ANNALS OF PSYCHOLOGY/ROCZNIKI PSYCHOLOGICZNE
2024, XXVII, 1, 67–90
DOI: https://doi.org/10.18290/rpsych2024.0004

EMOTIONAL EXPERIENCES AND THEIR CONNECTION WITH COPING STRATEGIES DURING THE COVID-19 PANDEMIC: GENDER DIFFERENCES

Tetiana Yablonska, Nataliya Bulatevych, and Lilia Sirokha

Faculty of Psychology, Taras Shevchenko National University of Kyiv

The study was conducted in Ukraine during the onset of COVID-19 pandemic. The sample contained 232 individuals. The aim was to study emotional experiences and their connection with coping strategies in the context of gender differences. The research was based on the concept of differential emotions, and on the understanding of the accumulation strategies as a dynamic process, which is determined by personal prepositions and situational factors. Measures used in the study were the Differential Emotions Scale and the Ways of Coping Questionnaire. The growth of negative experiences and stress at the beginning of the pandemic among men and women was confirmed. We described the differences regarding emotions and coping strategies. Women use emotion-focused strategies of social support, strategies of positive reappraisal of the situation, and avoidance, the acceptance of responsibility among women is associated with negative emotions. We found that women more frequently use two or more coping strategies compared to men. A different emotional basis of coping strategies, expressed at high levels of tension among men and women, was revealed. The defined features of coping behavior among men and women may help to determine the main goals for the development of preventive and psychotherapeutic interventions.

Keywords: stress; emotional experiences; coping strategies; COVID-19 pandemic; gender differences.

TETIANA YABLONSKA, https://orcid.org/0000-0001-7272-9691; NATALIYA BULATEVYCH https://orcid.org/0000-0002-2971-8740; LILIA SIROKHA, https://orcid.org/0000-0003-1033-8075. Correspondence concerning this article should be addressed to Tetiana Yablonska, Faculty of Psychology, Taras Shevchenko National University of Kyiv, ave. Akademika Glushkova, 2a, Kyiv, 03680, Ukraine; email: t_yablonska@ukr.net.

Handling editor: ANETA PRZEPIÓRKA, John Paul II Catholic University of Lublin. Received 30 Dec. 2021. Received in revised form 20 Nov. 2022, 26 Nov. 2022, 5 March 2024. Accepted 6 March 2024. Published online 10 April 2024.

The new challenges faced by humanity with the onset of the COVID-19 pandemic require solutions to health problems, arising from the pandemic, in particular in the field of mental health. The World Health Organization reports the negative effects of the pandemic on mental health primarily due to increased levels of stress and anxiety. The WHO also emphasizes that the introduction of quarantine, which changes the normal rhythm of people's lives and affects their livelihoods, may cause an increase in the prevalence of loneliness, depression, alcohol, drug abuse, and suicidal behavior (WHO, Regional Office for Europe, 2020). Thus, it is important to study the emotional experiences of a person during the pandemic and their connection to coping strategies that allow them to overcome stress and tension in this complex and uncertain situation. And some groups of people who belong to risk groups in terms of deteriorating mental health and increasing their maladaptation need special attention from researchers.

Various researchers confirm that the COVID-19 pandemic has caused an unprecedented degree of psychological stress on people around the world (Levkovich & Shiri, 2020). People have faced stress, uncertainty, and fear in different countries (Brooks et al., 2020; Cao et al., 2020; Levkovich & Shiri, 2020). The impact of a variety of stressors that can lead to mental health problems is highlighted; in particular, social isolation, job loss, fear of contracting COVID-19 or the presence of disease, and loss of loved ones (Brooks et al., 2020; Fiorillo & Gorwood, 2020; Galea et al., 2020). Studies show that stress reactions during and immediately following threatening events are associated with adverse and long-term consequences for physical and mental health. During the quarantine, people were more likely to develop a wide range of manifestations of psychological stress, symptoms of depression, and post-traumatic stress. Therefore, the psychological impact of the pandemic and the limitations caused by it can be quite significant for the mental health of citizens (Brooks et al., 2020).

According to a survey by the International Gallup Association in March 2020, similar tendencies were found in 28 countries: most people expressed concern for themselves and their loved ones; uncertainty about the future (World Association for Public Opinion Research, 2020). Mental health problems were caused by stressors such as fear of dying from infection, frustration, boredom, fear of being left without a livelihood, lack of information or excess information, financial loss, and a sense of stigma associated with infection and illness, forced isolation, social distancing and reducing the number of contacts; the situation of uncertainty in the time perspective (Brooks et al., 2020; Fiorillo & Gorwood, 2020; Lelek-Kratiuk & Szczygieł, 2021; Saltzman et al., 2020). Along with the

factors and manifestations of stress, coping behavior is studied during the situation of COVID-19 pandemic which is an atypical and unpredictable situation (Lelek-Kratiuk & Szczygieł, 2021; Prowse et al., 2021).

It is emphasized that the psychological impact of quarantine can be quite significant for the mental health of citizens, especially for vulnerable groups (Brooks et al., 2020). At the same time, particular attention is paid to the necessity of conducting more representative research, especially on vulnerable groups, which would allow for broader generalizations (Rajkumar, 2020).

In the first months of the pandemic, surveys conducted in different countries recorded stress, sleep problems, and increased anxiety. These kinds of problems were more often reported by women, young people, and unmarried individuals. A study conducted in Italy at the beginning of the COVID-19 pandemic found that many people suffered from psychological disorders, especially women. The most commonly reported symptoms were symptoms of adaptation disorder or post-traumatic stress disorder (Rossi et al., 2020). Other research has shown an increase in anxiety, depression, and suicide risk (Steinmetz et al., 2020; Wang et al., 2020). Studies conducted in different countries have shown differences between men and women in the level of stress and anxiety during a pandemic (Forte et al., 2020; Mirucka et al., 2021).

In Ukraine, a SARS-CoV-2 infection was first diagnosed on March 3, 2020; quarantine was announced on March 12, and the first fatal case of a coronavirus infection was recorded on March 13. On March 25, a state of emergency was declared in Ukraine. The main restrictions in Ukraine included forced remote learning in various educational institutions and heavy restrictions on passenger traffic (stopped metro, mainly intercity connections and public transport routes), shopping centers, gyms, cafes, and restaurants. Cultural establishments were also closed and walking in public parks and squares were forbidden. But at the same time the relatively low dynamics of morbidity during the first wave of the pandemic observed in Ukraine in the spring of 2020 has caused skepticism about the severity of the disease and the prevalence of positive affect over the negative (Yahiiaiev et al., 2020).

At the same time, feelings of anxiety, sadness, frustration, confusion, and boredom were noticeable in people's experiences (Sociological Group RATING, 2020). The research identified the main psychological stressors during the COVID-19 pandemic in Ukraine: the probability of contracting COVID-19; the completeness and reliability of information about the pandemic; tensions among cohabitants; the complexity of permanent stay at home (Dembitskyi

et al., 2020). This study showed an increase in the severity of psychological distress, which was more often demonstrated by women, however, no significant differences were found.

The emotional experiences of a person in a quarantine situation significantly affected her behavior, physical health, activity and ability to work, and psychological well-being. Therefore it is important to understand how emotional experiences were combined with the coping strategies during the pandemic.

The prospects for the COVID-19 pandemic are still uncertain, therefore studies of emotional experiences and coping strategies of people during the pandemic and quarantine have significant relevance. A lot of available research records differences between men and women in experiencing pandemic stress. At the same time, these data are concretized insufficiently, which makes it difficult to understand the specifics of their emotional experiences and develop more appropriate and effective strategies for psychological care.

Purpose of the Present Study and Theoretical Background

The purpose of the article is to study the features of emotions and coping strategies of men and women during the COVID-19 lockdown in Ukraine. Therefore, we aimed to answer the following questions: (1) Were there significant differences between men and women in emotional experiences in a lockdown situation and what were they exactly? (2) Were there any differences in the coping strategies of men and women and what is the nature of these strategies given their connection with emotional experiences, especially in a group of respondents with high tension coping? An auxiliary task was to study the emotional experiences of respondents before and during quarantine to understand their dynamics in the crisis of the outbreak of the pandemic.

Coping is widely studied in psychological research to understand cognitive, emotional, and behavioral strategies, which a person may use to overcome difficult situations or stress or minimization of their influence. Psychological studies have different approaches that consider the specificity and effectiveness of coping strategies, focusing on the type of stress, individual peculiarities of a person, and circumstances (e.g., Carver et al., 1989; Endler & Parker, 1990; Folkman & Lazarus, 1988). Thus, dispositional and situational approaches to copings strategies highlight different factors. The former focuses on coping styles that allow a person to better cope with any dif-

ficult situations, whereas the latter focuses on the process and situational factors to overcome stress and studying specific strategies, which can be useful in some specific situations.

Our research is premised on the provisions formulated by Lazarus and Folkman (1988), who assume that stress is a disruption of the relationship between the individual and the mutual dynamic connection of emotions and copings. The researchers distinguished the main functions of coping: 1) instrumental, associated with problem-focused coping styles, which can help to control the stressor to reduce or remove its stressful properties; 2) regulatory, associated with emotion-focused coping strategies, helping to control the emotional response associated with the stressor.

Later, Endler and Parker (1990) pointed out the main styles of coping: problem-focused (making efforts to solve the problem) and emotion-focused (concentrating on oneself and one's own emotional experiences), which correspond to the functions defined by Folkman & Lazarus, and they add avoidance-oriented (avoiding the problem by engaging in substitute tasks or seeking social contacts).

Carver et al.'s study (1989) reflects on the understanding of coping mechanisms as a combination, on the one hand, of certain sustainable trends of coping (dispositional overcoming), and on the other hand, as a combination of methods used in a specific stressful situation (situational coping). Therefore, coping strategies are regarded as the resultant characteristics of the individual and the situation.

Researchers consider those directly aimed at solving a problem situation as the most adaptive (active coping, planning, suppression of competing activities, restraint coping, seeking of instrumental social support). Another block of coping strategies, although it is not connected with active coping, can also contribute to a person's adaptation to a stressful situation (seeking emotional social support, positive reinterpretation, acceptance, denial, and turning to religion). And the third group of coping strategies consists of those which are not adaptive, but in some cases help a person to adapt to a stressful situation and cope with it (focus on and venting of emotions, behavioral disengagement, mental disengagement).

In our research we have assumed that when conditions are changing, especially in an unknown and unpredictable situation, a person will test and use well-established coping strategies (dispositional coping). Surely, a certain creative adaptation of a personality and the growth of the impact of situa-

tional factors on coping will occur, but it will take more time. At first, a person acts within established patterns and proven ways to overcome stress. But then, when they do not work, a person has to come up with and test new ways of behavior.

METHOD

Participants

The sample consisted of 232 persons from 18 to 63 with a mean age of about 26.45 years (*SD* = 9.63), among them 162 women (69.8%), 70 men (30.2%). The majority of the respondents were single (62.9%) and young (61.6%). The inclusion criteria were the age of 18 and older and completed questionnaires. None of the respondents had COVID at the time of the survey, but 6% stated that they had relatives/acquaintances who had relapsed or were suffering from COVID. All respondents were socially and professionally active before the quarantine—they either studied or worked. Besides, with the beginning of quarantine, none of them had lost a job, but the majority of them at the beginning of the research had to work or study online, following the recommendations of restriction of social contacts.

Procedure

The survey was conducted in Ukraine using the open platform Google Forms, where the questionnaire was posted. The link was distributed via Facebook, between April 25 and May 20, 2020, when the lockdown in Ukraine occurred. The participants' responses were recorded on the Google platform, and then, the raw data in MS Excel was collected for statistical analysis. The survey lasted approximately 30 minutes. Participation in the study was voluntary, and all the participants were informed about the research project and expressed their consent to participate.

The first part of the study concerned socio-demographic variables, including gender, age, marital status, type of activity (education or work). Then all participants (*N* = 232) filled in the questionnaires.

Measures

The Differential Emotions Scale (DES)

Emotional experiences were measured using the Differential Emotions Scale (DES), a 30-item self-report inventory. Participants answered on a 5-point Likert-type scale, ranging from 1 (*not at all*) to 5 (*very much*) (Izard, 1991; Izard et al., 1974). With the help of DES, respondents assessed their emotions (interest, joy, surprise, grief, anger, disgust, contempt, fear, shame, guilt) in either the current situation during the lockdown or the retrospective assessment of the emotions they experienced before the quarantine.

The Ways of Coping Questionnaire (WCQ)

Coping strategies were studied using the Ways of Coping Questionnaire (WCQ) (Folkman & Lazarus, 1988), adapted byKryukova, Kuftyak, and Zamyshlyaeva (Kryukova & Kuftyak, 2007). The sample for adaptation consisted of 600 people, the average age was 25.9 years.

The authors of the WCQ adaptation distinguish adaptive potential of the person and maladaptive displays, which depends on tension levels of coping based on the quantitative severity of a particular strategy: 0−33% is a low level of tension = adaptive coping; 34−66% is a medium level of tension; 67−100% is a high level of coping tension = expressed maladaptation. According to the authors, these strategies can have a negative impact if they are on a high level of severity, because they are related to maladaptive manifestations. For example, active distancing may lead to cognitive leveling of the importance of the situation; searching for social support may lead to the formation of a dependent position or excessive expectations about others; an excessive positive reappraisal may lead to the probability of underestimating a person's ability to solve a problem situation.

Statistical Analysis

Data analysis was performed using the statistical package R (psyche, WRS, jamovi, and pwr packages). Means, standard deviations (SDs), and correlations were conducted to assess the associations among the study variables. The normality of the distribution of variables was checked using the Shapiro–Wilk test.

Comparative analysis was performed using the chi-square test and paired samples using the Wilcoxon test. Factor analysis has also been applied, using the main component method with Varimax rotation, using Kettell's criterion.

RESULTS

The results of comparing respondents' self-esteem of emotional experiences before and during quarantine indicate a significant dynamics of these indicators, indicating a significant level of stress. Thus, Tables 1 and 2 demonstrate the result of the analysis of differences in experiencing emotions before and during the lockdown. As we can see from Tables 1 and 2, men and women have both common and different tendencies in the dynamics of emotional experiences in connection with the pandemic situation. Women respond to the situation more emotionally: during the lockdown period, they experienced grief and fear much more intensely than before the lockdown. Instead, the intensity of the experience of joy and shame decreased significantly (Table 1). The dynamics of emotional experiences of men look more restrained: their feelings of joy during the lockdown also decreased significantly (Table 2).

Table 1

Differences in Emotional Experience Among Women Before and During Lockdown

Emotion	Before lockdown		During lockdown		Wilcoxon *W*	*p*	Cohen's *d*
	M	*SD*	*M*	*SD*			
Interest	10.84	2.34	10.12	3.07	3657.5	.009	0.24
Joy	10.99	2.70	8.91	2.87	8134.0***	.000	0.68
Surprise	7.45	2.91	7.40	3.04	4636.5	.919	0.02
Grief	7.04	3.00	8.28	3.30	2468.5***	.000	–0.35
Anger	5.36	2.24	5.86	3.07	2293.0	.022	–0.21
Disgust	4.67	2.19	4.80	2.49	2589.5	.647	0.05
Contempt	4.58	2.01	4.70	2.23	1723.0	.522	–0.06
Fear	5.00	2.33	6.22	2.98	1288.0***	.000	–0.46
Shame	6.35	2.68	5.94	2.94	3221.0***	.002	0.21
Guilt	5.09	2.48	5.19	2.90	2147.5	.620	–0.05

Note. ***$p < .001$ with Bonferroni correction.

Table 2

Differences in Emotional Experience Among Men Before and During Lockdown

Emotion	Before lockdown		During lockdown		Wilcoxon *W*	*p*	Cohen's *d*
	M	*SD*	*M*	*SD*			
Interest	10.87	2.38	10.81	2.85	564.5	.596	0.03
Joy	10.14	2.67	8.93	3.06	1204.0***	.000	0.43
Surprise	7.19	2.66	6.96	3.11	647.0	.545	0.08
Grief	6.36	3.05	6.69	3.25	538.0	.609	–0.11
Anger	5.27	2.56	5.11	2.59	515.0	.609	0.09
Disgust	4.84	2.79	4.96	2.77	228.5	.706	–0.05
Contempt	5.06	2.28	5.00	2.15	353.0	.754	0.04
Fear	4.30	1.72	4.84	2.55	163.0	.020	–0.30
Shame	5.71	2.63	5.61	2.67	516.5	.249	0.07
Guilt	4.91	2.47	5.01	2.68	337.0	.829	–0.06

Note. ***$p < .001$ with Bonferroni correction.

A significant difference between men and women was revealed in the process of analysis of emotional experiences during the lockdown and coping strategies of respondents, in particular regarding the level of experience of emotions of grief and fear (Table 3). The verification of the normality of the distribution of emotional indicators using the Shapiro–Wilk normality test showed that the distribution of variables in both samples deviates significantly from normal. The Wilcoxon test was used to test the significance of differences in the expression of emotions before and during the lockdown.

Table 3

Differences in Emotional Experience Between Men (N = 70) and Women (N = 162) During Lockdown, Using Yuen's Test

Emotion	Group		Yuen's test statistic	Trimmed mean difference	*p*	Explanatory measure of effect size
	Men	Women				
	M	*M*				
Interest	10.81	10.12	1.28	–0.54	.204	.13
Joy	8.93	8.91	0.40	–0.17	.690	.05
Surprise	6.96	7.40	0.85	0.46	.397	.11
Grief	6.69	8.28	3.56	1.89	.000	.35
Anger	5.11	5.86	1.91	0.76	.059	.19

Table 3 (continued)

Differences in Emotional Experience Between Men (N = 70) and Women (N = 162) During Lockdown, Using Yuen's Test

Disgust	4.96	4.80	0.06	–0.02	.957	.04
Contempt	5.00	4.70	1.25	–0.45	.217	.13
Fear	4.84	6.22	4.58	1.80	.000	.40
Shame	5.61	5.94	0.73	0.36	.466	.09
Guilt	5.01	5.19	0.37	0.15	.711	.06

The comparison has shown that during the lockdown, women experienced a range of emotions of grief and fear more intensely than men (Tables 1, 2, 3).

Therefore the next stage of the study was aimed at studying the coping strategies of men and women, their relationship to emotional states, and at identifying the specifics of coping strategies for each group during the situation of the COVID-19 pandemic. The coping behavior of the subjects was presented according to the levels of tension: low, medium, and high according to the quantitative criteria of the authors of the method adaptation (Kryukova & Kuftyak, 2007) (Table 4).

Table 4

Expressiveness of the Copings' Level of Tension, % (N = 232)

Group	Confrontive Coping	Distancing	Self-Controlling	Seeking Social Support	Accepting Responsibility	Escape–Avoidance	Planful Problem Solving	Positive Reappraisal
Low level of copings' tension (adaptive coping)								
Men	6	1	1	0	0	0	0	0
Women	6	2	6	2	3	2	1	1
Medium level of copings' tension								
Men	94	71	99	56	86	69	26	64
Women	91	65	93	29	75	52	31	30
High level of copings' tension (maladaptive coping)								
Men	0	27	0	44	14	31	74	36
Women	3	32	1	69	22	46	68	70

Table 4 shows the predominance of medium and high levels of tension of all coping strategies (Kryukova & Kuftyak, 2007). At the same time, the low and average level of tension indicates adaptive coping, and its high level is indicative of maladaptive coping. The high level of tension of many coping strategies in both groups attracts attention first of all (Table 4). Thus, a large number of men and women have the following strategies expressed at a high level: distancing, search for social support, avoidance, planning, and positive reconsideration. Differences between coping mechanisms were revealed on social support strategy and positive reappraisal strategy, high level of which is significantly more pronounced in women. This may prove the tension between these strategies and their maladaptive effect. There were no significant differences between men and women in the severity of problem-focused coping strategies, related to a person's efforts to cope or change the problem situation.

A Kruskal–Wallis test was used to test the significance of differences in the use of coping strategies by men and women. Differences in the use of coping strategies by men and women are presented in Table 5.

Table 5

Differences in Coping Strategies Between Men and Women

Coping strategies	Average rank		χ^2	p
	Men	Women		
	$N = 70$	$N = 162$		
Confrontive Coping	117.63	116.01	0.03	.865
Distancing	111.06	118.85	0.67	.414
Self-Controlling	121.96	114.14	0.67	.412
Seeking Social Support	92.89	126.70	12.51***	.000
Accepting Responsibility	107.38	120.44	1.88	.170
Escape–Avoidance	101.29	123.07	5.19	.023
Planful Problem Solving	119.44	115.23	0.19	.660
Positive Reappraisal	86.36	129.52	20.39***	.000

Note. Kruskal–Wallis test. Grouping variable: gender.

***$p < .001$ with Bonferroni correction.

A correlation analysis between the indicators of emotional experiences and coping- strategies was conducted answering the question of whether there were any differences in the coping strategies of men and women and what is the specificity of these strategies in the context of their connection with emotional experiences at the beginning of the pandemic (Table 6 and 7).

Table 6

Correlates Between Emotions and Coping-Strategies Among Men (N = 70)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Interest	–																	
2. Joy	.25*	–																
3. Surprise	.24*	.32*	–															
4. Grief	.02	–.44**	.20	–														
5. Anger	.04	–.19	.20	.56**	–													
6. Disgust	.09	–.16	.31*	.52**	.66**	–												
7. Contempt	.04	–.16	.22	.53**	.58**	.72**	–											
8. Fear	.23*	–.15	.47**	.54**	.47**	.51**	.47**	–										
9. Shame	.04	–.10	.19	.47**	.38*	.33*	.41**	.53**	–									
10. Guilt	.03	–.17	.29*	.46**	.42**	.34**	.24*	.59**	.66**	–								
11. Confrontive Coping	–.14	–.05	.27*	.21	.37*	.09	.10	.24*	.02	.26*	–							
12. Distancing	.19	–.05	.10	.00	.20	.10	.23	.22	.15	.24**	.30*	–						

Table 6 (continued)

Correlates Between Emotions and Coping-Strategies Among Men (N = 70)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
13. Self-Controlling	.02	–.18	–.08	–.11	–.22	–.22	–.30**	–.21	–.08	.06	–.02	.18	–					
14. Seeking Social Support	–.04	.26*	.17	.09	–.17	–.21	–.10	–.04	–.05	–.06	.05	–.23	–.09	–				
15. Accepting Responsibility	.05	.22	.11	.12	–.03	–.05	–.05	.12	.18	.24*	.15	.09	.15	.33**	–			
16. Escape–Avoidance	–.11	.12	.25*	.19	.39**	.17	.24*	.34**	.22	.38**	.58**	.60**	.02	.08	.35**	–		
17. Planful Problem Solving	.31**	.21	–.03	–.14	–.43**	–.24*	–.29*	–.27*	–.28*	–.32*	–.21	–.26*	.19	.32*	.13	–.33**	–	
18. Positive Reappraisal	.21	.18	.07	.14	–.10	–.05	.10	–.02	–.03	.05	.04	.19	.10	.25*	.23	.11	.36**	–

Note. $*p < .05$, $**p < .01$, $***p < .001$.

Table 7

Correlates Between Emotions and Coping Strategies Among Women (N = 162)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Interest	–																	
2. Joy	.36**	–																
3. Surprise	.32**	.41**	–															
4. Grief	–.27**	–.51**	–.01	–														
5. Anger	–.22**	–.32**	–.01	.64**	–													
6. Disgust	–.19*	–.25**	.16*	.45**	.54**	–												
7. Contempt	–.18*	–.08	.12	.29**	.51**	.59**	–											
8. Fear	–.08	–.17*	.23**	.45**	.43**	.35**	.33**	–										
9. Shame	–.22**	–.19*	.04	.41**	.36**	.35**	.34**	.51**	–									
10. Guilt	–.27**	–.28**	–.04	.49**	.37**	.38**	.45**	.39**	.51**	–								
11. Confrontive Coping	.15	–.03	.04	.14	.26**	.03	.07	.21*	.08	.17*	–							
12. Distancing	–.00	–.02	–.07	–.06	–.01	–.10	.03	–.17*	–.08	.14	.23**	–						

Table 7 (continued)

Correlates Between Emotions and Coping Strategies Among Women (N = 162)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
13. Self-Controlling	–.13	–.07	.04	.11	.08	–.06	.03	–.03	.09	.13	.12	.43**	–					
14. Seeking Social Support	.09	.12	.05	.03	.10	.05	.07	.12	.051	.02	.31**	.00	.01	–				
15. Accepting Responsibility	–.24**	–.12	–.05	.28**	.10	–.02	–.04	.21**	.36**	.43**	.35**	.25**	.22**	.27**	–			
16. Escape–Avoidance	–.08	–.12	–.02	.29**	.16*	.06	.14	.12	.26**	.26**	.41**	.37**	.23**	.19*	.51**	–		
17. Planful Problem Solving	.22**	.23**	.07	–.153	–.08	–.08	–.09	–.14	–.07	–.10	.22**	–.01	.13	.45**	.12	–.05	–	
18. Positive Reappraisal	.23**	.28**	.07	–.24**	–.154*	–.147	–.09	–.12	–.12	–.03	.26**	.33**	.11	.31**	.08	–.01	.45*	–

Note. *$p < .05$, **$p < .01$, ***$p < .001$.

It was revealed that among men a strategy of confrontation is connected with feelings of surprise, anger, fear and guilt, which they have experienced during a pandemic. Distancing is connected with feelings of guilt, and women have a weak inverse relationship with anger, fear and guilt. The strategy of self-control, the severity of which among men is significantly different from women, is inversely connected with contempt among men; for women, no significant correlation was revealed. The social support strategy has a connection with the experience of joy in men, but among women this strategy does not have a significant correlation with emotional experiences. Acceptance of responsibility among men is connected with a sense of guilt, while among women this strategy has direct connections with grief, fear, guilt and blame, and inverse connection with interest. Escape–Avoidance in men is connected with surprise, anger, contempt, fear, guilt, and in women—with the experience of grief, anger, shame, guilt.

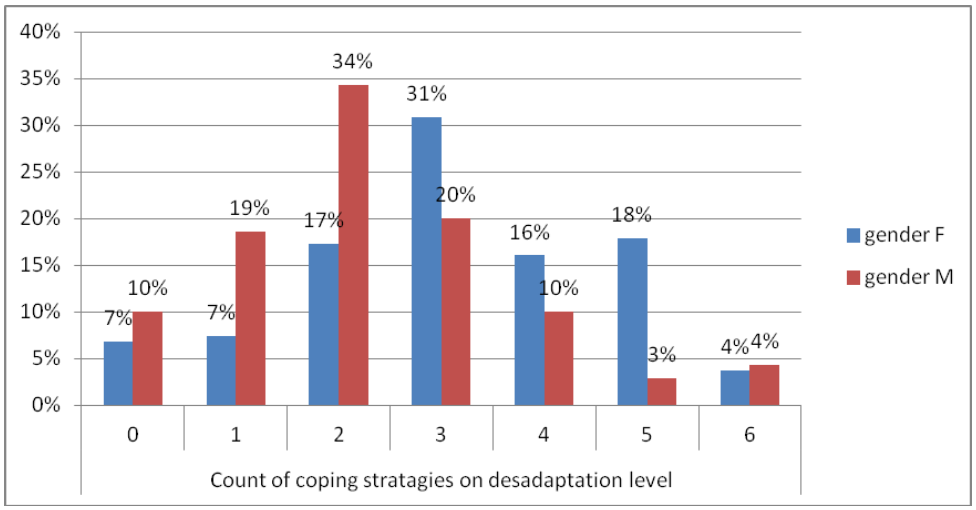
Planful Problem Solving among men is connected with interest, a and also it has an inverse connection with aggression, disgust, contempt, fear, shame, a sense of guilt, and with interest and joy among women. Positive Reappraisal does not have connections among men with emotional experience, but among women they are linked to the experience of positive emotions: interest, joy and negatively correlates with grief.

The direction of further analysis was the study of emotions and their connection with coping strategies in a group of respondents with a high (maladaptive) level of coping strategies. Therefore, for further analysis of each coping strategy, we entered a nominal variable presence/absence of maladaptive coping level. According to the description of the methodology, the maladaptive level was defined as a percentage of scored points in the last third, therefore more than 66% (Kryukova & Kuftyak, 2007).

There were significant differences in the number of strategies at the level of high tension between men and women (Figure1).

Figure 1

Number of Coping Strategies Expressed at High Level of Tension in Men and Women



Note. $N = 232$.

There is no coping at a high level of tension among 10% of the studied men and only among 7% of women. Only one coping strategy at this level was noted for 19% of men and 7% of women. Most men (34%) have already recorded two coping strategies, which are expressed at a high level; for women, this figure is 17%. With the increase in the number of coping strategies at a high level of tension, the tendency changes: these strategies prevail quantitatively in women. Therefore, 31% of women and 20% of men use three strategies simultaneously; 16% of women and 10% of men use 4 strategies at a high level of tension, 18% of women and 3% of men use 5 strategies, and 6 strategies at a high level of tension are recorded equally in men and women (4% each).

This shows the differences in the intensity in the tension of the coping strategies of women compared to men ($\chi^2 = 24.28$, $p < .001$), which is a sign of women's higher maladaptation, as well as their efforts to deal with the situation in different ways.

An emotion factoring procedure has been applied for respondents who had two or more high-tension coping strategies, to identify factor structures. This would explain the emotions that lead to the high level of tension of coping strategies and whether there are differences between men and women according to these parameters.

As a result of the factor analysis the three-factor structures with a total dispersion of 74% and 69% respectively were found both for men and women (Table 8). However, their content and contribution to the overall dispersion differ considerably. Thus, if for a group of women the contribution of each of the three components was approximately the same—24.8%, 24.5% and 20.1%, for the group of men the contribution of the most powerful component was 34.2%, and the smallest one was less than half of it—only 16.2%.

Table 8

Results From Factor Analysis of Differential Emotions Scale in Group of Respondents With High Stress Coping Strategies

Men				Women			
Returned component matrix[a]				Returned component matrix[a]			
Component	1	2	3	Component	1	2	3
Disgust	.84	.12	.16	Shame	.85		
Anger	.79	.12		Fear	.74	.26	.22
Contempt	.79	.29		Guilt	.74	.13	–.27
Grief	.76	.48	.13	Grief	.61	.40	–.35
Joy	–.74		.25	Disgust	.18	.88	
Shame	.23	.89	–.13	Contempt		.86	
Guilt	.16	.86	.16	Anger	.29	.77	–.16
Fear	.52	.55	.44	Surprise	.19		.81
Interest		–.16	.88	Interest	–.28		.74
Surprise	–.12	.42	.73	Joy	–.22	–.28	.73
Matrix of transformed components[b]				Matrix of transformed components[b]			
Component	1	2	3	Component	1	2	3
1	.80	.57	.18	1	.68	.65	–.34
2	–.49	.46	.74	2	.05	.43	.90
3	.34	–.68	.65	3	.73	–.63	.26

Note. $N = 12$. The extraction method was principal axis factoring with an oblique (Promax with Kaiser Normalization) rotation.

a. The rotation converged in 4 iterations.

b. Factor selection method: principal component method.

Note. $N = 72$. The extraction method was principal axis factoring with an oblique (Promax with Kaiser Normalization) rotation.

a. The rotation converged in 4 iterations.

b. Factor selection method: principal component method.

The first factor in women included indicators of shame (0.85), fear (0.74), guilt (0.74), and grief (0.61). The second factor included indicators of disgust (0.85), fear (0.74), guilt (0.74), and grief (0.61). The third factor included all three positive emotions: surprise (0.81), interest (0.74), and even joy (0.73).

It is necessary to pay attention to the indicator of fear. Among women, fear entered the first component with a rather strong tension (0.74), but its tension among other components was significantly smaller (0.26 and 0.23). But in men the indicator of fear makes a much smaller contribution to the main component (0.55) and, secondly, its contribution to the tension of the other two components is almost the same (0.52 and 0.44 respectively). The most powerful factor in men consists of indicators of disgust (0.84), anger (0.79), contempt (0.79), grief (0.76), and joy (–0.74). The second factor consists of two indicators—shame and a sense of guilt with a contribution greater than 0.85 (0.89 and 0.86 respectively). And the weak third factor is represented by the indicators of interest (0.86) and surprise (0.73).

As we can see, the content of factors differs significantly among men and women with coping with a high level of tension, which indicates the difference between the emotional basis of their coping strategies.

DISCUSSION

The results of the study generally reflect the tendencies existing in other studies during the quarantine period, where the presence of various manifestations of mental tension and stress such as anger, depression, problems with adaptation (Brooks et al., 2020; Lelek-Kratiuk & Szczygieł, 2021; Rajkumar, 2020; Rossi et al., 2020) was defined. Many of these studies highlighted the greater severity of these manifestations in women, but did not specify differences. Thus, it was found that women were in risk for depression, anxiety, stress or suicide (Paulino et al., 2021; Steinmetz et al., 2020; Wang & Wei, 2020). A study conducted in Israel found that most respondents experienced anxiety, fear, and stress about COVID-19—emotional reactions were higher among women (Levkovich & Shinan-Altman, 2020; Prowse et al., 2021). These results correspond with social expectations and gender stereotypes about men's and women's activity/passivity, power/weakness.

The results that we have obtained significantly specify the research data on emotional and behavioral reactions in a pandemic situation from the perspective of differences between men and women. Our research has shown clear

differences in the emotional response of men and women during lockdown situations, and the different connections between emotions and coping strategies. Women are more directly guided by emotions in their behavior and the emotional conditionality of their coping strategies is more pronounced. If the person uses emotion-oriented coping, he focuses mostly on his own experiences, trying to reduce them, control, and change his attitude toward life troubles (Folkman & Lazarus, 1988). It has been found that women are more likely to use strategies of seeking social support and positive reappraisal. At the same time, men are more likely not to look for support in their surrounding while experiencing emotions of a negative spectrum.

Among other expressed strategies of women, we can name the strategy of responsibility, which is connected with the experiences of grief, fear, and guilt. This strategy is more pronounced in women on a maladaptive level, being connected with feelings of grief, fear, shame, guilt. This means that while taking responsibility in difficult situations, women also blame themselves more and criticize themselves. Our data corresponds to data from a study conducted in China. In this study it was found a higher level of anxiety in women, which, according to the authors, can be associated with their greater socialization and stronger emotions (Fu et al., 2020).

The results of our study correspond to the data of the Polish study, in which it was found that young women during the pandemic had significantly higher rates of state anxiety, risk perception, a general sense of threat to life, and psychological distress than men (Mirucka et al., 2021). This and other studies indicate more pronounced and negatively colored emotional reactions of women in a pandemic situation, which can confirm their higher level of stress and psychological difficulties (Forte, 2020; Gerhold, 2020).

Therefore, the results confirm and specify the negative effects of quarantine on mental health, which have been reported in the literature (Brooks et al., 2020; Ford, 2020; Wang et al., 2020). Psychological consequences of a pandemic are different for men and women (Lawal, 2020; Levkovich & Shiri, 2020; Paulino et al., 2021; Steinmetz et al., 2020) and we specify emotional and behavioral reactions.

Nowadays, it is widely known that stress reactions occurring during and immediately following threatening events are associated with adverse and long-term consequences for physical and mental health (Garfin et al., 2018). Therefore, it is necessary to develop support programs for vulnerable groups (Levkovich & Shinan-Altman, 2020), especially for women, because they can be characterized with a high intensity of emotional reactions and maladaptive coping, a tendency to take the blame.

Strengths and Limitations

The strength of this study was the focus on the specifics of emotional experiences and their relationship with the coping strategies of men and women. Thus, our research confirmed that the differences in the coping strategies of men and women were evident in the situation of the COVID-19 pandemic. New data were obtained that characterize the dynamics of emotional states of men and women before and during the pandemic, the connection of emotions with coping strategies, the severity (or tension) of individual coping strategies when the pandemic set in. Relevant studies were not carried out earlier on the Ukrainian sample, therefore, such research can be useful for cross-cultural research.

Some potential limitations should be noted in this study. The survey was conducted online, which could limit access to the study for older respondents and affect the results. The study design (cross-sectional study) precludes identification of causal relationships between the studied variables, also a certain limitation is self-reported style questionnaires. We are aware that we have applied a retrospective assessment of emotional state to the pandemic and it may likely contain errors, which arise due to the respondents' memory failure or other factors. However, the pandemic situation emerged suddenly and was unprecedented in its scale, its ramifications were unpredictable, therefore there was no other opportunity to study the state of respondents prior to the outbreak. Some other factors that influenced emotional experiences (first of all, social isolation and changing of learning/work conditions) have been briefly distinguished and were not specifically investigated.

The prospect of research is to study the emotional experiences and coping strategies of different age groups among men and women, as well as the features of their adaptation to the changed living conditions due to the pandemic.

Conclusion

The current study proves negative consequences of the pandemic and lockdown on the mental health of respondents in Ukraine primarily increased stress, anxiety, guilt, and fear. Significant connections between the emotional states and the respondents' coping strategies were found. The differences between men and women in terms of emotional experiences in a lockdown situation, as well as coping strategies are described. Compared to men, women experienced negative emotions more intensely, they were more often guided

by emotions in the process of coping, they also used a strategy of seeking social support and strategy of positive reappraisal of the situation. The strategy of acceptance of responsibility, which women often use, is associated with feelings of grief, fear, shame, guilt, and is usually expressed primarily at the maladaptive level. This means that by taking responsibility in difficult situations, women blame themselves more and self-criticize. The severity of problem-focused coping strategies has not revealed significant differences between men and women. Among people with high-tension coping strategies, women more commonly use three or more strategies at the same time. This shows a general increase in the tension of the coping strategies of women compared to men. This demonstrates women's higher level of maladaptation and also their efforts to cope with the situation in different ways. It was also found that coping strategies with a high level of tension have a different emotional basis in men and women, which is reflected in the different content of factors as complexes of experiences that affect the choice of coping strategies.

Thus, women are at risk in terms of the negative psychological consequences of the pandemic, which requires special attention. The identified features of the coping behavior of men and women will help to identify the main targets for the development of prevention and psychotherapeutic interventions.

CRediT Author Statement

TETIANA YABLONSKA (45%): conceptualization, methodology, analysis, writing.
NATALIYA BULATEVYCH (40%): formal analysis, resources, writing.
LILIA SIROKHA (15%): writing original draft, review and language editing.

REFERENCES

Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. *The Lancet*, *395*(10227), 912–920. https://doi.org/10.1016/S0140-6736(20)30460-8

Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., & Zheng, J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry Research*, *287*, Article 112934. https://doi.org/10.1016/j.psychres.2020.112934

Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, *56*(2), 267–283. https://doi.org/10.1037/0022-3514.56.2.267

Dembitskyi, S. S., Zlobina, O. G., Sydorov, M. V. S., & Mamonova H. A. (2020). Stan psykholohichnoho dystresu sered riznykh sotsial'nykh hrup Ukrayini pid chas pandemiyi

COVID-19 [The state of psychological distress among various social groups in Ukraine during the COVID-19 pandemic]. *Ukrainian Society*, *2*(73), 74–92. https://doi.org/10.15407/socium2020.02.074

Endler, N. S., & Parker, J. D. (1990). Multidimensional assessment of coping: A critical evaluation. *Journal of Personality and Social Psychology*, *58*(5), 844–854. https://doi.org/10.1037/0022-3514.58.5.844

Fiorillo, A., & Gorwood, P. (2020). The consequences of the COVID-19 pandemic on mental health and implications for clinical practice. *European Psychiatry*, *63*(1), E32. https://doi.org/10.1192/j.eurpsy.2020.35

Folkman, S., & Lazarus, R. S. (1988). The relationship between coping and emotion: Implications for theory and research, *Social Science & Medicine*, *26*(3), 309–317. https://doi.org/10.1016/0277-9536(88)90395-4

Forte, G., Favieri, F., Tambelli, R., & Casagrande, M. (2020). The enemy which sealed the world: Effects of COVID-19 diffusion on the psychological state of the Italian population. *Journal of Clinical Medicine*, *9*(6), 1802. https://doi.org/10.3390/jcm9061802

Fu, W., Wang, C., Zou, L., Guo, Y, Lu , Z., Yan, S., & Mao, J. (2020). Psychological health, sleep quality, and coping styles to stress facing COVID-19 in Wuhan, China. *Translational Psychiatry*, *10*, 225. https://doi.org/10.1038/s41398-020-00913-3

Galea, S., Merchant, R. M., & Lurie, N. (2020). The mental health consequences of COVID-19 and physical distancing: The need for prevention and early intervention. *JAMA Internal Medicine*, *180*(6), 817–818. https://doi.org/10.1001/jamainternmed.2020.1562

Garfin, D. R., Thompson, R., & Holman, E. A. (2018). Mental and physical health effects of acute stress following traumatic events: A systematic review. *Journal of Psychosomatic Research*, *112*, 107–113. https://doi.org/10.1016/j.jpsychores.2018.05.017

Gerhold, L. (2020). COVID-19: Risk perception and coping strategies. Results from a survey in Germany. *Interdisciplinary Security Research Group*, 1–11. https://doi.org/10.31234/osf.io/xmpk4

Izard, C. E. (1991). *The psychology of emotions*. Springer Science & Business Media.

Izard, C. E., Dougherty, F. E., Bloxom, B. M., & Kotsch, N. E. (1974). The *Differential Emotions Scale: A method of measuring the subjective experience of discrete emotions*. Vanderbilt University Press.

Kryukova, T. L., & Kuftyak, E. V. (2007). Oprosnyk sposobov sovladanyya (adaptatsyya metodyky WCQ) [Ways of coping questionnaire (WSQ adaptation techniques)]. *Journal of Practical Psychology*, *3*, 93–112.

Lawal, A. M., Alhassan, E. O., Mogaji, H. O., Odoh, I. M., & Essien, E.A. (2022). Differential effect of gender, marital status, religion, ethnicity, education and employment status on mental health during COVID-19 lockdown in Nigeria. *Psychology, Health & Medicine*, *27*(1), 1–12. https://doi.org/10.1080/13548506.2020.1865548

Lelek-Kratiuk, M., & Szczygieł, M. (2021). COVID-19 lockdown as an atypical stressful situation and ways of coping with it. *Polish Psychological Bulletin*, *52*(2), 139–146. https://doi.org/10.24425/ppb.2021.137256

Levkovich, I., & Shiri, S.-A. (2020). Emotional reactions and subjective health status during the COVID-19 pandemic in Israel: The mediating role of perceived susceptibility. *Psychology, Health & Medicine*, *26*(1), 75–84. https://doi.org/10.1080/13548506.2020.1858490

Mirucka, B., Bielecka, U., Mirucka, M., & Kępińska, N. (2021). Significant predictors of psychological distress in the group of Polish young adults during the COVID-19 epidemic outbreak:

Sequential mediation model. *Polish Psychological Bulletin*, *52*(3), 289–298. https://doi.org/10.24425/ppb.2021.137891

Paulino, M., Dumas-Diniz, R., Brissos, S., Brites, R., Alho, A., Simões, M. R., & Silva, C. F. (2021). COVID-19 in Portugal: Exploring the immediate psychological impact on the general population. *Psychology, Health & Medicine*, *26*(1), 44–55. https://doi.org/10.1080/13548506.2020.1808236

Prowse, R., Sherratt, F., Abizaid, A., Gabrys, R. L., Hellemans, K. G. C., Patterson, Z. R., & McQuaid, R. J. (2021). Coping with the COVID-19 pandemic: Examining gender differences in stress and mental health among university students. *Frontiers of Psychiatry*, *12*, Article 650759. https://doi.org/10.3389/fpsyt.2021.650759

Rajkumar, R. P. (2020). COVID-19 and mental health: A review of the existing literature. *Asian Journal of Psychiatry*, *52*, Article 102066. https://doi.org/10.1016/j.ajp.2020.102066

Rossi, R., Socci, V., Talevi, D., Mensi, S., Niolu, C., Pacitti, F., Di Marco, A., Rossi, A., Siracusano, A., & Di Lorenzo, G. (2020). COVID-19 pandemic and lockdown measures impact on mental health among the general population in Italy. *Frontiers in Psychiatry*, *11*, Article 790. https://doi.org/10.3389/fpsyt.2020.00790

Saltzman, L.Y., Hansel, T. C. & Bordnick, P. S. (2020). Loneliness, isolation, and social support factors in post-COVID-19 mental health. *Psychological Trauma: Theory, Research, Practice and Policy*, *12* (S1), 55–57. https://doi.org/10.1037/tra0000703

Sociological Group RATING (2020, April 22). *Psychological and emotional health of Ukrainians under quarantine: General assessments and trends.* Rating Group Ukraine. Retrieved May 23, 2021, from http://ratinggroup.ua/en/research/ukraine/psihoemocionalnoe_sostoyanie_ukraincev_na_karantine_obschie_ocenki_i_dinamika.html

Steinmetz, L., Florio, M., Leyes, C., Fong, S., Rigalli, A., & Godoy, J. (2022). Levels and predictors of depression, anxiety, and suicidal risk during COVID-19 pandemic in Argentina: The impacts of quarantine extensions on mental health state. *Psychology, Health & Medicine*, *27*(1), 13–29. https://doi.org/10.1080/13548506.2020.1867318

Wang, Y., Di, Y., Ye, J., & Wei, W. (2020). Study on the public psychological states and its related factors during the outbreak of coronavirus disease 2019 (COVID-19) in some regions of China. *Psychology, Health & Medicine*, *26*(1), 13–22. https://doi.org/10.1080/13548506.2020.1746817

World Association for Public Opinion Research. (2020). *COVID-19 public opinion research.* Retrieved May 20, 2021, from https://wapor.org/resources/covid-19-public-opinion-research

World Health Organization, Regional Office for Europe. (2020). *Mental Health and COVID-19.* Retrieved May 27, 2021, from https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/publications-and-technical-guidance/noncommunicable-diseases/mental-health-and-covid-19

Yahiiaiev, I., Novoselska A., Keller V., & Savych M. (2020). Vykorystannya sotsial'nykh merezh ta sub'yektyvne blahopoluchchya v umovakh pandemiyi COVID-19 [Using social media and subjective well-being during COVID-19 pandemic]. *Bulletin of Taras Shevchenko National University of Kyiv. Series "Psychology"*, *1*(11), 70–77. https://bpsy.knu.ua/index.php/psychology/issue/view/10/11