

Coping strategies and mental health: A web-based survey among the Italian population dealing with COVID-19

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ABSTRACT

Coronavirus disease (COVID-19) continues to be a highly stressful event with a major impact on psychological mental health worldwide. The use of different coping strategies may change the perception of psychological well-being during the pandemic. The present study aims to explore psychological mental health in relation to sociodemographic variables and to analyse the coping strategies of the Italian population in dealing with COVID-19. Implications for clinical interventions are reported. A total of 537 individuals (>18) participated in the survey completing measures of sociodemographic data, general psychological well-being, and coping strategies. Results found that females, students, and unmarried people reported the lowest levels of well-being. Specifically, the coping strategy called positive attitude was positively correlated with psychological well-being, whereas avoidance and social support strategies negatively influenced well-being. Understanding beneficial coping strategies is central to optimally manage the long-lasting of the current COVID-19 situation and may be useful for mental health professionals in treating patients suffering psychologically from the pandemic.

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Introduction

In 2020, the World Health Organization (WHO) announced a new coronavirus named severe acute respiratory syndrome-coronavirus 2 (SARS-CoV-2) and identified it as an international public health emergency (Andersen *et al.*, 2020; World Health Organization, 2020; Mahase, 2020). Soon, most countries adopted restrictive measures to limit the spread of the new coronavirus. Since the outbreak, COVID-19 has changed people's lives, generating fear, loss of structure and routine, physical illness, depression, and stress, potentially with long-term consequences (Dubey *et al.*, 2020; Grasselli *et al.*, 2020; Qiu *et al.*, 2020; Rossi *et al.*, 2021). As a result, social isolation and the development of maladaptive daily routines have mainly impacted on sleep quality, anxiety, and distress (Casagrande *et al.*, 2020). In this regard, an Italian study about the impact of the first lockdown (from 8 March 2020) on mental health highlighted relatively high rates of post-traumatic stress disorder, depression and anxiety symptoms, insomnia, perceived stress, and alcohol dependence syndrome (Rossi *et al.*, 2020). Frustration, loneliness, and worries about the future are common reactions and represent well-known risk factors for several mental disorders (Giallonardo *et al.*, 2020; Gullo *et al.*, 2020; Prati, 2021). Another multicentric Italian study emphasised the need to give special attention to people's

mental health in terms of prevention, showing an increase in admissions of patients reporting suicidal ideation in the post-lockdown period (1 May to 30 June 2020) (Boldrini *et al.*, 2021). Furthermore, due to the long duration of the pandemic, the number of mentally distressed people seeking help from mental health services might be expected to increase in the context of COVID-19.

The mental health of the general worldwide population has been explored in a recent meta-analysis conducted by Schafer *et al.* (2022). The findings indicated psychopathology symptoms during the onset of the COVID-19 pandemic if compared to the pre-pandemic era. In this regard, it is possible that the strategies used to cope with difficulties may influence the perception of well-being. Coping strategies are defined as behavioural and cognitive efforts that help reduce the pressure of a stressful situation (Folkman & Lazarus, 1985). They can be classified within the ‘approach or avoidance’ model (Finset *et al.*, 2002; Roth & Cohen, 1986) and are effective in reducing or avoiding the effects of a stressor. The use of different strategies can change perceptions of psychological well-being: some coping styles may be ineffective and may exacerbate mental health problems, while others may be beneficial in improving psychological well-being.

Several studies have identified a range of predictors (*e.g.*, personality traits) for coping style choice after the outbreak of the pandemic. In Israel, Agbaria & Mokh (2021) found that problem-focused coping was positively correlated with social support, openness, extraversion, conscientiousness, and agreeableness. An Italian study conducted by Sica *et al.* (2021) suggested strong associations between maladaptive personality traits (such as negative affect and antagonism), psychological distress, and coping strategies. These results, in general, demonstrate that, beyond personality traits, individual variations in one’s approach to coping played an important role in determining psychological distress during a highly stressful period such as the pandemic. In addition, Polizzi *et al.* (2020) identified multiple coping strategies (*e.g.*, behavioural activation, acceptance-based coping, mindfulness practice, loving-kindness practices) that were implicated in building stress tolerance and promote resilience and recovery.

On these bases, the aim of the present study was to evaluate: i) if sociodemographic characteristics may influence perceived well-being; and ii) how the latter was influenced by coping strategies in the general Italian population facing the COVID-19 pandemic.

It is now well-known that gender influences the perception of well-being, together with socio-demographic characteristics (Fluharty & Fancourt, 2021). Specifically, based on the existing literature (Babore *et al.*, 2020; Sica *et al.*, 2021), it was hypothesised that social support, as well as problem-focused, positive, and transcendent-oriented strategies may positively influence well-being, while an avoidance-oriented style may negatively affect

it. Indeed, understanding beneficial coping strategies may be crucial for optimally managing the current COVID-19 situation and to help mental health professionals in the treatment of patients suffering psychologically from the pandemic.

Materials and methods

Participants

Of 671 individuals from all over Italy who enrolled in the online study, 134 did not give consent to data processing or did not complete all questionnaires and were eliminated. The final sample consisted of 537 participants. They were aged between 18 and 80 years, mean=40.35 (SD=15.57). There were 395 females (73.6%) and 142 males (26.4%). The descriptive statistics are summarised in Table 1.

Regarding SARS-CoV-2 infection, 483 people (90.1%) did not contract the virus, whereas 53 people (9.9%) did. Of these 53 people, 18 had COVID-19 at the time of the study, whereas 35 had been infected before the study.

Procedures

Participants were recruited through advertisements on social media such as Facebook, Instagram, and LinkedIn. The web-based survey was delivered by Qualtrics between 30 November and 10 December 2020. The questionnaire required about 15 minutes to complete. Participant IP filtering was applied to avoid duplicate responses to the survey. Informed consent was requested at the introduction of the online questionnaire when the survey’s aims, objectives, and procedures were made clear to the participants. Participation was completely voluntary and there were no incentives.

Ethical approval was obtained by the Ethics Commission for Research in Psychology (CERPS) of the Catholic University of Milan (protocol 4-21). All procedures were fully compliant with the guidelines of the 1995 Declaration of Helsinki and its revisions (2013).

Measures

Methodological details on the psychometric instruments used in the study are provided below.

Sociodemographic questionnaire

Socio-demographic information was assessed with a short questionnaire, which included personal characteristics summarised in Table 1 (gender, age, geographic position, education, occupational status, marital status, COVID-19 infection, living situation).

Psychological general well-being

Psychological well-being during the current pandemic was assessed with Psychological General Well-being Index (PGWBI) developed by Dupuy in 1984 in the USA.

The test was validated in Italy by Grossi *et al.* (2002). The PGWBI is a 22-item health-related quality of life questionnaire and it is based on a six-point Likert scale ranging from 0 ('strongly disagree') to 5 points ('strongly agree'). It produces a self-perceived evaluation of psychological well-being referring to the last four weeks of the individual's lifetime, ranging from 0 (worst possible level of well-being) to 110 (maximum level of well-being). Participants were requested to answer each item considering the impact and implications caused by COVID-19.

The total score of the PGWBI study sample was 60.67 (SD=14.51), which is very low if compared to the mean score of the instrument validation sample (M=78; SD=not reported) (Grossi *et al.*, 2002).

In the current study, the Cronbach's alpha of the PGWBI total score of the sample was considered very good ($\alpha=0.91$).

The coping orientation to the problems experienced - New Italian version

Coping strategies were assessed on the Coping Orientation to the Problems Experienced New Italian Version

(COPE-NVI) (Sica *et al.*, 2008). It consists of 25 items measured on a six-point Likert scale from 'I usually don't do this at all' to 'I usually do it a lot'. COPE-NVI evaluates the habitual coping strategy used by an individual in stressful conditions. The inventory consists of five independent dimensions: i) social support (items refer to the search for understanding, information, and emotional release); ii) avoidance-oriented (use of denial, use of substances, behavioural and mental detachment); iii) positive-oriented (attitude of acceptance, containment, and positive interpretation of events); iv) problem-focused (use of active and interpretative strategies); v) transcended-oriented (items refer to religion and prayer).

The internal consistency values of these five dimensions in the present sample exceeded 0.70, except for Avoidance-oriented coping (Cronbach's alpha =0.59).

Statistical analysis

Statistical analysis was performed using SPSS version 25.0. The normality of the distribution of the sample was assumed considering skewness and kurtosis analyses. All the variables included in the statistical analysis

Table 1. Demographic characteristics of the study sample (=537).

Characteristic	Group	N (%)
Gender	Female	395 (73.6%)
	Male	142 (26.4%)
Age (years) M (SD) Min-max	40.35 (15.57) 19-80	537 (100%)
Geographical position	North	310 (57.7%)
	Centre	27 (5%)
	South	198 (36.9%)
	Islands	2 (0.4%)
Education	No title	0 (0%)
	Primary school diploma	0 (0%)
	Middle school diploma	16 (3%)
	High school diploma	169 (31.5%)
	Graduate	234 (43.6%)
	Postgraduate	118 (22%)
Occupational status	Student	76 (14.2%)
	Working student	37 (6.9%)
	Employee	243 (45.3%)
	Self-employed	98 (18.2%)
	Unemployed	40 (7.4%)
	Retired	43 (8%)
Marital status	Married	183 (34.1%)
	Single	239 (44.5%)
	Cohabiting	69 (12.8%)
	Separated/Divorced	37 (6.9%)
	Widower	9 (1.7%)
Did you have COVID-19?	Yes	53 (9.9%)
	No	483 (90.1%)
Living situation	Alone	55 (10.2%)
	With 1 person	149 (27.7%)
	With 2 people	115 (21.4%)
	With more than 2 people	217 (40.4%)

SD, standard deviation.

are within the acceptable range between -2 and $+2$ (Podsakoff *et al.*, 2003).

To test for differences in perceived psychological well-being according to socio-demographic characteristics, a series of univariate analyses of variance (ANOVA) was conducted. In order to analyse the pattern of difference between means, Tukey *post-hoc* tests were used.

To overcome the large gap between people who had COVID-19 and people who did not, the groups were balanced: 53 subjects were randomly selected from the group of people who did not have COVID-19. Once perfectly weighted in terms of number of cases per group (half had COVID-19, half did not), a one-way ANOVA was performed.

A multiple hierarchical regression analysis, controlling for age and gender, was performed to measure the association between psychological well-being and coping strategies.

Results

Regarding gender, the results ($F_{(1,535)}=23.287$ $P<0.001$) showed higher levels of psychological well-being among males ($M=65.61$, $SD=14.34$) than females ($M=58.90$, $SD=14.17$). A main effect was revealed also as regards occupational status ($F_{(1,531)}=4.734$ $P<0.001$). From the Tukey *post-hoc* comparisons, significant differences ($P<0.05$) were found between students ($M=55.53$; $SD=15.33$), working employed people ($M=61.34$; $SD=14.61$), working self-employed people ($M=61.92$; $SD=12.75$), and retired people ($M=67.51$; $SD=14.51$). Overall, students reported the lowest level of psychological well-being.

Regarding marital status, from ANOVA ($F_{(1,531)}=6.265$ $P<0.001$) a main effect emerged. Tukey *post-hoc* comparisons showed differences ($P<0.001$) only between married people ($M=63.98$; $SD=14.15$) and unmarried ones ($M=57.30$; $SD=14.46$).

Concerning people who had COVID-19, a non-significant effect on psychological well-being was revealed from the ANOVA. This means that people who had COVID-19 ($=53$ participants) and people who had not been infected ($=53$) did not differ in levels of psychological well-being.

Additionally, no differences emerged in psychological well-being according to living situation, geographical position, or education level.

Finally, a multiple hierarchical regression analysis was used to test the association between psychological well-being and coping strategies. The model was adjusted for age (continuous) and gender (dichotomous). The results and standardised beta (β) coefficients are summarised in Table 2.

The final model revealed a significant proportion of the variance in psychological well-being (adjusted $R^2=0.231$; $F_{(5,531)}=33.265$; $P<0.001$). Higher scores in Positive-oriented style and lower Avoidance strategies together with lower scores in Social support predicted higher scores in psychological well-being in the study sample. Problem-focused and Transcendent-oriented strategies were excluded from the equation as not statistically significant.

Discussion

The present study aimed to analyse the impact of COVID-19 and coping strategies on Italians' psychological well-being and to gain an understanding of psychosocial responses to the pandemic. Firstly, differences in socio-demographic variables caused significant results for gender, occupation, and marital status. Furthermore, the regression analysis pointed out an association between psychological well-being and some coping strategies, in particular Positive-oriented, Avoidance-oriented, and Social support.

First of all, the mean total well-being score of the study sample was lower than the mean score on which the PGWBI was validated. This may indicate that, in general, the Italian population is experiencing high psychological stress than in the pre-COVID era.

The results provided by the ANOVAs showed very low levels of psychological well-being in women. This first result is in line with other studies that have reported a significantly higher level of distress in women (Lathabhavan, 2021; Rossi *et al.*, 2021). Furthermore, a recent meta-analysis conducted by Wang *et al.* (2020) found a positive association between female gender and higher odds of psychological distress and depression than in

Table 2. Regression analysis for psychological well-being total score (as dependent variable).

	B	β	t	P-value
Age	0.218	0.234	6.157	0.000
Gender	-6.320	-0.192	-5.015	0.000
Positive attitude	0.783	0.278	7.003	0.000
Social support	-0.329	-0.125	-3.175	0.002
Avoidance-oriented	-0.630	-0.180	-4.637	0.000

Adjusted $R^2=0.231$; $F_{(5,531)}=33.265$; $P<0.001$.

men. The reasons for these gender disparities are largely unknown. An explanation of these finding is that women are more likely to be juggling many roles including worker, mother, carer for elderly parents, homemaker, and sometimes breadwinner, thereby experiencing significantly higher stress levels than men (Wang *et al.*, 2020).

The analysis of occupational status showed that students reported lower levels of well-being compared to workers and retired people. This finding has also emerged in previous research (Baloran, 2020; Quintiliani *et al.*, 2021; Ryerson, 2020; Sahu, 2020), which highlights the strong psychological consequences of the pandemic on students due to the limitation of the relationships and the replacement of in person lessons with distance learning. Although the underlying mechanisms are not clear yet, some studies suggested that the lower scores in psychological well-being in younger people could be due to their greater access to COVID-19 information through the media (Mazza *et al.*, 2020; Wang *et al.*, 2020). A meta-analysis on university students and psychological well-being (Davies *et al.*, 2014) pointed out that young people are increasingly withdrawing into digital technologies. This undoubtedly drives the need to think about new modes of care, such as including a mandatory psychologist at school or at university as a post-pandemic mental health support and/or introducing Internet-based interventions about mental illness prevention. These are considered appropriate for students because the Internet is highly accessible, and they also use it to seek health-related information.

Other significant results emerged in differences in the marital status variable, in which married individuals reported higher levels of psychological well-being compared to unmarried ones. These differences may suggest that having a partner during the pandemic can help a person feel supported and improves psychological well-being. This hypothesis is closely related to recent studies conducted on the Italian population, which showed how the home atmosphere and having a partner might have influenced the choice of adopting some specific coping strategies (Mari *et al.*, 2020; Tintori *et al.*, 2020). In this regard, Donato *et al.* (2021) have shown that COVID-19 concerns can be a stimulus to activate the couple as a resource. Indeed, dyadic coping plays a critical role in reducing stress and restoring well-being in stressful situations (Bodenmann *et al.*, 2011; Rusu *et al.*, 2015). These studies, together with the results obtained in the present study, led us to consider the importance of implementing preventive couple interventions so that dyadic coping can become an indispensable resource available in emergency situations.

Finally, the ANOVA indicated that the group of people who suffered from COVID-19 did not significantly differ in terms of well-being from those who did not have the virus. This result is not surprising, as it is in line with previous studies (Brodeur *et al.*, 2021; Rossi *et al.*, 2020). It is conceivable that, regardless of virus infection, people

equally exposed to containment measures experienced similar discomfort. Again, it appears that people exposed to lockdown, regardless of their physical health status, reported boredom, loneliness, worry, and sadness (Brodeur *et al.*, 2021), elements that run counter to psychological well-being.

The multiple hierarchical regression analysis revealed some significant associations between psychological well-being and the different coping strategies adopted by Italians.

First, the greater the Positive-oriented style, the greater the psychological well-being. Recent studies (Gurvich *et al.*, 2021; Sica *et al.*, 2021) have demonstrated that positive coping strategies are associated with a reduced risk of psychological symptoms. A positive mindset can be considered as a functional coping strategy that allows individuals to positively reinterpret negative situations. It is associated with self-efficacy, a better quality of life, and greater psychological well-being (Flesia *et al.*, 2020). Indeed, a Positive-oriented disposition may help to relieve worries and negative thinking generated by the effect of the COVID-19 pandemic.

Second, Avoidance-oriented coping negatively influenced the perception of well-being in this Italian sample. Specifically, avoidance is a behavioural strategy of avoiding negative situations and refusing to deal with problems. This mechanism, after many months of the pandemic, can be a way to avoid the contingent stressful situation. This consideration is in line with previous studies related to pandemics that have found some significant correlations between avoidance strategies and emotional distress (Sim *et al.*, 2010; Taha *et al.*, 2013). In particular, the literature highlights that Avoidant coping is linked to increased PTSD symptom development following a trauma (Caspi *et al.*, 2005; Hooberman *et al.*, 2010). According to Tiet *et al.* (2006), this happens because denying the severity of a problem and trying not to think about it may lead to more recurrent and intrusive recollections of the trauma.

The results show that the study sample tended to use this mechanism considerably and suggest that psychological problems in the general Italian population are likely to increase. Therefore, it is important to start questioning how psychopathology will change after the pandemic to find new treatment directions.

Another coping style that negatively influenced well-being was Social support. This is a controversial finding. According to the literature, some recent studies (Agbaria & Mokh, 2021; Sica *et al.*, 2021) have underlined that social support is not related to psychological distress, but on the other hand, many others (Kotera *et al.*, 2021; Faustino *et al.*, 2020) have emphasised that loneliness, because of the avoidance of the use of Social support, strongly negatively influences levels of psychological well-being.

It is possible that the result of the current study was also influenced by the COPE items (*e.g.*, 'I ask people how they acted when faced with similar experiences'/'I

seek moral support from friends and relatives', *etc.*). These types of questions might not be sufficiently adequate to frame the dimension of social support during the pandemic where everyone was in the same situation, which they had never been experienced before, *i.e.*, facing COVID-19. In this context, maybe it was not easy to support each other. Moreover, social support implies in some way direct contact with others, who may themselves be potential transmitters of the virus. Therefore, the people in the sample might have considered this to be a risk factor. However, since humans are by nature involved in social bonding, it is important to better understand this aspect with further studies. The perception of social support as a resource could be restored through specific interventions where needed. A clinical implication could therefore be considering group therapy, as demonstrated in a recent Italian study conducted in March 2020 (Brusadelli *et al.*, 2020). The authors proposed support group interventions to address the crisis caused by the pandemic; it was found that, thanks to the group experience, the study sample learned to focus on the here and now, to tolerate difficulties, and to understand their feelings.

The other two coping strategies, *i.e.*, Problem-focused and Transcendent-oriented, were not statistically significant.

The relationship between the Problem-focused style and psychological well-being during periods of high uncertainty is still unclear (Sica *et al.*, 2021). In fact, the adoption of a problem-solving strategy, usually associated with more adaptive outcomes (MacCann *et al.*, 2011), may not be suitable to deal with the emergency due to the unpredictable nature of the virus. Thus, people may feel unable to control the virus and the subsequent impact on their lives.

Regarding transcendent-oriented coping, it is possible that, due to the restrictions and the perceived risks, people may be less involved in praying and religious practices. Furthermore, the tool (COPE) may not be suitable for assessing the religious dimension during a pandemic. Indeed, a recent study (Kowalczyk *et al.*, 2020), contrary to the findings of this study, demonstrated that exposure to COVID-19 enhances faith and spirituality in general. Nevertheless, the results of the present study need further exploration with additional research.

This study presents some limitations that need to be mentioned. First, this study was conducted online, limiting the possibility to control for external variables or temporal dynamics. Second, the measures were all self-report clinical questionnaires. In particular, some COPE items may not be appropriate to detect the above discussed variables (Social support and Transcendent-oriented coping) during the pandemic period. In addition, other factors that could potentially contribute to the associations between coping style and well-being (*e.g.*, personality traits, presence of psychopathological diagnosis) were not examined, and these factors could be influential in the

development of preventive and/or supportive mental health actions. Another potential limitation is the fact that the sample was predominantly female (73.6%), thereby limiting the generalisability concerning the differences that emerged according to gender.

Conclusions

In Italy, COVID-19 still has a strong negative impact on people's mental health. As suggested by Kim & Crimmins (2020), it is fundamental to understand the factors motivating people to adopt recommended behavioural changes in response to the coronavirus pandemic, and how they differ in a non-clinical population. The findings of the current study could help therapists in clinical practice in orienting their patients towards the awareness that the use of maladaptive coping strategies (*e.g.*, avoidance-oriented) can fuel negative symptoms such as anxiety or depression.

It is also important to consider the possible ineffectiveness of social support in this frame and the need to create internet-based health promotion interventions where people can confront themselves without necessarily having to face each other with the fear of infection caused by the spread of the virus. Thus, the findings may be crucial in the development of policies and strategies for mental health professionals to promote useful strategies to cope with the long duration of the pandemic.

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