Mental health in the post-lockdown pandemic phase: Relief or exacerbation of psychological distress? A cross-sectional study in the general population in Italy

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ABSTRACT

This study is one of the first aiming at investigating the mental health in the post-lockdown period in an Italian adult population and detecting demographic and psychological predictors for a worse outcome. 1401 participants answered a web-based survey including the Emotional Reaction Questionnaire (ERQ), the Positive Affect and Negative Affect Scale (PANAS), the Impact of Event Scale-Revised (IES-R), the General Health Questionnaire (GHQ), the Depression, Anxiety and Stress Scale (DASS-21), and the Dutch Work Addiction Scale (DUWAS). Simple slope analyses highlighted that women, lower age, and suppression were related to higher scores for the PANAS negative affect scale, the DASS-21, the IES-R, the GHQ, and the DUWAS. In our sample, 1.2% of participants showed depressive symptoms, 0.5% anxiety symptoms, and 2% stress symptoms. Moreover, 5.4% of participants reported post-traumatic symptoms and 15% signs of psychological distress.

Compared with data on the lockdown period, our results show lower levels of depressive, anxiety, and stress symptoms, possibly due to the slackening of preventive measures adopted since June. Despite this, post-traumatic symptoms and signs of psychological distress were still present. Our data suggest the necessity to monitor psychological adaption over time in general and at-risk subjects.

1. Introduction

Several studies have reported that the onset of an abrupt worsening of depressive, stress, and anxiety symptoms was observed with respect to pre-pandemic levels during the first lockdown in the general population (Hossain et al., 2020; Vindegaard and Benros, 2020; Xiong et al., 2020).

1.1. Psychological symptoms during the lockdown in Italy

In Italy, prevalence estimates in the lockdown period were 17–25% for depressive symptoms, 21–23% for anxiety, 42% for sleep disturbances, 22% for high perceived stress, and 23% for adjustment disorder (Baiano et al., 2020; Delmastro & Zamariola, 2020; Gualano et al., 2020; Rossi et al., 2020; Invitto et al., 2021). The rate for PTSS was of 28%–

37% (Casagrande et al., 2020; Forte et al., 2020; Rossi et al., 2020). A worsening in the psychophysiological responses in terms of perceived stress, body perception, perceived pain, quality of sleep, and perceptive variations was observed (Invitto et al., 2021). Worldwide being a woman, lower age, being unemployed, a lower socioeconomic status, and a psychological vulnerability precondition represented risk factors for developing psychological symptoms due to the impact of the pandemic (Di Crosta et al., 2020; Gualano et al., 2020; Marelli et al., 2021; Prati, 2020).

1.2. Lacking data about the end of the lockdown and homeworking

In Italy, from June to the end of October 2020, the lockdown was followed by a gradual and limited decrease of restrictions. However, we

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have scarce evidence of the effects on the mental health of the duration of stressful factors such as the preventive measures, the constant attention for hygiene, the interpersonal distancing, the difficulty in securing medical care, the uncertainties about work and school conditions. In Italy, a study highlighted that after the lockdown was lifted, any worsening in psychological symptoms quickly vanished, and depressive levels were not different from those reported before lockdown (Meda et al., 2021). However, this evidence concerned 197 Italian students aged 18–30 (mean age 21.3 years). Moreover, participants were administered mainly notorious clinical questionnaires, reliable in detecting symptoms and diagnoses.

Conversely, evidence of the persisting impact of the Covid-19 pandemic emerged in a study that cast light on the exacerbation of sleep disturbances and maladaptive psychological signs during the second pandemic wave (Salfi et al., 2021). Another study (Sanchez-Gomez et al., 2021) focused on the relevance of PTSD symptoms due to the Covid pandemic even after the lockdown. In particular, it stressed the role of hyperarousal and intrusion reactions in the relationship between intrusive thoughts, fear of COVID, and mental health. However, this study does not provide prevalence data of PTSD symptoms or of PTSD probable diagnoses, nor signs of psychological distress. Thus, despite the increasing interest in the psychological impact of the pandemic on mental health, we have scarce data on the general Italian adult population and have no evidence of minor signs of psychological distress and adjustment, which nonetheless may precede mental health problems.

Furthermore, in Italy, home working has been strongly encouraged in the months following the lockdown too. Homeworking during the pandemic implied significant and durable increases in the average workday length (DeFilippis et al., 2020). Thus, the risk of a psychological backlash of forced homeworking is plausible, but data for the Italian population are lacking.

1.3. Aims and hypotheses of the study

The main purposes of the present study were to investigate a) major and minor signs of psychological distress in the immediate post-lockdown pandemic phase, b) the demographic and psychological risk factors for a worse outcome, c) the repercussions of prolonged homeworking on psychological balance. In order to do that, emotional adjustment style, positive and negative affective reactions, depressive, anxiety, stress, PTSS, and workaholism have been investigated relative to the period June–October 2020 in Italy. We hypothesized that 1) anxiety, depressive, stress, and PTSS were lower than during the lockdown; 2) a minority of subjects would show persistent signs of higher psychological distress; 3) being female, lower age and making greater use of suppression as emotional adaptation style predicted a worse psychological outcome and a greater risk for workaholism.

2. Methods

2.1. Study design and participants

We adopted a cross-sectional web-based survey design between September 21st and October 11th, 2020. An initial sample of 3000 employees of a large banking group was invited to participate. The inclusion criteria were: a) age greater than or equal to 18 years, b) Italian mother tongue or high-level knowledge of Italian language, c) living in Italy since the pandemic outbreak (i.e., March 2020). All participants were provided with a detailed description of the procedures and consent before participating in the study. Participation was voluntary, anonymous, and not rewarded in any form. We distributed the questionnaires across the national territory. All the questions referred explicitly to the period from June 1st to October 10th, 2020, corresponding in Italy to the months immediately after the first lockdown. The study was conducted in accordance with the Declaration of Helsinki and under research protocols approved by local Ethical Committees (Comitato

Etico Area Vasta Nord Ovest: Protocol No. 1485/2017; Scuola Normale Superiore and Scuola Superiore Sant'Anna Joint Ethical Committee: Protocol No. 04/2021).

2.2. Assessment

Emotion regulation strategies were investigated by the Emotion Regulation Questionnaire (ERQ) (Balzarotti et al., 2010; Gross & John, 2003). Items are scored into two separate subscales investigating Expressive Suppression (i.e., suppressing the behavioral expression of the emotion: "When I am feeling positive emotions, I am careful not to express them") and Cognitive Reappraisal (i.e., modifying the internal representation of an event to change one's own emotional experience "When I want to feel more positive emotion, I change the way I'm thinking about the situation").

Participants' affect was recorded by the Positive Affect and Negative Affect Scale (PANAS) (Terracciano et al., 2003; Watson et al., 1988). It investigates two independent affective dimensions: the Positive Affect (PA) subscale, which reflects the extent to which a person feels, for instance, "enthusiastic," "excited," "active," "determined"; and the Negative Affect (NA) subscale, which reflects unpleasant engagement and aversive affects (e.g., "guilty," "scared," "irritable").

The Depression, Anxiety and Stress Scale (DASS-21) (Bottesi et al., 2015; Lovibond & Lovibond, 1995) was used to assess symptoms of anxiety ("I found myself getting agitated"), depression ("I felt that I had nothing to look forward to"), and stress ("I found it difficult to relax"). The DASS-21 has shown good psychometric properties in clinical and non-clinical samples (Bottesi et al., 2015).

We used the Impact of Event Scale-Revised (IES-R) (Craparo et al., 2013; Weiss & Marmer, 1997) to assess PTSS. The IES-R provides a cutoff score ($\geq$33), highlighting phenomena worth clinical attention (Creamer et al., 2003). According to the DSM-IV (APA, 2000) criteria for PTSD, the IES-R comprises three classes of symptoms: intrusive recollections ("Any reminder brought back feelings about it"), avoidant symptoms ("I stayed away from reminders of it"), and hyperarousal symptoms ("I had trouble falling asleep"), thus resulting in three related subscales. Participants had to rate each symptom as to how distressing it has been over the last week, focusing on the lockdown period (March–June 2020) as a traumatic event.

The General Health Questionnaire-12 (GHQ-12) (Goldberg & Williams, 1988; Goldberg et al., 1997; Piccinelli et al., 1993) was administered as a screening questionnaire for minor mental disorders. It consists of 12 items, each one assessing the severity of a mental problem over the past few weeks (e.g., "Couldn't overcome difficulties") using a 4-point Likert-type scale (from 0 to 3). A threshold $\geq$4 at GHQ identifies people with a probability $>$ 80% of mental health problems.

In order to assess workaholism, the Dutch Work Addiction Scale (DUWAS) (Nonnis et al., 2017; Schaufeli et al., 2009) was used. The two-factor structure of this scale, Working Excessively ("I seem to be in a hurry and racing against the clock") and Working Compulsively ("I feel guilty when I take time off work"), has been confirmed across different populations (Del Libano et al., 2010).

2.3. Statistical analyses

We identified the following indices as dependent variables in separate linear models: ERQ (cognitive reappraisal and expressive suppression subscores), PANAS (PA and NA subscores), DASS-21 (total score and depression, anxiety, and stress subscores), IES-R (total score and intrusion, avoidance and hyperarousal subscores), GHQ (total score) and DUWAS (total score, Working Excessively and Working Compulsively subscores). In order to investigate differences related to age and gender, in each linear model, age and gender were used as independent variables (continuous and dichotomous, respectively).

Simple slope analyses were performed to test the effect of age separately for male and female participants.

Furthermore, in order to investigate whether age and gender could affect the risk of developing a diagnosis of PTSD, we used a generalized linear model (binomial distribution) with the same independent variables and the presence of IES-R diagnostic score (<33 vs. ≥ 33) as a dependent variable. We also tested gender differences in the age main effect using a simple slope analysis.

To establish a threshold, in the DASS-21, we considered the average value was corresponding to 2 or 3 out of 3 in all items (corresponding to "often" and "always" alternatives). This threshold corresponded to values ≥ 42 in the DASS-21. We investigated whether age and gender could affect the risk of showing an above-threshold score; we used two generalized linear models (binomial distribution) with the same independent variables and threshold values as a binomial dependent variable. We also tested gender differences in the age main effect using simple slope analyses.

Finally, to investigate any possible relationships between emotion regulation and scales related to wellbeing, we tested Pearson's correlations between the ERQ subscales (cognitive reappraisal and expressive suppression) and PANAS subscales (PA, NA) DASS-21, IES-R, GHQ, and DUWAL total scores.

A significance level of $p < .05$ was considered for all the analyses. All p-values in the correlation matrix were adjusted for Bonferroni correction.

We performed all statistical analyses in R Studio software (RStudio Inc., 2012). Simple slope analyses were performed with the emmeans package (Lenth, 2020).

3. Results

3.1. Demographic data

A total of 1401 participants completed the full survey (females = 502; mean age = 44.6 ± 10.64 years; age range: 24–66 years), representing a 47% rate of response. Mean age and scores of all analyzed scales are reported in Table 1.

Table 1
Demographic and questionnaire data of the sample of 1401 participants.

Variable	Female (mean ± sd)	Male (mean ± sd)	F (p-value)
Age	42 (10)	46 (11)	35.0 (<.001)***
ERQ – Reappraisal	3.36 (0.65)	3.32 (0.60)	1.21 (.272)
ERQ – Suppression	2.24 (0.88)	2.77 (0.90)	123 (<.001)***
PANAS – Positive	33.54(5.04)	33.76 (5.36)	1.00 (.316)
PANAS – Negative	24.31 (6.06)	21.53 (5.99)	59.6 (<.001)***
DASS-21 – Total	11.67 (8.43)	9.30 (7.82)	24.0 (<.001)***
DASS-21 – Depression	3.52 (3.32)	2.88 (3.22)	10.7 (.001)**
DASS-21 – Anxiety	1.93 (2.52)	1.47 (2.25)	9.16 (.002)**
DASS-21 – Stress	6.22 (3.72)	4.95 (3.48)	36.9 (<.001)***
IES-R – Total	13.58 (12.08)	10.58 (10.41)	20.96 (<.001)***
IES-R – Avoidance	0.58 (0.58)	0.47 (0.52)	10.57 (.001)**
IES-R – Intrusion	0.64 (0.63)	0.49 (0.55)	19.65 (<.001)***
IES-R – Hyperarousal	0.63 (0.64)	0.48 (0.53)	21.40 (<.001)***
GHQ-12	10.72 (5.31)	9.37 (4.72)	21.57 (<.001)***
DUWAS – Total	20.35 (7.03)	19.35 (6.71)	6.79 (.009)**
DUWAS – W.E.	11.44 (2.98)	10.91 (2.88)	9.22 (.002)**
DUWAS – W.C.	10.09 (2.69)	9.48 (2.73)	10.50 (.001)**

ERQ = Emotion Regulation Questionnaire; PANAS = Positive Affect and Negative Affect Scale; DASS-21 = Depression, Anxiety and Stress Scale; IES-R = Impact of Event Scale-Revised; GHQ-12 = General Health Questionnaire; DUWAS = Dutch Work Addiction Scale.
* $p < .05$.
** $p < .01$.
*** $p < .001$.

3.2. ERQ

A statistically significant effect of gender on the expressive suppression subscale of the ERQ: $F_{(1, 1453)} = 123.4$, $p < .001$ emerged. In the simple slope analysis, a significant negative effect of age in male participants ($b = -0.008$, $t_{(1452)} = -2.854$, $p = .004$) was found. At the same time, we found no significant effect of age in female participants ($b = -0.0007$, $t_{(1452)} = 0.170$, $p = .865$). No statistically significant effects emerged for the cognitive reappraisal subscale, neither from main effects nor simple slope analysis (see Table 2).

The results from Pearson's correlation tests between ERQ indices and all the other scales are reported in Table 3. The cognitive reappraisal subscale showed a significant positive correlation with PANAS-PA, and significant negative correlations with PANAS-NA, DASS-21, IES-R, and GHQ scores. On the contrary, the expressive suppression scale showed a significant negative correlation with PANAS-PA and significant positive correlations with DASS-21, IES-R, and GHQ scores.

3.3. PANAS

In the PANAS questionnaire, the model on NA index showed significant effects of both gender ($F_{(1, 1449)} = 59.6$, $p < .001$) and age ($b = -0.066$, $F_{(1, 1449)} = 31.9$, $p < .001$). The gender effect displayed higher NA scores for females than males. The simple slope analysis highlighted a significant negative effect of age in both female ($b = -0.054$, $t_{(1448)} = -2.112$, $p = .035$) and male ($b = -0.071$, $t_{(1448)} = -3.887$, $p < .001$)

Table 2
Summary: Linear models results.

Gender	Age	Negative effect of age in males
F > M	Negative slope	No effect of age in females
ERQ: suppression[a]		ERQ: suppression
PANAS: negative aff.	PANAS:	
	Negative aff. Positive aff.[b]	
DASS:	DASS:	DASS:
Total score	Total score	Total score
Depression	Depression[b]	Depression[b]
Anxiety	Anxiety	Anxiety
Stress	Stress	Stress
	Threshold[b]	
IES-R:	IES-R:	IES-R:
Total score	Total score	total score
Avoidance	Avoidance	avoidance
Hyperarousal	Hyperarousal[b]	
Intrusion		
Clinical cutoff		
GHQ: total score	GHQ: threshold	
Workaholism:	Workaholism:	Workaholism:
Total score	Working	Working excessively
Working excessively	Compulsively	Working compulsively
Working compulsively		

ERQ = Emotion Regulation Questionnaire; PANAS = Positive Affect and Negative Affect Scale; DASS-21 = Depression, Anxiety and Stress Scale; IES-R = Impact of Event Scale-Revised; GHQ-12 = General Health Questionnaire; DUWAS = Dutch Work Addiction Scale.
In the first column, we report all scores in which female participants showed significantly greater values than male participants (except for the first row, since male participants showed greater scores in expressive suppression than female participants). All scores showing a significant negative effect of age are reported in the second column. Therefore, these scores decreased as participants' age increased. In the third and final column, we reported all scores in which we found a significant negative effect of age in males (i.e., scores decreased as age increased) and no significant effects of age in females.
[a] Inverted trend.
[b] Borderline effect.

Table 3
Correlation data between ERQ indices and psychological questionnaires.

Scale	Cognitive reappraisal	Expressive suppression
PANAS – Positive	r = 0.314***	r = −0.153***
	p < .001	p < .001
PANAS – Negative	r = −0.176***	r = 0.014
	p < .001	p = .584
DASS-21 – Total	r = −0.209***	r = 0.076**
	p < .001	p = .004
IES-R – Total	r = −0.101***	r = 0.054*
	p < .001	p = .041
GHQ	r = −0.226***	r = 0.054*
	p < .001	p = .042
DUWAS – Total	r = −0.019	r = −0.019
	p = .475	p = .532

ERQ = Emotion Regulation Questionnaire; PANAS = Positive Affect and Negative Affect Scale; DASS-21 = Depression, Anxiety and Stress Scale; IES-R = Impact of Event Scale-Revised; GHQ-12 = General Health Questionnaire; DUWAS = Dutch Work Addiction Scale.

* p < .05.
** p < .01.
*** p < .001.

participants. For PA index, we found a negative trend towards significance of age (b = −0.026, $F_{(1, 1449)}$ = 3.44, p = .063), while the simple slope analysis displayed no significant effect of age neither in female (b = −0.020, $t_{(1448)}$ = −0.881, p = .378) nor in male (b = −0.029, $t_{(1448)}$ = −1.811, p = .070) participants (see Table 2).

3.4. DASS-21

In the DASS-21, we checked the percentage of participants showing depressive, anxious and stress-related symptoms, considered an average score of 2 or 3 out of 3 (total score ≥ 42; single subscales ≥ 14). 0.54% of participants scored above the critical total score, 1.2% above the depression subscore, 0.54% above the anxiety subscore, 2.1% above the stress subscore. We also tested whether age and gender could influence the odds of showing an average score of 2 or 3 out of 3 (total score ≥ 42). Only age showed a trend towards significance (b = −0.062, deviance = 3.52, p = .061). The main effect of gender was not significant (deviance = 0.023, p = .879) and did not highlight differences in prevalence between male (5/926 = 0.5%) and female participants (3/518 = 0.6%). The simple slope analysis highlighted no significant age effect for either males (b = −0.068, z = −1.574, p = .116) or females (b = −0.056, z = −0.899, p = .369).

When testing the effects of age and gender on the DASS-21 raw scores, we found a significant effect of both age (b = −0.046, $F_{(1, 1440)}$ = 9.49, p = .002) and gender ($F_{(1,1440)}$ = 24.01, p < .001) on the total score. The gender effect showed higher DASS-21 total scores for female than male participants. The simple slope analysis showed that in males DASS-21 total scores decreased as age increased (b = −0.064, $t_{(1439)}$ = −2.596, p = .010). No significant effect of age in females (b = −0.009, $t_{(1439)}$ = −0.271, p = .786) emerged. The same pattern was shown by the anxiety and stress subscales. Anxiety displayed a significant decrease as age increased (age main effect: b = −0.019, $F_{(1, 1440)}$ = 13.57, p < .001), as well as higher scores for female than male participants (gender main effect: $F_{(1, 1440)}$ = 9.16, p = .002). The simple slope analysis highlighted a significant negative age effect in males (b = −0.022, $t_{(1439)}$ = −3.107, p = .002) and a non-significant age effect in females (b = −0.011, $t_{(1439)}$ = −1.085, p = .278). Similarly, stress showed a negative main effect of age (b = −0.017, $F_{(1, 1440)}$ = 8.57, p = .003; gender main effect: $F_{(1, 1440)}$ = 36.89, p < .001). Also in this case, the simple slope analysis showed a significant negative age effect in males (b = −0.024, $t_{(1439)}$ = −2.221, p = .027) but not in females (b = −0.003, $t_{(1439)}$ = −0.217, p = .829). The depression subscale displayed a statistically significant effect of gender ($F_{(1, 1440)}$ = 10.71, p = .001) and a trend towards significance in age (b = −0.010, $F_{(1, 1440)}$ = 3.07, p = .080). The gender effect showed higher

depression scores for female than male participants. The simple slope analysis displayed no significant effects of age for neither males (b = −0.017, $t_{(1439)}$ = −1.742, p = .082) nor females (b = 0.005, $t_{(1439)}$ = 0.349, p = .727) (see Table 2).

3.5. IES-R

The analysis on the IES-R total score displayed a significant effect of both age (b = −0.047, $F_{(1, 1419)}$ = 5.93, p = .015) and gender ($F_{(1, 1419)}$ = 20.96, p < .001). The gender effect showed higher IES-R total scores for female than male participants. The simple slope analysis showed that in males the IES-R total scores decreased as age increased (b = −0.078, $t_{(1418)}$ = −2.269, p = .023), while there is no significant effect of age in females (b = −0.014, $t_{(1418)}$ = 0.283, p = .778). Results showed a similar pattern in the avoidance subscale: the main effect of age (b = −0.003, $F_{(1, 1419)}$ = 9.43, p = .002) displayed lower avoidance scores in older participants, while the main effect of gender ($F_{(1, 1419)}$ = 10.57, p = .001) showed higher avoidance scores in female compared to male participants. The simple slope analysis highlighted a decrease in avoidance scores in male participants (significant age effect in males: b = −0.005, $t_{(1418)}$ = −3.118, p = .002), but not in female participants (non-significant age effect in females: b = 0.00007, $t_{(1418)}$ = 0.031, p = .976). With regard to the intrusion subscale, we found a significant main effect of gender ($F_{(1, 1419)}$ = 19.65, p < .001). The simple slope analysis highlighted no significant age effects for either males (b = −0.003, $t_{(1418)}$ = −1.401, p = .161) or females (b = 0.001, $t_{(1418)}$ = 0.394, p = .694). The hyperarousal subscale showed a significant effect of gender ($F_{(1, 1419)}$ = 21.40, p < .001) and a trend towards statistical significance of age (b = −0.001, $F_{(1, 1419)}$ = 3.07, p = .080). The gender effect showed significantly higher hyperarousal scores for females than males. The simple slope analysis highlighted no significant age effect for either males (b = −0.003, $t_{(1418)}$ = −1.468, p = .142) or females (b = 0.001, $t_{(1418)}$ = 0.338, p = .736) (see Table 2).

When analyzing the IES-R total score, we considered the percentage of subjects scoring above the clinical threshold (total score ≥ 33), indicating the diagnosis of a possible PTSD. In our sample, 5.4% of participants fell above the critical score. We also tested whether age and gender could influence the odds of an actual diagnosis of PTSD (total score ≥ 33) exceeding this threshold. The significant main effect of gender (deviance = 5.81, df = 1419, p = .016) showed that females (7.9%) were more likely to earn a diagnosis of probable PTSD compared with male participants (4.5%). The simple slope analysis highlighted no significant age effect for either males (b = −0.022, z = −1.489, p = .136) or females (b = 0.004, z = 0.226, p = .822).

3.6. GHQ

Analyses on the GHQ index revealed a significant effect of gender ($F_{(1, 1402)}$ = 21.57, p < .001). The simple slope analysis highlighted no significant age effect for either males (b = −0.019, $t_{(1401)}$ = −1.259, p = .208) or females (b = 0.015, $t_{(1401)}$ = 0.699, p = .484) (see Table 2). When analyzing the GHQ threshold score, 15.4% of participants would show a maladaptive psychological reaction in our sample.

3.7. DUWAS

The analyses on the DUWAS total score highlighted a significant main effect of gender ($F_{(1, 1474)}$ = 6.79, p = .009). The simple slope analysis highlighted no significant age effect for either males (b = −0.015, $t_{(1473)}$ = −0.699, p = .485) or females (b = 0.018, $t_{(1473)}$ = 0.620, p = .535).

In the Working Excessively subscale, we found a significant main effect of gender ($F_{(1, 1397)}$ = 9.22, p = .002). The simple slope analysis showed that in males the Working Excessively scores decreased as age increased (b = −0.020, $t_{(1396)}$ = −2.181, p = .029), while there was no significant effect of age in females (b = 0.015, $t_{(1396)}$ = 1.213, p = .225).

The Working Compulsively subscale displayed significant main effects of gender ($F_{(1, 1397)} = 10.50$, p $= .001$), and age (b $= -0.031$, $F_{(1, 1397)} = 25.47$, p $< .001$). As in the previous subscale, the simple slope analysis showed that in males the Working Compulsively scores decreased as age increased (b $= -0.043$, $t_{(1396)} = -5.036$, p $< .001$), while there is no significant effect of age in females (b $= -0.008$, $t_{(1396)} = -0.642$, p $= .521$) (see Table 2).

4. Discussion

The primary purpose of this study was to investigate the presence of depression, anxiety, stress, PTSS, additional minor signs of psychological distress, and workaholism in an Italian adult population during the immediate post-lockdown period. Accordingly, we aimed to highlight demographic and psychological risk factors for a worse outcome. Three main results emerged. First, as hypothesized, mean levels of symptoms of depression, anxiety, and stress levels fell in the normal range. Second, consistent with our hypothesis, a minority of participants showed higher levels of persistent psychological maladjustment. Third, gender, age, and suppression emotional strategy showed to be significant predictors of a worse psychological outcome and a greater proneness to workaholism.

About our first result, our data witnessed a general decrease in adverse psychological consequences compared with data recorded by previous studies during the pandemic outburst (Delmastro & Zamariola, 2020). Compared to PANAS lockdown-related data (Ceccato et al., 2020), our results were similar for negative affect but higher for positive affect. Also, depression, anxiety, and stress symptoms were lower than comparable data from the lockdown period (Fiorillo et al., 2020). The analysis of soft signs of psychological problems revealed a decreasing trend in the rebound phase compared with the pandemic outburst (Fiorillo et al., 2020; Prati et al., 2020). PTSS levels were in the normal range (Bottesi et al., 2015) and lower than during the lockdown period in Italy (Casagrande et al., 2020; Fiorillo et al., 2020; Forte et al., 2020). Thus, most of our sample showed an optimistic attitude and a substantial relief from distress in the post-lockdown period. Overall, the end of the strict lockdown and the consequent partial mitigation of preventive measures, the relaunch of commercial, sportive, and school activities, the summer and holidays would seem to facilitate a psychological post-lockdown upswing.

However, our second result posits that in this reassuringly positive scenery, 15% of our sample showed a significant probability of mental health problems, 5.4% of subjects revealed a possible diagnosis of PTSD, and 2% showed significant stress symptoms. This evidence stresses negative consequences on mental health persisting over time, which cannot be overlooked and compel us not to let our guard down. Given the unprecedented magnitude of the pandemic and its long-lasting presence in our lives, it is crucial to understand its impact on the psychological health of individuals and communities, eventually to plan mental health interventions (Pfefferbaum & North, 2020; Sani et al., 2020).

Our third result raises the question of to what extent younger citizens can tolerate such a sustained stressful situation. There is a consensus that the abrupt isolation of the previous lockdown period has negatively affected younger people more heavily. Thus, we can argue that the sequelae may persist more protracted and more evident than in older subjects, even when objective conditions ameliorate. As a more future-oriented attitude characterizes young adults, they may also be more prone to underestimate the pandemic's lasting effects and expect a closer conclusion of the emergency and a fast return to "normality" (Ernst and D'Argembeau, 2017). There is an expectation that risks are giving place in younger populations to delusion and frustration with the possible protraction of pandemic threat. On the other side, older adults are thought to have efficient, emotional regulation strategies that focus on positive emotions and reduce negative affect (Scheibe & Carstensen, 2010). This attitude was previously described during the crisis outburst

too (Ceccato et al., 2020; Gualano et al., 2020; Jiang, 2020; Lopez et al., 2020; Prati, 2020), and our study shows that it persists despite the enduring social and sanitary alert.

The higher proneness to negative psychological response in females was described during the pandemic, and our data support it even after the lockdown relief. Social and cultural factors may account for this evidence (e.g., the greater involvement of women in familial cares and thus a more intense involvement in challenging the pandemic both at a social and family level).

Also, we found that suppression strategy was related to maladaptive psychological reactions and negative emotional states (Balzarotti et al., 2010; Chirico et al., 2021; Preece et al., 2020; Preece et al., 2021; Vuiller et al., 2021). Interestingly, in our sample, expressive suppression was more frequent in men than in women, but males showed a better psychological adjustment. This apparent paradox may suggest that men are less aware of negative psychological states and more likely to underreport them. These speculations open the question about possible worsening over time, even in males.

Finally, higher exposure to workaholism in women and younger people can be motivated in the former by the need to take care of one's family in a challenging social situation that reflects actual and expected over-responsibility. In previous research, females reported feeling driven to work and exhausted (Buelens & Poelmans, 2004; Spence & Robbins, 1992). The forced and unplanned overlap between family needs and work activities may explain the burden reported by females in our sample. In the latter, an excessive engagement in working activities can be accounted for by a higher achievement orientation and desire for self-esteem (Ng et al., 2007).

Some limitations of the present study have to be stressed. First, as we used convenience samples, the observed data might be strictly related to specific professional groups, and results should be cautiously considered representative of the whole Italian population. Second, the positive psychological reaction pointed out in our study could be accounted for partially by their occupational status. The sample included bank employees who were relatively safe from negative economic consequences due to the pandemic. Third, the cross-sectional design of our survey did not allow us to make direct comparisons between our data and pre-pandemic nor lockdown-related data. Also, the comparisons between our results and data from previous Italian studies investigating the lockdown period are partially reliable, as the populations considered can have different features.

Nonetheless, to make reliable comparisons, we considered Italian studies that adopted the exact measures of psychological adjustment we administered to our sample and compared, where possible, our data with Italian normative data. Finally, the elderly component of our sample was relatively young as only 3% of our sample was over 60 years old, and the highest age in our sample was 66 years old. Moreover, they were still active at work and presumably not socially isolated. Thus, the better adjustment in older participants should be partially biased by these considerations.

5. Conclusions

In conclusion, our study is one of the first contributions to deepening post-lockdown psychological adjustment in the general population, focusing on clinical symptoms and minor signs of psychological distress. A forced revolution has taken place in a few weeks, thus compelling a strenuous effort to adjust. Individuals in both periods had to undergo new demanding work and family adjustments and were pushed to re-arrange behaviors, habits, and even communication styles. Also, the relatively rapid changes in the socio-sanitary situation have encouraged a progressive return to normality. However, these abrupt changes in everyday life may determine relevant distress in the general population, even in the work context. Our results showed that even in relieving conditions, more vulnerable subjects may be more prone to persistent psychological consequences and should focus on specific health

prevention interventions. Identifying individuals or segments of the population, such as women and younger people, at higher risk of psychological backlash can lead to specific primary and secondary health prevention interventions. Finally, the relationship between emotion regulation strategies and psychological adaption to pandemic events can contribute to developing effective intervention strategies of psychological support to the general population. To say, promoting the expression and cognitive processing of emotional experiences, especially in exceptional circumstances, may facilitate their elaboration and a greater probability of resilience and more minor long-term distress consequences.

These arguments are also salient in the working framework. Organizations should develop a road map for facilitating back to the office after such a massive practice of homeworking (Hamouche, 2021; Rueda-Garrido et al., 2020), which may help reduce their stress level and prevent the risk of mental health issues. Organizations should also enhance the complex overlap of work and private dimensions, developing supportive policies and resources and implementing best practices for working from home. This approach would allow to maintain a good level of productivity, achieve the right level of work and life balance, and maintain a good level of physical and mental health (Awada et al., 2021; Magnavita et al., 2021; Okuyan & Begen, 2021).

Declaration of competing interest

None.

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