

THE INVESTIGATION OF MAJOR PREDICTORS OF WELL-BEING IN A SAMPLE OF ROMANIAN UNIVERSITY STUDENTS IN THE POST-COVID-19 PERIOD

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ABSTRACT. The Coronavirus-induced pandemic has had a significant impact on the physical and psychological functioning of the entire world's population. Research has indicated that besides the physical threat to health itself, the implications of constant uncertainty, separation from and/or loss of loved ones, loss of freedom to travel, shortage of food and financial resources, disruptions of usual life-routines, changing work and learning habits, further aggravate the effect of initial stressors, leading to increased levels of depressive symptoms, anxiety, PTSD, insomnia, lowered levels of well-being, and confusion. Unfortunately, just as the two-years long pandemic ended, the Ukrainian war started, and the Romanian population, since our country borders Ukraine, has experienced a novel type of stress, that of the possibility of being attacked, affected economically. Almost simultaneously, the online education has returned to classical form of teaching, amidst semester, being another stress factor for students.

Our results indicated that the two-year long pandemic was considered as having the greatest impact by almost two-thirds of the students. Furthermore, the lack of self-efficacy component of perceived stress was a constant and strong predictor of all components of well-being (subjective and psychological), and perceived helplessness for subjective well-being. Regarding emotion regulation strategies refocus on planning, positive reevaluation, self- and other blame, withdrawal and actively approaching the source of stress proved to be the most important predictors.

The results of our investigation may be beneficial for the tailoring of future prevention and intervention programs that would target the enhancement of psychological adaptation of students.

Keywords: stress, depressive symptoms, uncertainty, emotion regulation strategies, subjective and psychological well-being, post COVID-19.

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Introduction

Since the mid-20th century, the world has been afflicted by an increasing number of natural (e.g., floods, earthquakes, wildfires, major storms), and environmental disasters (e.g., toxic pollutants, industrial accidents) (Colwel & Machlis, 2019). The implied physical threats, and psychological, economic, social implications, as well as the unpredictable nature of most of these disasters has significantly affected the entire populations' mental health and well-being (Bao, Sun, Meng, Shi, & Lu, 2020; Limcaoco, Mateos, Fernandez, & Roncero, 2020; Salari, Khazaie, Hosseinian-Far, Khaledi, & Eskandari, 2020). Additionally, research has also documented that the adults' life in the late, or liquid modernity (Bauman, 2007) is characterized by more and more complex sources of stress, as: increasing economic uncertainty, changes in basic value-systems (moral values, guidelines for what means a well-lived life), changes in work-style (advantages and disadvantages of telework, the psychological costs of temporary employments), frequent relocations, weakening of real social-bonds, pressure for excellence, constant competition, etc. (Banyard, Edwards, & Kendall-Tackett, 2009; Curran & Hill, 2017; Moscone, Tosetti, & Vittadini, 2016; Tavares, 2017; Twenge & Kasser, 2013; Verhaeghe, 2014; Virtanen, Kivimaki, Joensuu, Virtanen, Elovainio, & Vahtera, 2005). The effect of these changes is reflected by the dramatic increase of mental health problems world-wide (anxiety, depression, loneliness, etc.) (Erzen & Çikrikçi, 2018; WHO, 2017).

Temporally closest to us, worldwide, the last two and a half years have abounded in events that each, individually exceed common, usual human experiences. In March 2020, the World Health Organization declared the COVID-19 infection a worldwide pandemic, which became an increasingly serious public health problem (Phelan, Katz, & Gostin, 2020; Vergara-Buenaventura, Chavez-Tuñon, & Castro-Ruiz, 2020). Beside the rapid spread of the Sars-Cov-19, the high threat of physical contagion, the significant short- and long-term physical health-related sequelae (e.g., abnormal pulmonary functions, fatigue, severe cardiologic, neurologic and cognitive symptoms) (Zeng, Zhao, Yan, Li, Lu, Liu, et al., 2022), the population had to confront severe implications of the pandemics in collateral spheres of functioning as well: psychological, social, professional, economic, etc.

The psychological toll the entire population has had to pay has been significant both on short- and long-term, both for those who have recovered from the SARS-CoV infections themselves (Daher, Balfanz, Cornelissen, Müller, Bergs, Marx, et al., 2020; Hasan, Tabssum, Ambia, Zaman, Rahman, & Khan, et al., 2021), or have not been infected, but have had to experience the pandemic's

psychological, social, and economic implications (Arora, Grey, Östlundh, Lam, Omar, & Arnone, 2022; Bourmistrova, Solomon, Braude, Strawbridge, & Carter, 2022). Increased rates of stress, depression, anxiety, posttraumatic stress, insomnia, elevated levels of uncertainty, loneliness, confusion, lowered levels of well-being, etc. have been reported in studies conducted all over the world during the COVID-19 pandemic (e.g., Cespuglio, Strekalova, Spencer, Román, Reis, Bouteille, et al., 2021; Fernández-Abascal & Martín-Díaz, 2021; Vindegaard & Benros, 2020; Zhu, Sun, Zhang, Wang, Fan, Yang, et al., 2020). Additionally, the loss or severe illness of a loved one may be perceived as traumatic experiences and lead to significant posttraumatic dysfunctions (clinically significant or subclinical levels of depression, anxiety, PTSD, acute stress disorder, etc.) (Giannopoulou, Galinaki, Kollintza, Adamaki, Kypmpouropoulos, Alevyzakis, et al., 2021).

Additionally, after two years of stress and uncertainty due to the COVID-19 infections' possible individual and social implications, on the 24th of February 2022, Russia invaded the Ukraine, beginning the largest military conflict since the second World War (ABC News, 2022). The economic consequences of the Ukrainian war, the threat of the possible implication into the war of the neighboring countries (as Romania, for example), has further significantly increased the psychological discomfort and uncertainty.

1. Psychological uncertainty

A vast body of literature indicates that long states of uncertainty may become serious stressors themselves (Greco & Rogers, 2003; Lanzetta & Driscoll, 1966; Pervin, 1963; Rosen, Ivanova, & Knäuper, 2013; Zlomke & Jeter, 2014). Some persons are more capable to endure uncertainties, hope for the best outcome, and actively search for opportunities in a specific situation, while others present elevated levels of intolerance of uncertainty, by activating thoughts and emotions related to different highly maladaptive vulnerabilities (Carleton, Mulvogue, Thibodeau, McCabe, Antony, & Asmundson, 2012).

Several approaches consider that Intolerance of uncertainty (IU) is oriented towards possible future events (Dugas & Robichaud, 2007; Grenier, Barrette, & Ladouceur, 2005), and may very well be represented as a bi-dimensional construct:

- (i) **the prospective IU** – the cognitive component of IU (e.g., “*Unforeseen events upset me greatly*”, “*It frustrates me not having all the information I need*”), and

- (ii) **the inhibitory IU** – the behavioral component of IU (e.g., “*Uncertainty keeps me from living a full life*”, “*When it’s time to act, uncertainty paralyzes me*”) (McEvoy & Mahoney, 2011).

High levels of Intolerance of Uncertainty have been found to be associated with different mental health problems, as anxiety, depression, obsessive-compulsive disorder, etc. as well as physical ailments (Keane & Barlow, 2002; Tolin, Abramowitz, Brigidi, & Foa, 2003). Furthermore, persons with high levels of IU may frequently experience mental discomfort as well, as impaired problem-solving abilities, inability to take decisions, reduced capacity to take action, leading to systematic avoidance of the situation (Dugas, Freeston, & Ladouceur, 1997).

The COVID-19 pandemic and the recent Ukrainian war created a global context where uncertainty-generating situations abound, exerting an additional burden especially on those persons who have already experienced high levels of intolerance of uncertainty.

The negative impact of the COVID-19 pandemic was investigated within a large spectrum of different populations (e.g., general population, children, older adults, medical staff), and different areas of functioning (intimacy in couples, economy, mass media, etc.) (e.g., Fegert & Schulze, 2020; Kaye, Okeagu, Pham, Silva, Hurley, Arron, et al., 2021; Meherali, Punjani, Louie-Poon, Abdul Rahim, Das, Salam, et al., 2021; Mercier, Arquizan, & Roubille, 2020; Shah, Mann, Singh, Bangar, & Kulkarni, 2020; Tang, Xiang, Cheung, & Xiang, 2021; Walton, Murray, & Christian, 2020, etc.). A very important area of investigation was the way in which the COVID-19 pandemic impacted the psychological functioning of university students, since this population is at an age of considerable vulnerability to mental health problems (Blanco, Okuda, Wright, Hasin, Grant, Liu, et al., 2008). This problem becomes extremely salient especially if we take into consideration the fact that these youngsters have to successfully make the transition from adolescence to adulthood, and university years may play a decisive role in this process (Arnett, 2014; Husky, Kovess-Masfety, & Swendsen, 2020).

The mental health of students during the COVID-19 pandemic

As previously presented, the COVID-19 pandemic has affected the population of the world not only on the physical level, but even more profoundly on the psychological, professional, educational, economic levels (Gvozden, Bauca, Krstic, & Filipović, 2021). In this situation, it is not surprising if the university student population, the “*essential community-building blocks*”

(Ebrahim, Dhahi, Husain, & Jahrami, 2022) would be affected in similar ways as the rest of the population, experiencing significant levels of stress, depression, uncertainty, to which each would try to adapt as well as possible. University students additionally had to face the challenges of online education (lack of constant, secure connection to the internet, lack of access to performant digital devices especially during examination periods, lack of knowledge to efficiently handle online-platforms, prepare for and take online-examinations, etc.), which may also increase their levels of perceived stress.

The mental health problems that resulted from maladaptive reactions to the COVID-19 related stress and uncertainty are strongly dependent on the nature of coping and emotion-regulation strategies used by the individual. Moreover, maladaptive reactions not only reflect in increases in significant emotional dysfunctioning, but also in serious declines in well-being (Garnefski & Kraaij, 2006; Kraaij & Granefski, 2019; Ryff & Singer, 2000, 2008).

2. Emotion regulation strategies

Literature indicates that confrontations with negative, highly intense life events, demand the use of specific strategies through which one may attempt to adapt to the threat and its consequences (Sloan, Hall, Moulding, Bryce, Mildred, & Staiger, 2017). Coping strategies usually refer to the person's reactions to the stressful event itself, while emotion regulation strategies address the regulation of the emotions that arise as a consequence of adverse encounters (Compas et al., 2017). Furthermore, literature also indicates that emotions may be regulated both cognitively and behaviorally (Kraaij & Granefski, 2019).

Emotion regulation strategies have been approached by different research traditions (e.g., Garnefski, Kraaij, & Spinhoven, 2001, 2002; Gross & Thompson, 2007). Garnefski and colleagues' (Garnefski, Boon, & Kraaij, 2003; Garnefski & Kraaij, 2006; Kraaij & Granefski, 2019) approach differentiates between *conscious cognitive* and *behavioral emotion regulation strategies*, and have developed well-functioning instruments in order to measure both of these concepts (Conscious Cognitive Emotion Regulation Questionnaire - CERQ, and Behavioral Emotion Regulation Questionnaire - BERQ), instruments we will also use in our study.

2.1. *Conscious Cognitive Emotion Regulation Strategies*

Garnefski and Spinhoven (2001) define cognitive emotion regulation processes as “*the cognitive way of managing the intake of emotionally arousing information*” (p. 1313). Based on this definition, Garnefski, Kraaij, and Spinhoven’s (2002) developed an instrument entitled *Cognitive Emotion Regulation Questionnaire (CERQ)*. With the CERQ, the authors are able to map the strategies used most frequently by individuals after confronting negatively valenced events, as well as more stable regulatory styles in dealing with daily hassles. The CERQ may be used to assess the conscious cognitive emotion regulation strategies in a diversity of populations: healthy adolescents, adults, elderly people, as well as adolescent, adult and elderly psychiatric patients. One of the advantages implied in investigating cognitive emotion regulation strategies lies in their ability to be changed (learned and unlearned) either through own experiences or psycho-therapeutic intervention (e.g., CBT) (Garnefski, Kraaij, & Spinhoven, 2001).

The CERQ is a 36-item self-report instrument, measuring through nine different cognitive emotion-regulation strategies “*what people think after having experienced a negative or traumatic event*” (Garnefski, Kraaij, & Spinhoven, 2001, p. 7). The nine dimensions measured by the CERQ are as follow:

1. **Self-blame:** thoughts through which one blames oneself for confronting the event.

2. **Acceptance:** is the individual’s ability to accept the implications of the confrontation, and become reconciled with the implications (Garnefski et al., 2001).

3. **Rumination:** recurrent thinking about the feelings and thoughts associated with the traumatic event.

4. **Positive refocusing:** also known as ‘*mental disengagement*’ includes the individual’s attempt to focus on other, positive events in order to not think of the actual event (Endler & Parker, 1990).

5. **Refocus on planning:** refers to the process through which the person thinks ahead to identify the steps necessary to handle the negative situation (Folkman & Lazarus, 1989).

6. **Positive reappraisal:** the individual’s attempt to find the positive aspects of the event, thus attaining personal growth (Carver et al., 1989).

7. **Putting into perspective:** a form of social comparison, it is the process through which the individual minimizes the seriousness of the event by comparing it and its implications to other, apparently more important events (Allan & Gilbert, 1995).

8. **Catastrophizing:** is the process through which the person explicitly exaggerates the terror implied in the experience (Sullivan, Bishop, & Pivik, 1995), being strongly related to maladaptation, emotional distress and depression.

9. **Other-blame:** accusing others for the occurrence of the event is strongly associated with reduced levels of emotional well-being (Tennen & Affleck, 1990).

2.2. Behavior Emotion Regulation Strategies

As already stated, besides the well-investigated emotion-regulation strategies, individuals also use behavioral strategies through which they can manage the intense negative emotions that arise during and after encounters with adverse events. Previous research documented that specific behavioral patterns following stressful encounters (e.g., seeking social support, distracting one's attention from the event and its consequences) modulate the unfolding of emotional reactions (Joormann & Stanton, 2016; Kato, 2015). Kraaij and Garnefski (2019) have developed an instrument similar to the CERQ, but this time focusing on the presupposed effects behaviors exert on the relationship between stressful encounters and experienced adaptive/maladaptive reactions (*Behavioral Emotion Regulation Questionnaire - BERQ*), which consists of the following five subscales:

1. **Seeking distractions:** distracting attention from emotions related to the stressful situation by concentrating on doing something else;

2. **Withdrawal:** in order to deal with the stressful event, one withdraws from the event and social relationships (social isolation);

3. **Actively approaching the stressful event:** one directly and actively approaches the stressful event in order to cope with its' implications and one's own reactions;

4. **Seeking social support:** one explicitly and actively asks for support and actively shares emotions generated by the confrontation with the stressful event;

5. **Ignoring:** one copes with the stressful encounter by totally ignoring it and behaving as if it did not happen;

Based on previous research (Joormann & Stanton, 2016), Kraaij and Garnefski (2019) postulate that withdrawal and ignoring would lead to maladaptive, while seeking distraction, actively approaching and seeking social support adaptive reactions.

Cognitive and behavioral emotion regulation strategies were found to play an important role in the relationship between stressful encounters and hedonic/subjective and psychological well-being, across different cultures and populations (Megreya, Latzman, Al-Attiyah, & Alrashidi, 2016; Potthoff, Garnefski, Miklósi, Ubbiali, Dominguez-Sanchez, Martins, et al., 2016).

3. Well-being

The *hedonic* approach equates well-being with the human tendency to seek pleasure and happiness, simultaneously avoiding pain and suffering (Kahneman, Diener, & Schwartz, 1999). **Hedonic/subjective well-being** is well measured with instruments that target individual experiences of happiness, as the 5-item scale of subjective well-being proposed by the World Health Organization (Staehr Johansen, 1998; WHO Collaborating Centre in Mental Health, 1999).

On the other hand, according to the *eudaimonic* view, a well-lived life transcends mere happiness, and aspires towards the actualization of different human potentials that would, in the long-run, assist adaptive processes during adversities (Waterman, 1993).

Ryff and Singer's approach (e.g., 1998, 2000, 2008) differentiates between six types of eudaimonic/psychological well-being, as follows:

1. Self-acceptance. The non-judgmental acceptance of one's self together with one's past has been considered as one of the central aspects of mental health, self-actualization, optimal functioning, and maturity.

2. Positive relations with others. The ability to maintain warm, affectionate relationships with others has repeatedly been found to be both related to superior positive functioning, as well as a protective factor in adversity.

3. Autonomy. Individuals high in this ability tend to function independently of other's approval, to regulate emotions and behavior from within, establishing personal standards and evaluating oneself towards this standard.

4. Environmental mastery consists of the individual's capacity to create an 'outside world', an external environment that would enhance his/her functioning and adaptation, and "take advantage of environmental opportunities" (Ryff, 1989, p. 1071).

5. Purpose in life. Finding meaning in and for one's life has repeatedly been found to be associated with better mental functioning (Skrabski, Kopp, Rozsa, Rethelyi, & Rahe, 2005; Wong & Fry, 1998).

6. Personal growth. Those high on this dimensions of the eudaimonic well-being conceive themselves as being able of constant development, of improving and becoming increasingly more adapted (flourishers), while low scorers feel that they are stagnating, are not improving, developing more appropriate abilities (languishers) (Ryff, 2014).

The present study

The last couple of decades indicated an ascending pattern of students experiencing poor mental health all around the world (Avotney, 2014; Brown, 2018), i.e., high levels of depression, worry, anxiety, loneliness, substance misuse and abuse, self-harm, suicide ideations and attempts (Kruisselbrink Flatt, 2013; Pereira, Reay, Bottell, Walker, Dzikiti, Platt, et al., 2019; Pereira, Early, Outar, Dimitrova, Walker, & Dzikiti, 2020; Sivertson, Hysing, Knapstad, Harvey, Reneflot, Lønning, et al., 2019). In normal life conditions, emotional and mental well-being were found to be strongly associated with students' academic success and achievements (Esch, Bocquet, Pull, Couffignal, Lehnert, Graas, et al., 2014). Further on, well-being was found to affect motivation, active implication in learning, memory, attention, and concentration, social relationships, etc. (Unger, 2007). Thus, if mental health and well-being of university students are important factors to investigate in relatively *normal* life conditions, they have become even more salient in intense and long-lasting conditions of cumulative stress, as the two-year long COVID-19 pandemic and its' long-lasting implications (Cao, Fang, Hou, Han, Xu, Dong, & Zheng, 2020), topped by the recently started Ukrainian war, and changes in the way the educational process unfolded.

Briefly put, the last two and a half years have abounded in major life-stressors, the encounters of which may have elicited intense stress and high levels of uncertainty in the student population. Supposedly, students have addressed these reactions by using specific adaptive and maladaptive emotion regulation strategies (cognitive and behavioral), thus trying to accommodate to the demands of this complex situation. As literature indicated (as presented above), prolonged levels of distress might in time erode both subjective and psychological well-being, which further on might negatively impact their academic performance.

Objectives

Our study is a cross-sectional exploratory investigation, having the following major objectives:

- (i) to identify which was considered, by the assessed student population, the most frequent major stressor (COVID-19 pandemics, Ukrainian war, changes in learning conditions, etc.) of the last two and a half years;
- (ii) to identify the most significant predictors of both subjective and psychological well-being of the assessed student population.

Study

Participants

Using G*Power 3.1.9.4, in order to investigate our objectives, with $\alpha=0.05$, $1-\beta=0.85$ and an effect size of $r=0.18$, the minimum number of participants generated was $N= 271$ for a two-tail test. We conducted our research in the period between 10th of April and 20th of May 2022. Our sample was a convenience sample, participants being included on a voluntary basis, after consenting to anonymously participate in the study.

After cleaning for missing data, our study included 388 participants with complete data sets, with a mean age in of 27.18 years ($SD=9.32$), all students at the Babes-Bolyai University, Cluj-Napoca, Romania. 245 students were enrolled to the regular education ($M_{age}=22.93$, $SD=6.58$), and 143 to long-distance education ($M_{age}=34.47$, $SD=8.80$). 86.12% of the regular education group were female, and 13.88% male participants. Similar percentage of female-male participants represented the long-distance education group: 85.31% female and 14.69% male participants.

Instruments

The assessed **demographic variables** were: age, gender, form of education (regular and long-distance), residence (urban and rural), satisfaction with family income.

Using a semi-open question, we also assessed the event which affected our participants most (the COVID-19 pandemic, the Ukrainian war, the possibility that the war may have expanded into Romania as well, changing learning forms: from online to face-to-face, and other possible sources of stress = an open question, which they were asked to fill).

Depression tendencies were measured with the Beck Depression Inventory-II (BDI, Beck, Rush, Shaw & Emery, 1979; Romanian adaptation David & Dobrean, 2012). The BDI is a 21-item, multiple-choice format inventory, designed to measure the presence of depression in adults and adolescents. Each of the 21 items assesses a symptom or attitudes specific to depression, inquiring its somatic, cognitive and behavioral aspects. For the present sample, the internal consistency of the BDI was .90.

Stress was measured with the Perceived Stress Scale (PSS, Cohen, Kamarck, & Mermelstein, 1983; translated and adapted into Romanian by the authors in 2020). The PSS measures the degree to which situations in one's life are appraised as stressful. Items were designed to tap how unpredictable, uncontrollable, and overloaded respondents find their lives. The PSS is a 10-item self-report questionnaire, composed of two major subscales: Perceived Helplessness (the belief that one cannot do anything significant to enhance the situation – sense of lack of control over the situation) and Lack of Self Efficacy (one's belief in his/her capacities to efficiently deal with the stressor and his/her own emotions) (Golden-Kreutz, Browne, Frierson, & Andersen, 2004; Roberti, Harrington, & Storch, 2006). Cronbach's alpha for the present sample was: Perceived Helplessness=.86, Lack of Self Efficacy=.80

Intolerance of Uncertainty was assessed with the 12-item version of the Intolerance of Uncertainty Scale (IUS-12, Carleton, Norton, & Asmundson, 2007; translated and adapted into Romanian by the authors in 2020). The IUS-12 permits the calculation of total scores, as well scores on the Prospective Anxiety and the Inhibitory Anxiety Subscale. Participants are asked to answer the 12 items on a five-point Likert-type scale (1=not at all characteristic of me; 5=entirely characteristic of me). For the present sample the internal consistency of the IUS-12 α =.91, and the two subscales was: Prospective Anxiety α =.86, and the Inhibitory Anxiety α =.85.

Psychological well-being was measured by the 44-item scale developed by Ryff (1989) and adapted by Kállay & Rus (2014) (translated and adapted into Romanian and Hungarian by the authors). This scale has 6 subscales measuring the basic components of eudaimonic well-being: self-acceptance (PWB-SA), positive relations with others (PWB-PRO), autonomy (PWB-A), environmental mastery (PWB-EM), purpose in life (PWB-PL), and personal growth (PWB-PG). The internal consistency of the Psychological Well-being scale for the present sample ranged from .74 to .89.

Subjective well-being was assessed with the 5-item WHO well-being questionnaire (Staehr Johansen, 1998; WHO Collaborating Centre in Mental Health, 1999), scale that focuses the assessment of positive affective states. Cronbach’s alpha for the present sample was .90.

Emotion regulation strategies were measured with the Cognitive Emotion Regulation Questionnaire (CERQ) (Garnefski, Kraaij, & Spinhoven, 2002; Romanian adaptation, Perte & Tincas, 2010). The CERQ is a self-report questionnaire designed to measure cognitive coping strategies, assessing what people think after confronting specific negative events, or to assess the way people generally react after confronting negative events. The scale is comprised of nine sub scales: self-blame, acceptance, rumination, positive refocusing, refocus on planning, positive reappraisal, putting into perspective, catastrophizing, other blame, each subscale containing four items. The internal consistency of the subscales for the present student population range from .74 to .88.

Behavioral emotion regulation strategies were measured with the 20-item Behavioral Emotion Regulation Questionnaire (BERQ, Kraaij & Granefski, 2019; translation by the authors on 2021). BERQ consists of five subscales, each of which has 4 items, and measures individual responses on a five-point Likert scale (from 1-almost never to 5=almost always). The internal consistency of BERQ’s subscale are high, ranging from 0.86 to 0.93 (Kraaij & Garnefski, 2019). The internal consistency of the subscales for the present student population range from .77 to .87.

Results

Descriptive statistics

Data were analyzed with IBM SPSS Statistics 20. Firstly, we present the descriptive characteristics of our data (see Table 1).

Table 1. Descriptive statistics

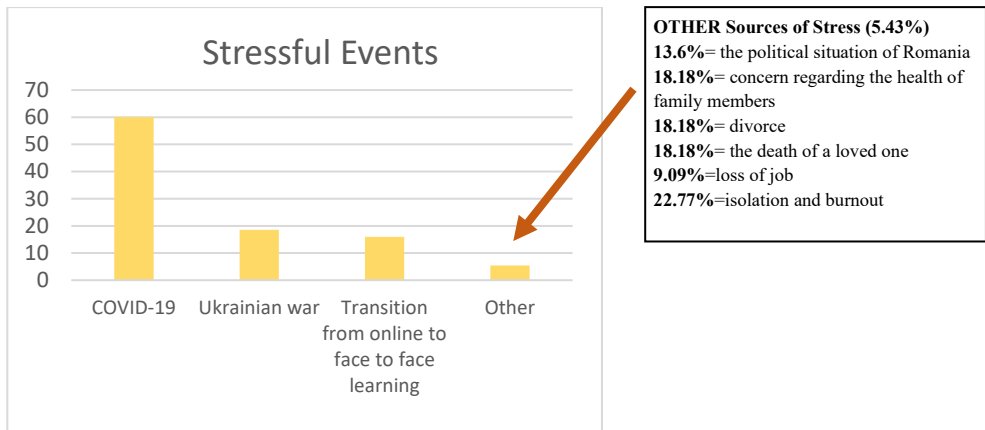
	N	Min	Max	Mean	SD	Cr α	Kolmogorov-Smirnov	
							Stat	Sig.
STRESS_TOT	388	.00	39	19.52	6.61	.86	.075	.000
STRESS_Perceived_Helplessness	388	.00	24	13.26	4.72	.86	.064	.001
STRESS_Lack_of_Self_Efficacy	388	.00	16	6.25	2.95	.80	.097	.000

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	N	Min	Max	Mean	SD	Cr α	Kolmogorov-Smirnov	
							Stat	Sig.
BDI_TOT	388	.00	39	8.16	8.09	.90	.156	.000
UNCERTAINTY_TOT	388	12	60	32.39	10.00	.91	.069	.000
UNCERTAINTY_Pro prospective_Anxiety	388	7	35	19.63	5.977	.86	.080	.000
UNCERTAINTY_Inhibitory_Anxiety	388	5	25	12.75	4.65	.85	.103	.000
WHO_TOT	388	.00	100	57.05	20.17	.90	.084	.000
PWB_PRO	388	12	42	35.75	4.8	.74	.111	.000
PWB_EM	388	12	48	37.80	6.71	.87	.100	.000
PWB_PG	388	10	48	43.34	5.18	.86	.184	.000
PWB_PL	388	7	42	35.18	5.94	.88	.152	.000
PWB_SA	388	8	42	34.20	6.49	.89	.142	.000
PWB_AT	388	12	42	33.04	6.01	.83	.100	.000
CERQ_Self_Blame	388	4	20	10.56	3.44	.76	.089	.000
CERQ_Acceptance	388	4	20	13.63	3.47	.74	.091	.000
CERQ_Rumination	388	4	20	12.87	3.76	.81	.095	.000
CERQ_Positive_Refocus	388	4	20	11.35	3.98	.84	.091	.000
CERQ_Refocus_on_Planning	388	4	20	14.45	3.57	.81	.127	.000
CERQ_Positive_Reevaluation	388	4	20	14.95	3.94	.88	.169	.000
CERQ_Putting_into_Perspective	388	4	20	13.60	4.03	.84	.094	.000
CERQ_Catastrofization	388	4	20	8.43	3.53	.76	.107	.000
CERQ_Other_Blame	388	4	20	8.22	3.20	.81	.150	.000
BERQ_Seeking_Distractio n	388	4	20	11.29	3.58	.77	.116	.000
BERQ_Withdrawal	388	4	20	9.06	3.84	.85	.174	.000
BERQ_Actively_Approaching	388	4	20	14.22	3.71	.87	.137	.000
BERQ_Seeking_Social_Support	388	4	20	12.55	4.27	.87	.068	.000
BERQ_Ignoring	388	4	20	7.94	3.47	.79	.135	.000

Note: STRESS-TOT=Perceived Stress Total score, BDI – Beck Depression Inventory, WHO TOT= subjective well-being, PWB-AUT = Psychological Well-Being – Autonomy, PWB-EM =Psychological Well-Being – Environmental Mastery, PWB-PG = Psychological Well-Being – Personal Growth, PWB-PRO = Psychological Well-Being Positive Relations with Others, PWB-PL = Psychological Well-Being – Purpose in Life, PWB-SA = Psychological Well-Being – Self-Acceptance, CERQ = Conscious Cognitive Emotion Regulation Questionnaire), BERQ = Behavioral Emotion Regulation Questionnaire

Next, we intended to investigate which stressful event was considered by most participants as being stressful. Our results indicate that 60.05% of the participants reported to have been most affected by the implications of the COVID-19 pandemics, 18.55% by the Ukrainian war (13.14% being affected by the possibility that the war would extend into Romania as well), 15.97% being affected by the relatively recent transition from online to face to face learning, and the rest of 5.43% of other by self-reported stressors (see Figure 1).



For our second objective, we conducted correlational analyses in order to identify association patterns between the assessed variables. The yielded results are presented in Tables 2, 3, and 4.

Table 2. Zero-order correlations between subjective well-being, mental health indicators (perceived stress, depressive symptoms, uncertainty) and emotion regulation strategies (conscious cognitive and behavioral)

	Subjective well-being (WHO)
Subjective well-being (WHO)	1
STRESS Perceived Helplessness	-.591**
STRESS Lack of Self-Efficacy	-.541**
BDI TOT	-.579**
UNCERTAINTY Prospective Anxiety	-.362**
UNCERTAINTY Inhibitory Anxiety	-.467**

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	Subjective well-being (WHO)
CERQ Self Blame	-.249**
CERQ Acceptance	NS
CERQ Rumination	-.223**
CERQ Positive Refocus	.216**
CERQ Refocus on Planning	NS
CERQ Positive Reevaluation	.175**
CERQ Putting into Perspective	NS
CERQ Catastrofization	-.279**
CERQ Other Blame	-.139**
BERQ Seeking Distraction	NS
BERQ Withdrawal	-.392**
BERQ Actively Approaching	.146**
BERQ Seeking Social Support	NS
BERQ Ignoring	-.161**

Next, we conducted correlation analyses in order to investigate association patterns between the six components of psychological well-being and mental health indicators (perceived stress, depressive symptoms, and uncertainty). Results are presented in Table 3.

Table 3. Zero-order correlations between the six components of psychological well-being and mental health indicators (perceived stress, depressive symptomatology, and uncertainty)

	1	2	3	4	5	6	7	8	9	10	11
1.PWB_PRO	1										
2.PWB_EM	.61**	1									
3.PWB_PG	.61**	.66**	1								
4.PWB_PL	.56**	.82**	.71**	1							
5.PWB_SA	.60**	.81**	.72**	.80**	1						
6.PWB_AT	.46**	.70**	.62**	.63**	.71**	1					
7.STR_Perceived_Help	-.24**	-.44**	-.23**	-.33**	-.40**	-.37**	1				

	1	2	3	4	5	6	7	8	9	10	11
8.STR_Lack_of_Self_Eff	-.38**	-.58**	-.46**	-.50**	-.58**	-.52**	.45**	1			
9.BDI_TOT	-.34**	-.62**	-.43**	-.56**	-.59**	-.53**	.56**	.55**	1		
10.IU_Pro prospective_Anx	-.16**	-.30**	-.23**	-.23**	-.30**	-.31**	.53**	.33**	.42**	1	
11.IU_Inhibitory_Anx	-.23**	-.45**	-.33**	-.37**	-.44**	-.46**	.60**	.48**	.53**	.76**	1

Note: 1-PWB Positive Relations with Others; 2-PWB Environmental Mastery; 3-PWB Personal Growth; 4-PWB Purpose in Life; 5-PWB Self-Acceptance; 6-PWB Autonomy; 7-Stress Perceived Helplessness; 8-Stress Lack of Self Efficacy; 9-BDI TOT; 10-IU Prospective Anxiety; 11-IU Inhibitory Anxiety

** $p < .01$

Our results indicate that all components of psychological well-being presented significant negative correlations with perceived helplessness, lack of self-efficacy, depressive symptoms, and the two components of intolerance of uncertainty.

In Table 4 we present correlations between the six components of psychological well-being and the subcomponents of conscious cognitive emotion regulation strategies (CERQ) and behavioral emotion regulation strategies (BERQ).

Table 4. Zero-order correlations between the six components of psychological well-being and mental health indicators (perceived stress, depressive symptomatology, and uncertainty)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1.	1																			
2.	.61**	1																		
3.	.61**	.66**	1																	
4.	.56**	.82**	.71**	1																
5.	.60**	.81**	.72**	.80**	1															
6.	.46**	.70**	.62**	.63**	.71**	1														
7.	NS	-.27**	-.11*	-.28**	-.28**	-.24**	1													
8.	.17**	NS	.22**	NS	.12*	NS	.40**	1												
9.	.NS	-.12*	NS	NS	NS	-.11*	.49**	.58**	1											
10.	.22**	.31**	.28**	.32**	.33**	.27**	NS	.33**	.13**	1										
11.	.33**	.29**	.42**	.31**	.32**	.27**	.28**	.56**	.49**	.49**	1									

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	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
12.	.35**	.40**	.48**	.44**	.49**	.38**	.11*	.55**	.34**	.57**	.79**	1								
13.	.23**	.25**	.30**	.29**	.36**	.20**	.12*	.47**	.25**	.51**	.56**	.67**	1							
14.	-.14**	-.26**	-.25**	-.26**	-.33**	-.28**	.41**	.11*	.28**	NS	NS	-.17	.01	1						
15.	-.20**	-.15**	-.19**	-.16**	-.18**	-.15**	.22**	.11*	.18**	.14**	NS	NS	NS	.51	1					
16.	.11*	NS	.14**	NS	.10*	.11*	.12*	.30**	.18**	.43**	.31**	.32**	.32**	.15**	.17**	1				
17.	-.32**	-.38**	-.27**	-.37**	-.38**	-.35**	.31**	.16**	.30**	NS	NS	-.14**	NS	.39	.26	.26	1			
18.	.29**	.33**	.40**	.32**	.35**	.31**	.14**	.40**	.31**	.33**	.66**	.61**	.37**	-.12*	NS	.40**	NS	1		
19.	.16**	NS	.10*	NS	NS	NS	.21**	.30**	.37**	.14**	.39**	.29**	.19**	.12*	.13**	.23**	NS	.43**	1	
20.	-.14**	-.13**	-.13**	-.15**	-.13**	-.15**	.14**	.10*	NS	.15**	NS	NS	.14**	.31**	.34**	.55**	.46**	NS	NS	1

Note: 1-PWB Positive Relations with Others; 2-PWB Environmental Mastery; 3-PWB Personal Growth; 4-PWB Purpose in Life; 5-PWB Self-Acceptance; 6-PWB Autonomy; 7-CERQ Self Blame; 8-CERQ Acceptance; 9-CERQ Rumination; 10-CERQ Positive Refocus; 11-CERQ Refocus on Planning; 12-CERQ Positive Reevaluation; 13-CERQ Putting into Perspective; 14-CERQ Catastrofization; 15-CERQ Other Blame; 16-BERQ Seeking Distraction; 17-BERQ Withdrawal; 18-BERQ Actively Approaching; 19-BERQ Seeking Social Support; 20-BERQ Ignoring
**p<.05; **p<.01*

As results presented in Table 4 indicate that all the six components of psychological well-being present significant positive correlations with: acceptance, positive refocus, refocus on planning, putting into perspective, seeking distraction, actively approaching the source of stress, seeking social support, and significant negative association patterns with: self-blame, catastrofization, other blame, withdrawal, and ignoring.

Next, we proceeded to investigate the best predictors of subjective and psychological well-being. Thus, we conducted seven hierarchical multiple regression (HMR) analyses in order to investigate the degree to which subjective/hedonic well-being (as measured with the WHO 5-item scale) (Table 5) and the six components of psychological well-being (as measured with PWB scale) (Table 6-11) are predicted by the variables that correlated with them.

The results of all HMRs models presented below follow the same procedure:

- (i) variables (predictors) were entered stepwise in the model based on the correlation matrix for the variable to be predicted (the dependent variable);

- (ii) preliminary analyses would be conducted to ensure no violation of the assumptions of normality, collinearity, and homoscedasticity.
- (iii) after running and rerunning the regression analyses, we would select in the final model those variables which significantly predict each dependent variable.

Thus, for **subjective well-being**, in the first step of the HMR we entered demographic variables. In step two we introduced the two components of perceived stress (perceived helplessness and lack of self-efficacy). In the third step, we introduced depressive symptomatology, in the fourth step we introduced the two components of intolerance of uncertainty (prospective and inhibitory anxiety), in the fifth step we introduced those conscious emotion regulation strategies that were significantly associated with subjective well-being (self-blame, rumination, positive refocus, catastrofization), and in the final step, the withdrawal and ignorance components of behavioral emotion regulation that correlated significantly with subjective well-being. The results of the final HR model for subjective well-being are presented in Table 5.

Table 5. Hierarchical Regression Model with satisfaction with family income, perceived helplessness, lack of self-efficacy, and depressive symptoms as predictors of subjective well-being for the assessed student population

	R	R²	R² Change	B	SE	β	t
Step 1	.25	.065***	.065				
Satisfaction with family income				7.57	1.42	.25	5.18(***)
Step 2	.67	.45***	.39				
Satisfaction with family income				3.42	1.14	.11	2.98 (**)
Perceived helplessness				-1.77	.18	-.41	-9.72(***)
Lack of self-efficacy				-2.27	.29	-.33	-7.82(***)
Step 3	.69	.48***	.031				
Satisfaction with family income				2.55	1.13	.08	2.25(*)
Perceived helplessness				-1.40	.19	-.32	-7.22(***)
Lack of self-efficacy				-1.69	.30	-.24	-5.51(***)
Depression symptoms				-.58	.12	-.23	-4.80(***)

Model one with satisfaction with family income as predictor of subjective well-being proved to be statistically significant [$F_{(1,386)}=26.86, p<.001$], predicting 6.5% of the variance in subjective well-being. Next we introduced the two components of the perceived stress (perceived helplessness and lack of self-efficacy) which also proved statistically significant [$F_{(3,384)}=106.89, p<.001$], explaining an additional 39% of the variance in subjective well-being (of which helplessness explaining an additional 30.3% and lack of self-efficacy an additional 8.7%). In the third, final step we introduced depressive symptoms. This final model was also statistically significant [$F_{(4,383)}=90.5, p<.001$], explaining an additional 3.1% of the variance in subjective well-being. The three variables together (satisfaction with family income, perceived stress and depressive symptoms) explain a total of 48% of the variance in subjective well-being.

We continued our investigation with conducting hierarchical multiple regression analyses for the six components of psychological well-being. Based on the correlation matrix for psychological well-being (see Tables 3 and 4), in the first step of the HMR we entered demographic variables. In step two we introduced the two components of perceived stress (perceived helplessness and lack of self-efficacy). In the third step, we introduced depressive symptomatology, and in the fourth step we introduced the two components of intolerance of uncertainty (prospective and inhibitory anxiety), in the fifth step we introduced those conscious emotion regulation strategies that were significantly associated with the specific component of psychological well-being), and in the final step, the components of behavioral emotion regulation that presented significant correlations with the variable to be predicted. The results of the final HR models for the six components of psychological well-being are presented in Tables 6 to 11.

Regarding **positive relations with others**, based on the correlation matrix, in the first step of the HMR we entered demographic variables. In step two we introduced the two components of perceived stress (perceived helplessness and lack of self-efficacy), next depressive symptomatology, in the fourth step we introduced the two components of intolerance of uncertainty, in the fifth step we introduced those conscious emotion regulation strategies that were significantly associated with positive relations with, and in the final step, the components of behavioral emotion regulation that correlated significantly with positive relations with others. The results of the final HR model for positive relations with others are presented in Table 6.

Table 6. Hierarchical Regression Model of psychological well-being **positive relations with others**, with gender, satisfaction with family income, lack of self-efficacy, CERQ Refocus on planning, and withdrawal as predictors for the assessed student population

	R	R²	R² Change	B	SE	β	t
Step 1	.32	.10***	.108				
Gender				-2.23	.66	-.16	-3.32(**)
Satisfaction with family income				1.92	.34	.27	5.59(**)
Step 2	.49	.24***	.134				
Gender				-2.86	.62	-.20	-4.61(***)
Satisfaction with family income				1.45	.32	.20	4.51(***)
Lack of self-efficacy				-.61	.07	-.37	-8.25(***)
Step 3	.52	.27***	.036				
Gender				-2.80	.60	-.20	-4.65(***)
Satisfaction with family income				1.09	.32	.15	3.42(**)
Lack of self-efficacy				-.37	.08	-.22	-4.26(***)
CERQ Refocus on planning				.27	.06	.20	4.47(***)
Step 4	.56	.32***	.042				
Gender				-2.74	.59	-.19	-4.63(***)
Satisfaction with family income				1.05	.31	.14	3.34(**)
Lack of self-efficacy				-.34	.08	-.21	-4.00(***)
CERQ Refocus on planning				-.29	.06	.21	4.81(***)
Withdrawal				-.24	.06	-.19	-3.99(***)

Model one with gender and satisfaction with family income as predictor of positive relations with others proved to be statistically significant [$F_{(2,385)}=23.40$, $p<.001$], explaining 10.8% of the variance in positive relations with others. Next we introduced the lack of self-efficacy component of the perceived stress which also proved statistically significant [$F_{(3,384)}=41.04$, $p<.001$], explaining an additional 13.3% of the variance in positive relations with others. In the third step we introduced the refocus on planning component of the conscious cognitive emotion regulation strategies; this model also proved to be statistically significant, [$F_{(4,383)}=36.92$, $p<.001$], explaining an additional 3.4% of the variance in the positive relations with others component of psychological well-being. In the

final model, we introduced the withdrawal component of the behavioral emotion regulation strategy. This model also proved statistically significant [$F_{(5,382)}=36.07$, $p<.001$], explaining an additional 4.1 % of the variance. The five variables together (gender, satisfaction with family income, lack of self-efficacy, refocus on planning, and withdrawal) explain a total of 31.2% of the variance in the positive relations with others component of psychological well-being.

We continued with **the environmental mastery** of psychological well-being, where, based on the correlation matrix, in the first step of the HMR we entered demographic variables. In step two we introduced the two components of perceived stress (perceived helplessness and lack of self-efficacy). In the third step, we introduced depressive symptomatology, and in the fourth step we introduced the two components of intolerance of uncertainty), in the fifth step we introduced those conscious emotion regulation strategies that were significantly associated with environmental mastery, and in the final step, those components of behavioral emotion regulation that correlated significantly with environmental mastery. The results of the final HR model for global scores of environmental mastery are presented in Table 7.

Table 7. Hierarchical Regression Model of psychological well-being **environmental mastery** with gender, satisfaction with family income, lack of self-efficacy, depressive symptoms, seeking distraction, and actively approaching the source of stress, as predictors for the assessed student population

	R	R ²	R ² Change	B	SE	β	t
Step 1	.32	.10***	.106				
Gender				-1.17	.93	-.06	-1.26 (NS)
Satisfaction with family income				3.09	.47	.31	6.45(**)
Step 2	.64	.41***	.30				
Gender				-2.52	.76	-.13	-3.30(**)
Satisfaction with family income				2.10	.39	.21	5.32(***)
Lack of self-efficacy				-1.28	.09	-.56	-14.06(***)
Step 3	.71	.51***	.108				
Gender				-2.94	.69	-.15	-4.25(***)
Satisfaction with family income				1.38	.36	.14	3.77(**)
Lack of self-efficacy				-.81	.09	-.35	-8.35(***)
BDI				-.33	.03	-.40	-9.24(***)

	R	R ²	R ² Change	B	SE	β	t
Step 4	.72	.53***	.015				
Gender				-3.00	.68	-.15	-4.38(***)
Satisfaction with family income				1.31	.36	.13	3.57(***)
Lack of self-efficacy				-.72	.10	-.31	-6.97(***)
BDI				-.32	.03	.39	-9.05(***)
BERQ-Seeking distraction				-.14	.07	-.07	-1.92(*)
BERQ-Actively approaching the source of stress				.25	.07	.14	3.36(**)

Model one with gender and satisfaction with family income as predictor of environmental mastery proved to be statistically significant [$F_{(2,385)}=22.72$, $p<.001$], explaining 10.6% of the variance in environmental mastery. Next we introduced the lack of self-efficacy component of the perceived stress which also proved statistically significant [$F_{(3,384)}=88.86$, $p<.001$], explaining an additional 30.4% of the variance in environmental mastery. In the third step we introduced depressive symptoms, model that also proved to be statistically significant, [$F_{(4,383)}=102.70$, $p<.001$], explaining an additional 10.8% of the variance in environmental mastery. In the final model, we introduced the distraction seeking and active approach of the source of stress components of the behavioral emotion regulation strategy. This model also proved statistically significant [$F_{(65,381)}=72.23$, $p<.001$], explaining an additional 1.4% of the variance. The six variables together (gender, satisfaction with family income, lack of self-efficacy, depressive symptoms, seeking distraction and actively approaching the source of stress) explain a total of 53.2% of the variance in environmental mastery.

What concerns the **personal growth** component of psychological well-being, based on the correlation matrix, in the first step of the HMR we entered demographic variables. In step two we introduced the two components of perceived stress. In step three, we introduced depressive symptomatology, in the fourth step we introduced the two components of intolerance of uncertainty in the fifth step we introduced those conscious emotion regulation strategies that were significantly associated with personal growth, and in the final step those components of behavioral emotion regulation that correlated significantly with personal growth. The results of the final HR model for personal growth are presented in Table 8.

Table 8. Hierarchical Regression Model of psychological well-being **personal growth** with gender, lack of self-efficacy, depressive symptoms, positive reevaluation, other blame, and actively approaching the source of stress as predictors for the assessed student population

	R	R²	R² Change	B	SE	β	t
Step 1	.13	.01**	.017				
Gender				-1.19	.74	-.31	-2.59 (**)
Step 2	.49	.24***	.229				
Gender				-2.69	.66	-.18	-4.08(**)
Lack of self-efficacy				-.84	.07	-.48	-10.83(***)
Step 3	.54	.29***	.047				
Gender				-2.82	.64	-.19	-4.41(***)
Lack of self-efficacy				-.59	.09	-.34	-6.59(***)
BDI				-.16	.03	-.26	-5.05(***)
Step 4	.62	.39***	.096				
Gender				-2.28	.60	-.15	-3.80(***)
Lack of self-efficacy				-.37	.08	-.21	-4.15(***)
BDI				-.13	-.20	-.20	-4.30(***)
CERQ-Positive reevaluation				.42	.32	.32	7.34(***)
CERQ-Other blame				-.20	-.12	-.12	-3.08(**)
Step 5	.63	.39**	.012				
Gender				-2.39	.59	-.16	-4.01(***)
Lack of self-efficacy				-.31	.09	-.17	-3.42(***)
BDI				-.14	.03	-.22	-4.60(***)
CERQ-Positive reevaluation				.32	.06	.24	4.75(***)
CERQ-Other blame				-.20	.06	-.12	-3.13(**)
BERQ-Actively approaching the source of stress				.19	.07	.14	2.75(***)

Model one with gender as predictor of personal growth proved to be statistically significant [$F_{(1,386)}=6.73, p<.01$], explaining 1.7% of the variance. Next we introduced the lack of self-efficacy component of the perceived stress which also proved statistically significant [$F_{(2,385)}=63.02, p<.001$], explaining an additional 23% of the variance in personal growth. In the third step we introduced depressive symptoms, model that also proved to be statistically significant, [$F_{(3,384)}=53.22, p<.001$], explaining an additional 4.7% of the variance in

environmental mastery. In the fourth step we introduced other blame and positive reevaluation components of conscious cognitive motion regulation strategies. This model also proved statistically significant [$F_{(5,382)}=48.85, p<.001$], explaining an additional 9.6 % of the variance. In the final model, we introduced the active approach of the source of stress component of the behavioral emotion regulation strategy. This model also proved statistically significant [$F_{(6,381)}=42.67, p<.001$], explaining an additional 1.2% of the variance. The six variables together explain a total of 40.2% of the variance in personal growth.

For **purpose in life**, in the first step of the HMR we entered demographic variables. In step two we introduced the two components of perceived stress, in step three depressive symptomatology, in the fourth step we introduced the two components of intolerance of uncertainty, in the fifth step we introduced those conscious emotion regulation strategies that were significantly associated with purpose in life, and in the final step those components of behavioral emotion regulation that correlated significantly with purpose in life. The results of the final HR model for purpose in life are presented in Table 9.

Table 9. Hierarchical Regression Model of psychological well-being **purpose in life** with gender, lack of self-efficacy, depressive symptoms, other-blame, and positive reevaluation as predictors for the assessed student population

	R	R²	R² Change	B	SE	β	t
Step 1	.11	.01*	.013				
Gender				-1.93	.86	-.11	-2.27 (*)
Step 2	.53	.28***	.267				
Gender				-2.88	.73	-.17	-3.90(***)
Lack of self-efficacy				-1.04	.08	-.52	-11.95(***)
Step 3	.63	.40***	.126				
Gender				-3.12	.67	-.18	-4.64(***)
Lack of self-efficacy				-.57	.09	-.28	-6.08(***)
BDI				-.31	.03	-.42	-9.02(***)
Step 4	.68	.46***	.061				
Gender				-2.55	.64	-.15	-3.96(***)
Lack of self-efficacy				-.38	.09	-.18	-3.98(***)
BDI				-.24	.03	-.33	-6.99(***)
CERQ- Self blame				-.25	.07	-.14	-3.48(***)
CERQ- Positive reevaluation				.41	.06	.27	6.38(**)

Model one with gender as predictor of purpose in life proved to be statistically significant [$F_{(1,386)}=5.15, p<.01$], explaining 1.3% of the variance. Next we introduced the lack of self-efficacy component of the perceived stress which also proved statistically significant [$F_{(2,385)}=75.04, p<.001$], explaining an additional 26.7% of the variance in purpose in life. In the third step we introduced depressive symptoms, model that also proved to be statistically significant, [$F_{(3,384)}=87.64, p<.001$], explaining an additional 12.6% of the variance in purpose in life. Finally, we introduced self-blame and positive reevaluation components of conscious cognitive motion regulation strategies. This model also proved statistically significant [$F_{(5,382)}=67.14, p<.001$], explaining an additional 6.2 % of the variance. The five variables together explain a total of 46.8% of the variance in purpose on life.

For **self-acceptance**, in the first step of the HMR we entered demographic variables. In step two we introduced he two components of perceived stress, step three we introduced depressive symptomatology, in step four the two components of intolerance of uncertainty, in step five those conscious emotion regulation strategies that were significantly associated with self-acceptance, and in the final step those components of behavioral emotion regulation that correlated significantly with self-acceptance. The results of the final HR model for self-acceptance are presented in Table 10.

Table 10. Hierarchical Regression Model of psychological well-being **self-acceptance** with lack of self-efficacy, depressive symptoms, putting into perspective, self-blame, positive reevaluation, and withdrawal as predictors for the assessed student population

	R	R ²	R ² Change	B	SE	β	t
Step 1	.58	.33***	.33				
Lack of self-efficacy				-1.28	.09	-.58	-14.05(***)
Step 2	.66	.44***	.10				
Lack of self-efficacy				-.80	.10	-.36	-8.03(***)
BDI				-.31	.03	-.39	-8.69(***)
Step 3	.73	.53***	.08				
Lack of self-efficacy				-.57	.09	-.26	-5.88(***)
BDI				-.24	.03	-.29	-6.62(***)
CERQ Putting into perspective				-.31	.07	-.16	-4.23(***)
CERQ self-blame				.39	.08	.24	4.70(***)
CERQ positive reevaluation				.17	.07	.10	2.31(*)

	R	R ²	R ² Change	B	SE	β	t
Step 4	.73	.54***	.006				
Lack of self-efficacy				-.56	.09	-.25	-5.79(***)
BDI				-.21	.03	-.126	-5.53(***)
CERQ Putting into perspective				-.28	.07	-.25	-3.88(***)
CERQ self-blame				.37	.08	.23	-4.45(***)
CERQ positive reevaluation				.20	.07	.12	2.62(**)
BERQ Withdrawal				-.14	.06	-.08	-2.14(*)

Model one with lack of self-efficacy proved statistically significant [$F_{(1,386)}=197.55, p<.001$], explaining 33.9% of the variance in self-acceptance. In the second step we introduced depressive symptoms, model that also proved to be statistically significant, [$F_{(2,385)}=155.68, p<.001$], explaining an additional 10.8% of the variance in self-acceptance. In the third model, with the following conscious cognitive emotion regulation strategies: putting into perspective, self-blame, and positive reevaluation also proved statistically significant [$F_{(5,382)}=88.12, p<.001$], explaining an additional 8.9 % of the variance. In the final model we introduced the withdrawal component of the behavioral emotion regulation strategies. This model also proved statistically significant [$F_{(6,381)}=74.89, p<.001$], explaining an additional 0.5 % of the variance. These six variables together explain a total of 54.1% of the variance in self-acceptance.

Finally, for **autonomy**, in the first step of the HMR we entered demographic variables. In step two we introduced the two components of perceived stress, in the third step depressive symptomatology, in step four the two components of intolerance of uncertainty, in the fifth step those conscious emotion regulation strategies that were significantly associated with autonomy, and in the final step those components of behavioral emotion regulation that correlated significantly with autonomy. The results of the final HR model for autonomy are presented in Table 11.

Table 11. Hierarchical Regression Model of psychological well-being **autonomy** with lack of self-efficacy, depressive symptoms, positive reevaluation, withdrawal, and seeking social support as predictors for the assessed student population

	R	R ²	R ² Change	B	SE	β	t
Step 1	.52	.28***	.280				
Lack of self-efficacy				-1.07	.08	-.52	-12.24 (***)
Step 2	.60	.36***	.085				
Lack of self-efficacy				-.68	.09	-.33	-6.91(***)
BDI				-.26	.03	-.35	-7.19(***)

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	R	R ²	R ² Change	B	SE	β	t
Step 3	.62	.38***	.023				
Lack of self-efficacy				-.56	.10	-.27	-5.46(***)
BDI				-.24	.03	-.33	-6.95(***)
CERQ positive reevaluation				.25	.06	.16	3.82(***)
Step 4	.63	.40***	.021				
Lack of self-efficacy				-.56	.10	-.27	-5.51(***)
BDI				-.19	.03	-.25	-4.85(***)
CERQ positive reevaluation				.32	.07	.21	4.62(***)
BERQ Withdrawal							
BERQ Seeking Social Support				-.17	.07	-.11	-2.43(**)
				-.17	.05	-.12	-2.91(**)

Model one with lack of self-efficacy component of the perceived stress proved statistically significant [$F_{(1,386)}=149.83, p<.001$], explaining 28% of the variance in autonomy. In the second step we introduced depressive symptoms, model that also proved to be statistically significant, [$F_{(2,385)}=110.67, p<.001$], explaining an additional 8.5% of the variance in autonomy. In the third model we introduced the positive reevaluation component of conscious cognitive motion regulation strategies. This model also proved statistically significant [$F_{(3,384)}=81.25, p<.001$], explaining an additional 2.3% of the variance. In the final model we introduced the withdrawal component of the behavioral emotion regulation strategies. This model also proved statistically significant [$F_{(5,382)}=52.85, p<.001$], explaining an additional 2.1% of the variance. These five variables together explain a total of 40.9% of the variance in autonomy.

Discussions

Recently, the research community turned its attention towards the investigation of the factors and subjacent mechanisms that sustain and promote mental health in students (Brown, 2018; Flatt, 2013). This interest was kindled by the increasing number of students experiencing poor mental health all around the world (Avotney, 2014; Brown, 2018): high levels of depression, worry, anxiety, loneliness, substance misuse and abuse, self-harm, suicide ideations and attempts (Drum, Brownson, Denmark, & Smith, 2009; Kruisselbrink Flatt, 2013; Pereira, et al., 2019; Pereira, et al., 2020; Sivertson,

Hysing, Knapstad, Harvey, Reneflot, Lønning, et al., 2019; Storrie, Ahern, & Tuckett, 2010). Most mental health problems begin early in life, and many of them start to manifest between 18 and 24 years of age (which coincides with average student enrollment) (Kessler, Amminger, Aguilar-Gaxiola, Alonso, Lee, and Ustün, 2007), and are highly predictive for psychological dysfunctions in adulthood (Otto, Reiss, Voss, Wüstner, Meyrose, Hölling, et al., 2021). Thus, the investigation of mental health in college years becomes crucial, and has seriously increased scientific, public and health-policy concerns (Auerbach, Mortier, Bruffaerts, Alonso, Benjet, Cuijpers, et al., 2018; Barden & Caleb, 2019; Brown, 2018; Dogan, 2018). In normal life conditions, emotional and mental well-being were found to be strongly associated with students' academic success and achievements (Esch, et al., 2014; Lipson & Eisenberg, 2017). More specifically, well-being was found to affect motivation, active implication in learning, memory, attention, and concentration, social relationships, etc. (Unger, 2007). Research also indicates that due to developmental characteristics, adolescents and young adults may be seriously affected not only by the inherent life-threatening aspects of different highly-stressful situations, but also by the resulting social restrictions as well (Fegert & Schulze, 2020).

Thus, if mental health and well-being of university students are important factors to investigate in relatively normal life conditions, they have become even more salient in intense and long-lasting conditions of cumulative stress and uncertainty, as the two-year long COVID-19 pandemic (Cao, Fang, Hou, Han, Xu, Dong, & Zheng, 2020), topped by the recently started Ukrainian war, and their long-lasting implications.

Our cross-sectional exploratory investigation had two major objectives: to identify which was considered, by the assessed student population, the most frequent major stressor (COVID-19 pandemics, Ukrainian war, changes in learning conditions, etc.) of the last two and a half years, and to identify the most significant predictors of both subjective and psychological well-being of the assessed student population.

Our results indicate that despite at the moment of our investigation the COVID-19 pandemic has officially ended, its massive psychological reverberations have persisted in over 60% of the students. The Ukrainian war, the possibility that it may extend in our country (which is neighboring Ukraine), and the changes that accompanied the return to face-to-face education, were experienced as having the greatest impact by almost 35% of the students. The remaining 5% reported to be impacted most by other sources of stress, as illness/loss of loved ones, divorce, the political situation of the country. These results may be

interpreted through the major impact the long-term, multifaceted threats and uncertainties characterizing the COVID-19 pandemic. These results are in consensus with the vast number of studies, presented in the introductory part of this study. Interestingly however, our results indicated no significant differences in any of the assessed mental health indicators (depressive symptoms, intolerance of uncertainty, perceived Stress, subjective and psychological well-being).

Further, we proposed to investigate the variables that predict best the two major forms of well-being (subjective and psychological), which according to the above-mentioned literature are strongly related to the academic performance of university students. Consequently, we conducted seven hierarchical multiple regression (HMR) analyses that indicated as follows: **subjective well-being**, the construct of well-being that is mostly associated with satisfaction, the experience of happiness, positive emotions, and infrequent experience of negative affective states, was found to be best predicted by the perceived stress, especially by perceived helplessness (the sense that one cannot actively and efficiently control the source or reactions to a stressor), and of lack of self-efficacy (the belief that one does not possess the abilities necessary to regulate one's own reactions to the source of stress). Furthermore, contentment with the financial situation of the family seems to matter for our sample in this complex situation, since it is the only demographic variable that significantly contributes to the experiencing of positive emotions. Briefly put intense, maladaptive levels of stress involving lack of control over the situation and lack of self-efficacy reduce the perceived levels of subjective well-being, which may be further impacted by the shortage of financial resources that in times of distress are an important means through which one may procure instrumental support. These results are in line with previous research that indicates the major role perceived stress on subjective well-being (Atanes, Andreoni, Hirayama, Montero-Marin, Barros, Ronzani, et al., 2015).

Regarding the six components of **psychological well-being**, our results indicate that one of the common best predictors is the lack of self-efficacy component of perceived stress (in the case of positive relations with others, environmental mastery, personal growth, in purpose in life, self-acceptance, and autonomy). We may conclude that the stronger one's ability to actively control and regulate one's own reactions to the source of stress, and one's belief in his/her capacities to efficiently deal with the stressor and his/her own emotions is a very important factor in the components of well-being that transcend the mere experience of positive affective states in the complex situations created after the debut of the COVID-19 pandemic. Moreover, various emotion regulation strategies

also significantly contributed to the variance in these six components of psychological well-being. For instance, refocus on planning proved to significantly predict positive relations with others, a component that was found to be related to flourishing, and being a powerful protective factor during adversity (Ryff & Keyes, 1995). Positive reevaluation and other blame proved to be significant predictors of personal growth, which is one of the core components of psychological well-being, through which the person perceives life as a continuous process of change and adaptation to challenges, as opportunities through which one may enhance, and less as a fixed, stable situation. Positive reevaluation and self-blame best predicted purpose in life, a component that was repeatedly found to be related to better mental functioning (Skrabski, Kopp, Rozsa, Rethelyi, & Rahe, 2005). Regarding emotion regulation strategies, self-acceptance was best predicted by high levels of putting into perspective and positive reevaluation, as well-as low levels of self-blame, which are in line with previous research (Kállay & Vonas, 2011). Of the six emotion regulation strategies, positive reevaluation predicts best autonomy, the ability to function independently of other's approval, to regulate emotions and behavior from within, establishing personal standards and evaluating oneself towards this standard, a very important component especially in times of turmoil, where it is extremely difficult to take adaptive decisions. Environmental mastery and personal growth on the other hand were significantly predicted by behavioral emotion regulation strategies as actively approaching the source of stress and seeking distractions, while autonomy and self-acceptance by low levels of withdrawal. These results are also in line with previous research as presented in the introductory part of this paper. Of the demographic variables only gender proved to be a significant predictor in the case of positive relations with others, environmental mastery, personal growth and purpose in life. Satisfaction with family income predicted only positive relations with others and environmental mastery. The role of contentment with the financial situation of the family in environmental mastery seems extremely plausible, since the capacity to deal with concrete situations oftentimes requires instrumental means, as sufficient financial resources.

Based on these findings, we may consider perceived stress, and especially perceived helplessness, a very important factor that may play a significant role in the way subjective and psychological well-being unfold in such times of great psychological turmoil. Future studies may focus on the investigations of factors that are subjacent to the way university students may enhance their abilities and beliefs in these abilities to deal efficiently with stressful situations.

Naturally, our study has several limitations that have to be taken into account. First of all, we have to emphasize the fact that our results were obtained through retrospective, self-report measures that might have had biased to some degree the authenticity of the collected data. Secondly, we have concentrated on a narrow segment of intrinsic student characteristics (emotion regulation strategies) that obviously offers a partial image of the situation. However, as literature indicates, student well-being is dependent on a much larger number of intrapersonal factors (e.g., personality, attachment styles, resilience, hardiness, cognitive flexibility, etc.), as well as inter-personal and micro/macro-cultural factors related to the cultural and social specificities characteristic to the proximal and distal environment students live (family, friends), and study (academic milieu, specificities of the academic culture, of the entire educational system, the requirements of the job market, etc.). Thus, we propose that future studies concentrate to treat in-depth these aspects as well.

Finally, we consider that our results may be useful in the development of prevention and intervention programs, targeting the enhancement of the psychological functioning of Romanian students in such difficult periods.

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