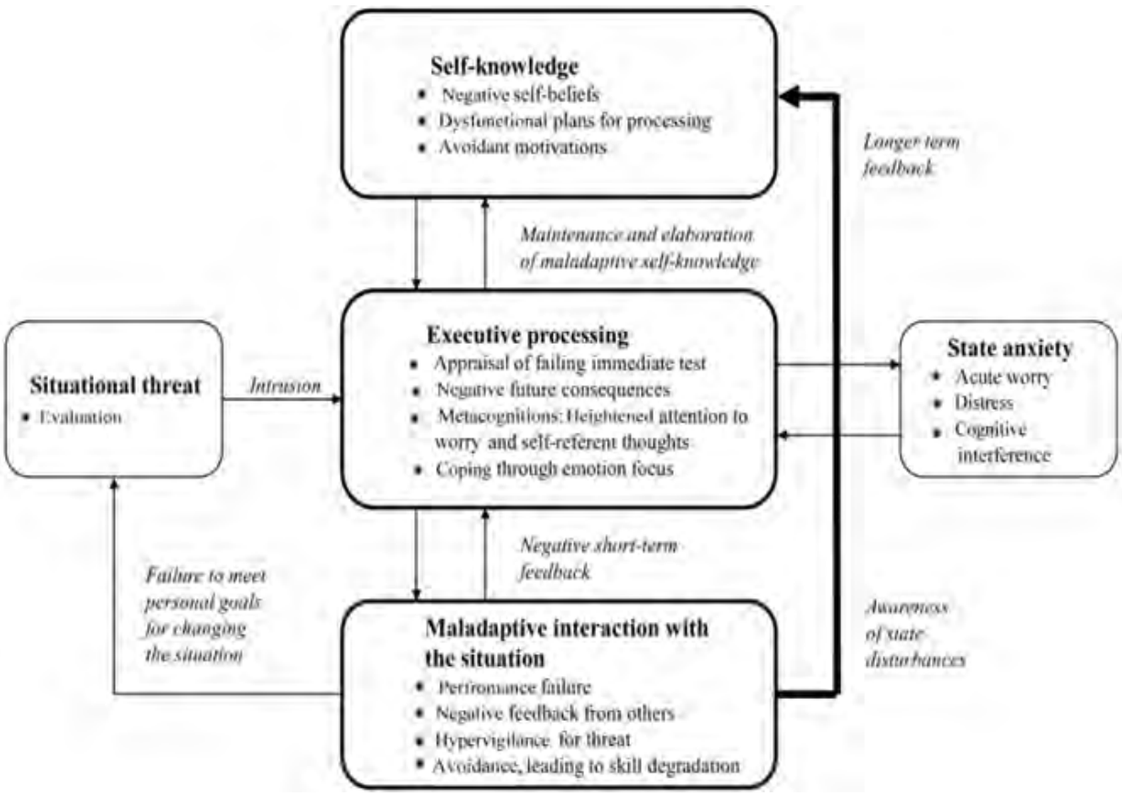

Figure 2. S-REF examination anxiety model.
Note: Zeidner and Matthews (2007) and Zeidner and Matthews (2005).

Both the Fehm and Fydrich (2011) heuristic model and the Zeidner and Matthews (2005) framework model are based on risk factors for overcoming examination anxiety. In our study, we focus not on the risk factors of coping with examination anxiety but rather on the protective factors of overcoming examination fear.

The term "protective factor" is used only when there is a risk situation that needs to be overcome. Protection factors are described as "factors contributing to development, protective or reducing risks" (Fröhlich-Gildhoff & Rönnau-Böse, 2014). Risk-reducing or protective variables must occur before risk-increasing factors do in order to mitigate the risk (see Luthar, Cicchetti, and Becker (2000), cited in Fröhlich-Gildhoff and Rönnau-Böse (2014)).

The impact of protective factors can be analyzed only in the case of a stressful situation or crisis. As in the case of risk factors, protective factors cannot be considered and analyzed in isolation. In this respect, the cumulative mode of action is important (see Fröhlich-Gildhoff and Rönnau-Böse (2014)).

The examination situation is regarded as difficult in our research. We determined the following protective characteristics based on the scientific literature analysis: resilience, coping behaviour, stress tolerance, overall life satisfaction and self-efficacy. The great importance of resilience in the humanities and socio-psychological sciences today can be justified by a change in paradigm and prospects. The previously applied model focused on disease and pathogenesis has been revised (see Wustmann (2012)). The idea of resilience is predicated on the resource-oriented autogenesis model which was developed forty years ago by medical sociologist Antonovsky (1983) and is referred to as a survival and development model.

Appropriate stress management strategies and an expectation of high self-efficacy are important for coping with stress. Most authors divide behavioral coping strategies into long-term and short-term useful and adequate strategies such as getting help from friends or family and dysfunctional strategies that lead to relief in the short term but have negative consequences in the long-term perspective such as alcohol abuse.

According to Bandura (2010), the expectation of self - efficacy is the belief that a person can use their own resources to perform actions in order to attain the desired outcome in a given situation. Stressful circumstances are seen as challenges rather than threats by those who have strong self-efficacy (Luszczynska, Gutiérrez-Doña, & Schwarzer, 2005). Roddenberry and Renk (2010) examined the relationship between self-efficacy, control, stress and health in 159 psychology students. It became clear that students with a less pronounced expectation of self-efficacy have a high level of confidence in external control and increased stress levels. Lee et al. (2010) showed that high expectations of self-efficacy and good average grades were associated with low burnout among students (Lee et al., 2010).

Thomasson and Psouni (2010) found out that low self-efficacy was associated with social anxiety and more frequent use of dysfunctional coping strategies (Thomasson & Psouni, 2010).

Various studies have now identified factors that protect or promote health and reported appropriate interventions for their development. According to Dyrbye et al., (2006), the situation with data on factors is poorly understood.

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As a result, our study of protective factors for coping with examination fear is based on a salutogenetic approach and examines the abilities, competencies and personality traits that characterize a learner who can develop positively and stay healthy, despite the learning risk factors in the higher education system.

3. Methods

The techniques used in the psychodiagnostic exam were designed to investigate the elements that help students overcome their exam anxiety. The study included 25 fourth-year Auezov South Kazakhstan University students from the foreign languages department and 25 students from the psychology department. The test volunteers' average age was 20 years, 4 months. There were 45 women and 5 men.

3.1. Diagnostic Methods

1. Self-assessment questionnaire of learning difficulties (3 questions with the choice of a scale answer), (Reschke & Schröder, 2010). It aims to study students' self-assessment of academic success and their ability to overcome examination fear and stress (Reschke & Schröder, 2010).
2. Leipzig rapid test for chronic stress detection.
3. Reschke and Schröder (2010) in adaptation and standardization in Russian (Garber, Karapetyan, & Reshke, 2018). The scale is called the "Leipziger Kurzfragebogen für chronischen Stress - LKCS". In the tradition of ultra-short screenings the scale contains only seven items with proven validity for important dimensions of chronic stress. These are type A behavior: high amount of pressure in daily life, sense of coherence, number of negative emotions, sleep disorders as the first expression of psychosomatic symptoms, inability to relax or calm down, unsolved critical life events and a lack of social support. Each item can be answered on a 4-point Likert scale. Values from 7 to 28 are possible. The test analysis proposed a cut off value of a row value of 17. People with a score of 17 or higher are highly stressed. The screening test fulfills all the criteria of validity, reliability and objectivity sufficiently. Norms were computed (Garber, 2018; Garber et al., 2018; Reschke & Schröder, 2016).
4. Scale of general self-efficacy by Schwarzer and Jerusalem (2002): This method represents a self-assessment questionnaire that aims to measure the subjective feeling of personal effectiveness within the framework of the author's concept. The number of points is added up. Scores up to 27 points indicate low self-efficacy; 27-35 points indicate average self-efficacy; more than 35 points indicate high self-efficacy (Steinmayr et al., 2016).
5. Resilience scale Wagnild and Young (1993). The general scale with 25 statements (RS-25) is thought to be a reliable measurement tool to study psychological resistance as a personal characteristic. Each form of the RS scale indicates the population-representative norm. In addition, the reliability of RS is achieved by correlating it with the results of the self-assessment questionnaire (Wustmann, 2012).
6. Life Satisfaction Scale, Ed Diener: A short screening self-questionnaire was designed for mass polls of respondents about their degree of subjective satisfaction with their lives. The scale of subjective happiness measures an individual's emotional experience of their own life as a whole reflecting their general level of psychological well-being (Diener, 1984; Diener et al., 1985).
7. Questionnaire "proactive coping behavior": A test technique designed to diagnose personal characteristics that prepare a person for living through a stressful situation and getting out of it with increased personal resources. The questionnaire aims to study the coping strategies of a person but not in terms of the traditional understanding of coping as a way to avoid a problem but in terms of a way to solve emerging difficulties including preventive preparation for them. It diagnoses six types of coping behavior: proactive overcoming, "reflexive overcoming", "strategic planning", "preventive overcoming", "search for instrumental support" and "search for emotional support is oriented" (Schwarzer, 2000).
8. Questionnaire "balance of my sources of stress for students" (Reschke & Schröder, 2010): Self-assessment of examination stressors on a 4-point scale. 12 stressors: "worries", "stress before the exam", "lack of recognition: at school", "lack of recognition: by friends and family", "continuous attention", "continuous stress without rest", "daily routine", "fear of getting a bad mark", "fear of getting a bad mark on an oral exam", "fear of getting a bad mark on a written exam", " lack of friends", "competition" and "other stressors" (Reschke & Schröder, 2010).

Statistical methods: factor analysis.

Description of the research results.

4. Findings and Discussion

A set of statistical programs SPSS 23.0 was used for the statistical processing of factor analysis (Nasledov, 2005).

Processing was carried out by the main component method. The varimax rotation procedure was selected with Kaiser normalization factors with their own values and large units were considered. Rotation for 34 variables (3 variables learning difficulty self-assessment questionnaire, 8 variables: Leipzig Express Chronic Stress Test, Garber et al. (2018), 1 variable: overall self-efficacy scales, Schwarzer and Jerusalem (2002), 2 variables resilience scales, Wagnild and Young (1993), 1 variable: life satisfaction scale, Ed Diener, 6 variables: questionnaire « proactive coping behaviour», 13 variables: the questionnaire « balance of my sources of stress for students» (Reschke & Schröder, 2010)) required 26 iterations.

According to the factor analysis, eleven new factors were formed. More than 82.98% of the total variance which is a good result. We analyzed all 11 latent factors.

When analyzing the data, factor loads were identified whose absolute value greater than 0.4. During the interpretation, the largest factor load in absolute value is highlighted for each variable (see Table 1).

The positive pole of the factor is interpreted on the basis of the positive poles of the variables with the highest positive loads and the negative poles of the variables with the highest modular negative loads. Accordingly,

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negative poles of variables with maximum positive loads and positive poles of variables with the highest modular negative loads correspond to negative poles of factors (Nasledov, 2005).

Table 1. Factor analysis of protective factors and risk factors for overcoming examination fear among students during the exam period (11 highlighted factors after rotation).

Parameters	Factors										
	1	2	3	4	5	6	7	8	9	10	11
Information content in %	14.57	9.61	9.26	8.95	7.78	7.11	6.52	5.34	4.98	4.78	4.07
v1	0.28	-0.31	0.14	-0.19	-0.43	0.06	0.52	0.24	-0.12	0.21	0.13
v2	0.00	0.03	-0.04	-0.19	-0.03	0.19	-0.05	**0.74**	-0.10	0.08	-0.22
v3	0.01	0.23	0.58	0.39	-0.16	0.02	0.06	0.15	-0.07	0.08	-0.40
s1	-0.14	0.54	-0.04	-0.26	0.11	0.54	0.07	0.21	0.13	0.04	-0.19
s2	0.01	0.37	0.28	-0.25	0.68	0.08	-0.05	-0.15	0.11	0.05	0.10
s3	-0.05	-0.04	0.00	0.26	**0.85**	0.15	0.09	0.02	0.06	-0.07	0.13
s4	-0.07	0.02	-0.15	0.22	0.06	**0.87**	0.08	0.15	-0.06	0.05	0.08
s5	0.00	0.05	0.22	0.05	0.13	0.09	0.14	-0.17	-0.05	-0.02	**0.86**
s6	-0.09	0.47	0.36	0.01	-0.23	0.49	-0.01	-0.11	0.29	0.28	0.18
s7	0.30	-0.09	0.04	-0.11	0.40	0.04	-0.02	-0.09	**0.76**	0.07	-0.05
Sum_Stress	0.00	0.32	0.19	0.00	0.45	0.62	0.08	-0.05	0.34	0.12	0.33
effekt_summa	0.40	-0.08	-0.27	0.06	-0.14	-0.29	0.07	0.45	0.12	0.36	-0.08
pers_Kompet	0.45	-0.25	-0.41	-0.01	0.46	-0.08	-0.01	0.30	0.13	0.29	-0.06
Prinjatie	0.35	-0.36	-0.44	-0.09	0.24	-0.04	0.03	0.18	0.13	0.13	-0.10
Udovlet	0.30	-0.15	-0.11	-0.10	0.03	0.12	-0.08	0.12	-0.05	**0.86**	-0.03
pci1	**0.90**	-0.03	-0.12	0.00	0.13	0.07	0.10	0.10	0.10	0.12	0.01
pci2	**0.85**	-0.03	-0.17	-0.01	-0.06	-0.12	0.17	-0.18	0.10	-0.05	0.06
pci3	0.78	-0.03	0.07	0.06	-0.06	0.04	0.18	-0.21	-0.04	0.41	0.00
pci4	**0.93**	-0.05	-0.12	-0.05	0.08	-0.01	0.11	-0.04	0.11	0.13	-0.15
pci5	0.63	0.07	-0.12	0.43	-0.11	-0.07	-0.21	0.35	-0.06	-0.07	0.11
pci6	0.74	0.08	0.07	0.08	-0.17	-0.01	-0.13	0.34	-0.30	-0.09	0.06
vs1	0.22	-0.03	0.11	0.26	-0.12	0.10	**0.83**	-0.07	0.12	-0.06	0.03
vs2	0.18	-0.01	0.31	0.43	0.30	0.44	-0.01	-0.17	0.33	-0.29	-0.11
vs3a	-0.20	0.20	**0.86**	-0.02	0.25	-0.01	-0.02	-0.08	0.01	-0.12	0.04
vs3b	-0.12	0.03	**0.85**	-0.10	0.02	-0.05	-0.04	-0.02	0.01	0.00	0.25
vs4	0.19	0.24	0.11	-0.19	0.09	0.45	0.47	-0.35	-0.27	-0.09	-0.20
vs5	-0.12	0.33	-0.34	0.29	0.38	-0.09	0.38	-0.29	0.21	0.16	-0.08
vs6	0.03	0.22	-0.23	-0.03	0.22	0.01	**0.80**	0.00	-0.05	-0.04	0.13
vs7	0.02	0.48	-0.12	0.52	-0.05	0.30	-0.02	-0.34	-0.12	0.12	0.01
vs8	0.08	0.28	-0.17	**0.83**	0.10	0.03	0.09	-0.10	0.15	-0.16	0.01
vs9	0.00	0.04	0.14	**0.90**	0.07	0.05	0.06	-0.04	-0.04	0.03	0.03
vs10	-0.17	0.39	-0.23	0.35	-0.14	0.07	0.03	0.02	0.63	-0.25	0.01
vs11	-0.05	**0.84**	0.15	0.23	0.02	0.09	0.15	0.07	0.07	-0.15	-0.02
vs12	0.08	**0.83**	0.28	0.18	0.20	0.04	0.03	-0.05	-0.06	-0.10	0.08

Note: v1: self-assessment of learning success, v2: self-assessment of the ability to overcome examination fear, v3:self-assessment of the current learning phase stress; s1:"Loss of control", s2:"Loss of meaning, s3 :"Anger, discontent (frustration)", s4: "Sleep disturbance", s5:" Failure to rest ", s6 :"A topic that is emotionally negative", s7:" Lack of social and emotional support", sum, stress, "total score on the stress", effekt_summa «Self-efficacy», pers_Kompet – «Personal competence», prinjatie "Accepting yourself and your life", udovlet : «Life satisfaction», pci1 :«Proactive coping», pci2:«Reflexive coping», pci3 :«Strategic planning», pci4 :«Preventive coping», pci5 :«Tool support search», pci6 :«Search for emotional support», vs1:«Worries», vs2: «Before exam stress», vs3a: « Lack of recognition: at school », vs3b:« Lack of recognition: from friends and family », vs4:"Continuous attention" , vs5: « Continuous tension without rest», vs6 :«Daily routine», vs7: «Fear of getting a low mark», vs8: « Fear of getting a bad mark on an oral exam», vs9: « Fear of getting a bad mark on a written exam», vs10 – «Lack of friends», vs11 – «Competition», vs12 – "Other stressors".

The latent factors discovered as a result of the joint analysis of the methods are self-assessment questionnaires for learning difficulties, the Leipzig rapid test for identifying chronic stress, a scale of general self-efficacy, a scale of resilience, a scale of life satisfaction, a questionnaire on "proactive coping behavior", a questionnaire on "balance of my sources of stress for students" in descending order of their importance for overcoming examination fear among students during the exam period.

1. Proactive strategies for coping behavior, primarily preventive and proactive coping.
2. Overcoming competition and other factors of personal stress.
3. Overcoming the lack of recognition at school from friends and family.
4. Overcoming the fear of getting a bad mark in a written or oral exam.
5. Ability to manage negative emotions in a stressful situation.
6. A good night's sleep.
7. Lack of extra care and a good daily routine.
8. Ability to overcome examination fear.
9. Good social and emotional support from people around.
10. General satisfaction with life.
11. Ability to rest.

The processing was carried out by the method of principal components, the Kaiser Varimax rotation procedure with normalization was chosen, factors with eigenvalues greater than unity were considered. Rotation in the case of 34 variables (3 variables : self-assessment questionnaires for learning difficulties, 8 variables: the Leipzig rapid test for identifying chronic stress, Garber et al. (2018), 1 variable (Schwarzer & Jerusalem, 2002), general self- efficacy scales Schwarz, 2 variables - resilience scales (Wagnild & Young, 1993), 1 variable- life satisfaction scales , Ed Diener, 6 variables – proactive coping behaviour questionnaire , Schwarzer (2000), 13 variables: balance of my sources of stress for students " (Reschke & Schröder, 2010) required 13 iterations.

According to the factor analysis, eleven new factors were formed which explains that more than 79.55% of the total variance result is good. We analyzed all 10 latent factors.

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Table 2. Factor analysis of protective factors and risk factors for overcoming examination fear in students after the exam period (10 highlighted factors after rotation).

Parameters	Factors									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Information content in %	15.42	13.09	11.37	8.04	7.04	6.07	5.01	4.91	4.52	4.08
v12	-0.09	0.25	0.08	0.02	**0.81**	0.05	0.05	0.01	-0.01	0.27
v22	-0.16	-0.02	0.04	-0.18	**0.77**	0.23	-0.11	0.09	-0.17	-0.18
v32	0.03	-0.13	0.22	0.14	0.04	-0.19	0.00	-0.01	0.00	**0.85**
s12	-0.02	0.06	0.13	0.14	-0.10	-0.07	**0.87**	0.00	-0.01	0.01
s22	0.10	-0.07	0.75	0.14	0.01	0.25	0.25	0.04	-0.21	-0.15
s32	-0.06	-0.08	0.77	-0.04	0.03	-0.14	-0.31	0.06	-0.12	0.16
s42	-0.07	-0.22	0.66	0.23	-0.07	-0.13	0.05	-0.48	0.12	-0.02
s52	0.04	0.01	0.61	-0.13	0.23	-0.03	0.38	0.34	0.26	0.16
s62	-0.04	-0.07	0.66	0.01	-0.34	0.05	-0.16	-0.11	0.04	0.31
s72	-0.12	-0.06	0.54	-0.25	0.45	0.00	0.21	0.18	0.30	-0.16
Sum_Stress2	-0.04	-0.11	**0.95**	0.01	0.07	-0.01	0.22	0.00	0.11	0.06
samoeff_2	-0.15	0.27	-0.12	0.22	0.38	0.08	-0.50	0.26	-0.42	0.23
pers_Kompet 2	-0.12	0.18	0.04	0.00	0.05	**0.91**	-0.10	0.01	0.03	-0.03
prinjatie_2	-0.06	0.20	-0.03	-0.07	0.08	**0.91**	0.02	-0.03	-0.10	-0.14
udovlet_2	-0.08	0.04	-0.15	0.23	0.68	-0.12	-0.25	-0.35	0.16	-0.07
pci12	0.00	**0.84**	-0.11	-0.09	0.17	0.26	-0.13	-0.03	-0.01	0.08
pci22	-0.04	**0.87**	-0.08	-0.03	0.09	0.24	-0.04	0.01	-0.08	-0.07
pci32	-0.24	0.67	-0.17	0.08	-0.04	-0.01	0.02	0.29	0.18	-0.28
pci42	-0.01	**0.85**	-0.06	-0.11	0.09	0.17	-0.12	-0.03	-0.11	-0.14
pci52	0.12	0.79	-0.08	-0.06	0.05	-0.12	0.28	-0.10	-0.14	0.06
pci62	0.16	**0.88**	0.01	-0.06	-0.07	-0.02	0.06	-0.03	0.01	0.02
vs1_2	0.62	-0.26	-0.11	-0.02	-0.16	0.04	-0.04	0.03	0.35	0.35
vs2_2	0.74	0.11	0.05	0.28	0.03	-0.05	0.15	0.04	0.07	0.13
vs3a_2	0.63	-0.02	0.15	0.16	-0.10	-0.03	-0.21	0.01	0.29	-0.07
vs3b_2	0.34	-0.13	0.12	0.33	-0.02	-0.08	0.02	0.07	**0.71**	0.01
vs4_2	0.41	-0.04	-0.25	0.15	0.08	-0.02	0.09	0.49	0.37	0.08
vs5_2	0.31	-0.05	0.16	0.27	-0.10	-0.08	-0.07	**0.73**	0.00	-0.08
vs6_2	0.31	-0.25	-0.12	0.49	0.05	0.15	-0.07	0.34	0.21	0.10
vs7_2	**0.79**	0.05	-0.19	0.15	-0.14	-0.04	0.13	0.17	0.17	0.06
vs8_2	**0.88**	0.04	0.00	0.05	-0.11	-0.02	-0.02	0.08	-0.12	-0.03
vs9_2	**0.88**	0.12	-0.03	0.09	-0.04	-0.10	-0.04	0.02	-0.15	-0.14
vs10_2	0.48	-0.08	0.08	0.75	0.03	-0.17	0.03	-0.09	0.10	0.02
vs11_2	0.23	-0.02	0.10	**0.83**	-0.16	-0.02	0.05	0.21	0.01	0.14
vs12_2	0.50	-0.17	-0.09	0.66	0.17	0.02	0.13	0.01	0.13	-0.05

Note: v12 - self-assessment of learning success, v22: self-assessment of the ability to overcome examination fear, v32:self-assessment of the current learning phase stress; s12: Loss of control ", s22: Loss of meaning ", s32: Anger, discontent (frustration)", s42 ; Sleep disturbance", s52:Inability to rest", s62: A topic that is emotionally negative", s72 : Lack of social and emotional support", Sum_Stress2 : « Total score on the stress », samoeff _2 – « Self-efficacy », pers_Kompet 2– « Personal competence », prinjatie_2 – « Accepting yourself and your life », udovlet_2 – « Life satisfaction », pci12 – « Proactive coping », pci22 – « Reflexive coping », pci32 – « Strategic planning», pci42 – « Preventive coping », pci52 – « Tool support search », pci62 – «Search for emotional support», vs1_2 – « Worries », vs2_2 – « Before exam stress », vs3a_2 – «Отсутствие признания: на учебе», vs3b_2 - «Отсутствие признания: от друзей и семьи», vs4_2 – « Continuous attention », vs5_2 – « Continuous tension without rest », vs6_2 – « Daily routine », vs7_2 – « Fear of getting a low mark », vs8_2 – « Fear of getting a bad mark on an oral exam », vs9_2 – « Fear of getting a bad mark on a written exam », vs10_2 – « Lack of friends », vs11_2 – « Competition», vs12_2 – „ Other stressors.

The latent factors obtained as a result of the joint analysis method are self-assessment questionnaires for learning difficulties, the Leipzig rapid test for chronic stress, a scale of general self-efficacy, a scale of resilience, a scale of life satisfaction and a questionnaire for "proactive coping behavior". Table 2 presents a questionnaire "balance of my sources of stress for students" in descending order of importance to cope with examination fear among students after the exam period:

1. Overcoming the fear of getting a bad mark in a written or oral exam.
2. Proactive strategies for coping behavior, primarily, seeking emotional support and reflexive coping.
3. Overcoming the general level of stress.
4. Overcoming competition as a stressor.
5. Positive self-assessment of academic achievements.
6. High level of resilience.
7. High level of stress control.
8. Ability to continuously stress without rest.
9. Recognition by friends and family.
10. High assessment of the current phase of learning stress.

5. Conclusion

The significance of several latent factors in assisting students in overcoming test anxiety, both before and after the exam and compare those in descending order. As shown in Table 3, proactive coping strategies, overcoming competition as a stressor and overcoming the fear of getting a bad mark on a written or oral exam play an important role both during and after the examination session for students. Other latent factors identified as important for overcoming the examination fear vary significantly during and after the exam session. Recognition by friends and family thus becomes less important after the session than during the exam session such as the social and emotional support of the surrounding people which is more important for the students during the exam period.

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Table 3. Comparative analysis of latent factors in descending order of their importance for fear coping among students before and after the examination period

Factors	During the exam period	After the exam period
1	Proactive coping strategies, primarily preventive and proactive coping.	Overcoming the fear of getting a bad mark on a written or oral exam
2	Competition coping and other personal stressors.	Proactive coping strategies primarily seek emotional support and reflexive coping.
3	Overcoming a lack of academic recognition from friends and family.	Overcoming general stress levels
4	Overcoming the fear of getting a bad mark on a written or oral exam.	Competition coping as a stressor
5	Ability to manage negative emotions in a stressful situation.	Positive self-assessment of academic achievements.
6	Good night sleep	High resilience level
7	Lack of a large number of additional worries and the presence of a good daily routine.	High stress level control
8	Ability to overcome exam fear	Ability for long-term stress without rest.
9	Good social and emotional support from people.	Recognition by friends and family.
10	Overall life satisfaction	High assessment of current learning phase stress
11	Ability to rest	-

Stress and coping with it after the session are primarily expressed in the overall level of stress and high control in a stressful situation. During the session, it is a question of managing negative emotions in a stressful situation and ensuring good sleep quality as well as the ability to rest.

During the session, the importance of a low number of additional concerns, a good daily routine and general life satisfaction is emphasized. The post-exam phase places a strong emphasis on responsible learning and treating the semester's coursework as a demanding study period. Thus, the importance of long-term stress without rest is highlighted.

During the exam session, an individual latent factor is the ability to overcome examination fear. During the semester, such an analogue is the latent factor of a positive assessment of academic success in general.

An interesting fact is the predominance of pro-active coping strategies and stress resistance as factors in overcoming exam fear among students both during and after the exam session. Thus, overall life satisfaction is more relevant during the exam session and resilience in the post-exam period. Self-efficiency as a significant latent factor in test stress coping among students was not identified.

In general, our hypothesis has confirmed that stress resistance, proactive copying behavior and resilience are the most important factors in overcoming examination fear. Self-efficacy as a latent factor that has a significant impact on overcoming the examination fear has not been identified.

5.1. Implications

The psychological analysis of both risk and protective factors under exam stress carries significant practical implications for educational institutions, students and mental health professionals. Teachers and administrators can develop targeted interventions that empower students to better manage anxiety and enhance their exam performance by identifying protective factors. Encouraging the cultivation of proactive coping strategies, stress tolerance and resilience can lead to improved overall well-being and academic outcomes. Moreover, recognizing the pivotal role of social and emotional support underscores the importance of fostering a supportive environment within educational settings. This study's insights can contribute to the design of comprehensive student support programs that prioritize mental health and effective coping mechanisms.

5.2. Limitations

There are certain limitations to this study. The identified protective factors provide valuable insights. They may not universally apply to all student populations or cultural contexts. The study's cross-sectional design restricts the establishment of causal relationships warranting further longitudinal research to validate the observed associations. Additionally, relying on self-reported measures for data collection introduces potential biases and measurement errors. The study's focus on protective factors may also overlook nuanced interactions with risk factors, necessitating a more comprehensive assessment. Lastly, the exclusion of self-efficacy as a significant protective factor underscores the need for continued exploration of its role in exam stress coping.

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