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Personal and Regulatory Resources in Achieving Educational and Professional Goals in the Digital Age

ANALYZING THE DIFFICULTIES OF DISTANCE LEARNING FOR STUDENTS AND FINDING WAYS TO COPE WITH THEM

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Abstract

The changes that take place in the world are transforming the habitual way of life and forcing to adapt to new forms of work, training, leisure and so on. Despite the fact that information and communication technologies have been a popular tool in the educational process for a long time, the transition of students from face-to-face to distance learning (DL) due to the Coronavirus pandemic has created a situation of high tension for a number of objective and subjective reasons: uncertainty, a threat to health, the real communication opportunities, DL technical difficulties. All of this in aggregate is considered by us as stressogenic situation (SS) and determines the relevance of the study of personal factors that contribute to coping with new stresses. The purpose of this study is to identify SS factors and resources for coping with SS in terms of maintaining the health and resilience of young students. Results: Among the most stressogenic factors of the situation, the students included social isolation, new conditions and requirements for self-organization of learning, the cognitive difficulties of assignments for submission in the online format, an epidemiological threat to health, and experiencing the anxiety and uncertainty state. From the point of view of the subject-resource approach, identified are the personal resources of coping with situational difficulties. The results obtained have formed the basis for recommendations for the reconstruction of the educational process.

Keywords: Distance learning, coping, health, resilience.

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1. Introduction

The 2020 Coronavirus Pandemic has brought dramatic changes to the usual lives of many people on our planet, which reinforced the trend towards digitalization of education and necessitated a full transition to distance learning (DL) for students. DL is understood as the interaction between a teacher and learners at a distance that reflects all components of the educational process (targets, content, methods, organizational forms, teaching media) and is implemented through specific means of Internet technology or other means to provide interactivity. Distance education has entered the worldwide pedagogical practice since the 70s of the last century as a result of innovative changes in the higher education system (Kentnor, 2015; Lioshina & Pavlov, 2014; Petkova, 2015; Van Rooyen, 2015). Despite the fact that DL has a number of advantages such as the capability to independently plan the time, intensity and workload, it requires the students to be highly motivated, self-organized, self-disciplined and to have and other skills of mental self-regulation.

The rapid transition from full-time to distance learning will bring many objective and subjective stress factors. Reasons for stress response include the following: unexpectedness and uncertainty of the situation; DL difficulties for technical reasons (lack of modern equipment and software, Internet failures); methodological difficulties (differences in the form of face-to-face and online teaching); DL communicative features (limitations of verbal and non-verbal feedback from the audience); psychological barriers (difficulty of accepting situational changes) (Azarnov & Azarnova, 2014; Vasilenko, 2019).

2. Problem Statement

In the first weeks of the transition to DL, it became evident that for Russian students, as well as their teachers, this situation has brought many objective and subjective stress factors that required to be coped with. Along with DL, the stressogenic nature of the situation was exacerbated by the uncertainty regarding the threat to health and the duration of the forced isolation. Forced self-isolation, a threat to health, online learning, an unfamiliar lifestyle with limited physical activity and real communication - all of this can be considered as stressogenic situation (SS), which has caused many people to experience stress and mental disorders, especially, for the millennium generation (Vasilenko, 2019). According to our data, 10-15 % of students did not find the strength to continue their studies and took academic leave. Our study is associated with the scientific and applied problem of identifying personal and organizational resources of preserving vitality, quick adaptation to a new SS of DL and social isolation. The search for resilience preservation resources and models of psychological assistance to the younger generation of future specialists determines the relevance and subject field of this study.

3. Research Questions

Research questions are to study:

- To determine the greatest difficulties and the stressogenic nature of the situation according to the subjective assessments by students.
- To identify the resources to cope with difficulties.
- To study the indicators of mental state, resilience and health.

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- To evaluate the parameters of extrinsic and intrinsic motivation and attitude towards professional activity.

4. Purpose of the Study

The purpose of this study is to identify the psychological difficulties of the new life situation and the resources to cope with it from the standpoint of maintaining the health and resilience of young students. It was assumed that the resilience in the situation of uncertainty and social self-isolation would be higher among the students with high intrinsic motivation and attitude towards occupational education.

5. Research Methods

The following questionnaires were used for empirical research: the author's questionnaires “Difficulties and resources for overcoming them in DL situation”, “Positive and negative factors of DL situation”, the questionnaire “Health”, a short version of the resilience test (Osin & Rasskazova, 2013), the methodology of students’ motivation and attitude towards professional activity (Krylova & Ignatkova, 2017). The study was carried out online in May 2020, one month after the transition to DL. Semi-structured interviews with university and college teachers.

Sampling. In the study, there were enrolled 30 teachers: experts from Saint-Petersburg and Yuzhno-Sakhalinsk; the students of the Psychology Faculty of Saint-Petersburg State University (39 persons, out of which 31 young female students and 8 young male students), the Physical Culture and Sports College under Saint-Petersburg State University (15 persons, out of which 9 young female students and 6 young male students), the Sakhalin College of Art (33 persons, out of which 30 young female students and 3 young male students). In total, there were 87 persons including 70 young female students and 17 young male students. The age of the respondents is from 18 to 30 years.

The statistical processing of data was carried out using the content analysis of the responses in the teachers' interviews, the quantitative analysis of the student responses in the questionnaires, the primary observations’ analysis of correlation and regression types.

6. Findings

As a result of the questionnaire survey, it was found that the students see the SS greatest difficulties (DL and isolation) in the lack of communication and emotional impressions, an increase in the volume of homework, hours of work at the computer and undifferentiated time (Table 1)

Table 1. SS difficulties and their assessment

Difficulties	Assessment of difficulties (7-point scale)	Number of students, %
Lack of real communication with fellow students and teachers	6.7	88
Increase in volume of homework and in difficulty of preparing it	6.1	79
Deficit in emotional impressions (emotional deprivation)	5.5	54

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The students noted a significant deterioration in their mental state during the transition to DL (Table 2). The greatest deterioration is noted in the emotional component – loss of calmness. Thus, 85 % of the students point at increased anxiety, apprehension for outstanding assignments, forthcoming credits and exams. The teachers noted the following phenomena. “Fear of error” has increased in fulfilment of assignments (about 25 % of the students many times specify the correct fulfilments of assignments, deadlines for delivery of assignments, ask for quick feedback). “Decreased motivation for extra efforts” (about 15 - 20 % of the students point out that the assignments are too difficult or not clear, they ask for clarification or simplification). About 27 % of the students reported having prostration regarding homework. Most of them explain this by feeling unwell, by decreased working efficiency, loss of motivation or interest in learning; formal fulfilments of assignments is observed for 20 to 30 % of the students. No differences were found between male and female young students and girls in the SS subjective representations and mental states.

Table 2. Change in mental state after one-month DL

Subjective experiences of deterioration in condition	Number of students, who noticed pronounced deterioration in their condition, in %
Decreased vigor	67
Deterioration in physical and mental activity	47
Decreased vitality	52

Along with the negative aspects of the self-isolation and DL situation, the students identified the following positive aspects:

- saving time on the way to university/college (65% of the respondents);
- ability to communicate with fellow students in voice chat when discussing homework and projects (35% of the respondents);
- more time can be used for self-reflection (contemplation, self-awareness, setting of goals, objectives, meanings) (59% of the respondents);
- autonomy and a feeling of greater freedom in organizing studies (53% of the respondents);
- more time for hobbies (49% of the respondents).

Based on the results of the questionnaire "Positive and negative factors of the situation", the psychological well-being index (PWBI) was calculated. It was found that the PWBI average value = 0.73. This means that the subjective experiences of the negative aspects of the situation dominate the positive ones. Out of the entire group of the respondents, only 5% of the respondents had PWBI $\geq$ 1.0, i.e., the negative and positive experiences were balanced.

The results of the resilience test showed that 37% of the respondents had a low level of integral resilience index, only 25% had a high level of resilience. A significant correlation ($P < 0.001$) was found between PWBI and the integral resilience index (IRI).

The analysis of the results of the methodology “Motivation and attitude towards professional activity” indicates an equal distribution of the students with a high, medium, and low motivation attitude towards the profession. In this context, the majority of the respondents has the average level of the intrinsic (54%) and extrinsic positive motivation (70%); the low level of negative motivation was found

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in 34% of the sampling. This indicates a high level of motivation for obtaining occupational education and a desire to connect their work activities with their chosen profession. The high extrinsic negative motivation was demonstrated by 17% of the respondents.

According to the results of the questionnaire "Difficulties and resources for overcoming them in DL situation", it was found that the activity resources and self-organization skills are in the first place in terms of the frequency of designation and the importance of coping with DL difficulties (27%). Thus, the respondents noted that, for coping with this SS, the most important thing is the significance of activity, objectives, the ability to plan tasks and to achieve results. Learning (including self-learning) and hobbies were mentioned by the students as the most significant activities.

The communication resources rank second in terms of importance for coping with SS: communication and support of family, friends, like-minded people (20%), their joint pastime. The students noted that, in a situation of self-isolation, the need for communication and virtual communication with fellow students has increased significantly, which helps them to overcome social deprivation, experiences of loneliness and to compensate for the emotional and reflexive communication deficits.

In third place is occupied by faith and positive thinking (16%). This is manifested primarily in self-confidence. Many students referred to various techniques of mental regulation as resource for coping: meditation, sleep, short walks (11%). It should also be noted that 8 % of the students do not see any resources for coping with SS (Table 3).

Table 3. Resources for coping with situation of forced DL

Resources for coping	Number of students, %
Having things to do and self-organization	27
Communication with and support of family and friends	20
Faith and positive thinking	16
Psychoregulation	11
Negative mobilizing emotions	7
Information monitoring	4
Physical activity	4
Material security	2
Culture and art	1
No idea about resources	8

In the course of the correlation analysis, multiple relationships were found between the indicators of the health preservation, mental state, and working efficiency. Let us dwell only on the IRI correlations with empirical variables (Table 4).

Table 4. Correlation of resilience with variables of health, working efficiency and state*

Variables	IRI
Psychological well-being index	.464
Physical health for time being	.399
Physical activity for time being	.374
Vigor	.449
Vitality	.475

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Calmness	.450
Efforts aimed at preservation of health	.334
State of physical efficiency	.528
State of intellectual work capacity	.457
Engagement	.862
Control	.841
Risk acceptance	.734
Attitude towards professional activity	.412
Intrinsic motivation	.370
Extrinsic positive motivation	.384

Note: all correlations at significance level *p < 0.001

The correlations obtained give evidence of the close relationship of the resilience with the physical, mental health and the state of working efficiency. There were found no significant IRI correlations with the age and negative extrinsic motivation.

As a result of multiple regression analysis, the predictors of the integral resilience index were identified (Table 5). The greatest contribution is made by “Risk acceptance”, which is natural as this variable is a sub-factor of resilience. Next in the significance of contributions are “Attitude towards professional activity” and “Physical activity for time being”, while “Calmness” makes the smallest contribution. The total contribution of predictors to IRI is 71 % of explained variance. The strength of the relationship of these factors R = 0.84.

Table 5. IRI independent variables

Response variable	Independent variables	β	Importance
Resilience index	Risk acceptance	.629	.000
	Physical activity for time being	.209	.003
	Attitude towards professional activity	.221	.001
	Calmness	.161	.024

The professional training period of future specialists coincides with the period of youth in age periodizations, which, in addition to the new environment, includes many stressogenic factors that are associated with the tasks of personal and professional identity formation (Nartova-Bochaver, 2019). In order to cope with them, a person needs the resources of coping in different periods of life (Kryukova, 2010). In the new situation of the coronavirus pandemic threat, they were supplemented by factors of social isolation and by a new form of educational activity (DL), which had effect on deterioration in the students' physical and mental activity, on reduced efforts to maintain health, vitality, and calmness.

As a part of the study, a hypothesis was confirmed that the students with high attitude towards professional activity and intrinsic motivation remain calm and maintain positive thinking to a greater extent. In contrast, the students with low attitude towards professional activity, with unformed resources of self-organization and coping with difficulties assess this period as more stressogenic. In this group, the negative phenomena “Fear of error”, “Decreased motivation for extra efforts” and procrastination are more often evident. According to their assessments, the DL negative aspects prevail over the positive ones, which may indicate a reduced adaptation to SS, as well as a pessimistic attitude towards their own

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resources of coping with difficulties. This group of the students tends to have lower resilience indicators. Obviously, the attitude towards professional activity and the intrinsic motivation mediate the self-organization, control, engagement in significant (educational) activity and positive thinking and can be considered as personal resources of coping with SS. Certainly, consideration of the DL negative phenomena and the methods for their prevention requires a more systematic study and in-depth analysis.

It may be assumed that, for some students with low intrinsic professional motivation, the independent fulfillment of assignments without external stimulation (support, control) seems to be a very complex activity and is perceived as stress, causing a psycho-emotional and motivational-volitional imbalance.

A significant part of students (17 %) have a high extrinsic negative motivation, which most likely indicates immature professional motivation, unpreparedness for extra efforts to master professional knowledge and competencies. The immature professional motivation may cause troubles in coping with the difficulties of the situation, the manifestation of negative mental states and phenomena.

Those who make efforts to maintain health (physical activity, healthy nutrition and lifestyle) even in situations of isolation at home, are convinced that they have the necessary energy and vigor; they take the active position regarding situational difficulties and high subjective health indicators.

One can agree with the teachers and scientists, who note the ambiguous effects of the DL propagation in the higher education system. Virtual education through digital technologies has many "submerged reefs" that are dangerous not only for the quality of education, but also for the humanistic component of future specialists, especially in socionic professions (Kentnor, 2015; Maltsev et al., 2018). By all means, the DL contentedness and effectiveness depend, to a large extent, on the digital communication competence both of students and teachers. However, no digital communications can replace real communication, which performs the most important functions of socialization and professionalization of a person. Positive motivation and attitude towards professional development play an important role in occupational training through DL (Caliskan et al., 2017).

7. Conclusion

As a part of the study, it was found that the situation of self-isolation and the transition to full DL is assessed by the students as difficult situation. The rapid transition to new forms of learning with many hours of work alone with a computer has had a significant impact on the mental state of the students.

The greatest difficulties and deterioration in the mental state are experienced by the students with low intrinsic motivation and attitude towards professional activity. These students are characterized by the negative effects in the form of "fear of error", "decreased motivation and unpreparedness for extra efforts", procrastination, disorderliness, strategy for avoiding online communication with a teacher. We attribute the manifestation of the negative effects not only with the deficit of motivational variables, but also with the specific features of the interaction during DL, the deficit of emotional support from the teacher and fellow students. Obviously, other DL phenomena and their causes are possible, which requires the fundamental study of this problem.

The following is referred to the most important resources of coping by the students with the high professional motivation: "having things to do" and self-organization, communication and support of

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family and friends, faith and positive thinking, and psychoregulation. This gives reason to consider the attitude towards professional activity, intrinsic motivation, self-organization, control, engagement in significant (educational) activity and positive thinking as personal resources of coping.

Multiple correlations of the integral resilience index (IRI) with motivational resources, mental state, intellectual work capacity and physical efficiency were identified. According to the results of the regression analysis, the “Attitude towards professional activity”, “Physical activity for time being” and “Calmness” make the significant contribution to the integral resilience index.

In order to preserve the psychoemotional state, working efficiency and DL effectiveness in stressogenic situations, three areas should be discussed: pedagogical, psychological and technical (educational platforms).

The first area is technical. In this area, the objectives shall be the development of dedicated educational platforms that will be convenient ("intuitive") for students and teachers at different levels of mastering the information and computer technologies. To achieve these objectives, classrooms shall be fully equipped with state-of-the-art technical means, and training in modern online technologies shall be provided.

The second area is pedagogical. In this area, the objectives shall be the reconstruction of the educational process and interactions in the virtual space. Teachers are required to revise the material taking into account the modularity, autonomy of study and the visual nature of the information series: video films, presentations, graphs, tables, sound prompts. Students are required not only to familiarize themselves with the suggested educational material, but also to actively search for information on the Internet with its mandatory critical assessment and conceptualization.

The third area is psychological. In this area, the objectives shall be, in the conditions of the educational and lifestyle transformation, the assistance to students and teachers in adapting to new forms of work. Preparation of training programs aimed at developing the students' motivational, volitional, mental (cognitive, volitional, motivational) resources and the skills to cope with the rough and tumble of life and with the educational and professional difficulties. In order to reduce anxiety and DL negative phenomena, teachers are required to synchronize the virtual communication interaction in various ways to stimulate the students’ initiative. The repertoire of positive interactions needs to be expanded in order to achieve a zone of mutual psychological comfort, which will have an impact on improving the effectiveness of the educational process.

The important regulators of the successful psychological and pedagogical interaction are coordination, individual and group consultations, and management of training assignments and projects. In the DL context, the forms of dialog should be expanded in these types of joint advancement towards a successful learning outcome.

The optimization of personal resources in overcoming the difficulties of educational nature is seen in correcting the control and regulatory methods of psychological and pedagogical impact. They shall be based on the functions of not only monitoring the correct fulfillment of homework, but also supporting the health of subjects of education entities, developing the resources of self-control and self-assessment, optimism and confidence in success.

In order to increase the resilience of students and the coping with SS, the following dedicated practices can be recommended: time management; overcoming of procrastination and training in goal-setting; self-regulation and self-control; effective interaction in a group when jointly performing various types of assignments (projects, discussions, presentations, etc.); embodiment coaching (activation of body resources, options for physical activity).

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