# COVID-19 Related Negative Life Events and Psychological Distress: The Role of Emotion and Cognitive Emotion Regulation Strategies

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## Abstract

This cross-sectional study was conducted to determine the potential role of hopelessness, helplessness, and cognitive emotion regulation strategies in the relationship between adverse life events and psychological distress among Turkish adults. Participants' ages ranged from 18 to 64 years old. The majority were female. From June 21, 2021, to August 18, 2021, 432 participants responded to an online questionnaire that included the Negative Life Events List (NLEs), the Helplessness, and Hopelessness, and the Cognitive Emotion Regulation Strategies Scale (CERS) and General Health Questionnaire-12. The findings suggest that the NLEs, directly and indirectly, predict psychological distress through helplessness and hopelessness. The direct and indirect predictive effects of the NLEs on psychological distress varied depending on the level of CERS. The current study's findings have contributed to our understanding of the mechanisms underlying the relationship between the NLEs and psychological distress during pandemics.

It is unclear when the COVID-19 pandemic, which emerged in China in December 2019 and soon became a global health problem, will end. The pandemic has caused significant changes in the lives of individuals. Exposure to adverse life events such as isolation, limitation of social relationships, financial losses, job losses, closure of workplaces, or dismissal caused significant mental health problems (Graupensperger

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et al., 2021; Li et al., 2020). For example, according to the Life Satisfaction Survey of the Turkish Statistical Institute (TUIK), the proportion of individuals aged 18 and over who said they were happy dropped from 52.4 in 2019 to 48.2 percent in 2020 (TUIK, 2021). From March 2020, when the first case was recorded, to March 2021 in Turkey, 99,588 workplaces and 40,735 companies were closed, and approximately 89,000 people remained unemployed in this process. In parallel with this situation, the use of antidepressants in society has increased five times (Cumhuriyet, 2021). Therefore, these indicators show that the epidemic negatively affects individuals physically, economically, socially, and psychologically. The meta-analysis of Lasheras et al. (2021) on the prevalence of depression also showed that the depression rate in the pandemic was 25%. In another meta-analysis study, Salari et al. (2020) found the prevalence of stress to be 29.6%, depression to be 33.7%, and anxiety to be 31.9%. Results of research from different countries also confirm that COVID-19 affects the psychological health of people worldwide at different levels (Bäuerle et al., 2020; Choi et al., 2020; Dozois, 2021; Hyland et al., 2020; Mazza et al., 2020; Özdin & Özdin, Özdin & Bayrak Özdin, 2020; Shevlin et al., 2020; Tang et al., 2021). While there is extensive literature examining the role of COVID-19 in psychological distress, there exists considerably less research examining what factors might play a role in the relationship between negative life events and psychological distress. Therefore, identifying the potential mediating or moderating mechanisms that play a role in the psychological impact of COVID-19 can provide important information to prepare intervention programs and guide field workers to help individuals suffering from psychological distress in this process. This study examines possible mediating factors such as feelings of hopelessness and helplessness, and protective mechanisms such as cognitive emotion regulation.

The conceptualization of helplessness and hopelessness includes some similarities as well as differences (Henkel et al., 2002). Hopelessness is defined by Beck (1973) as a cognitive state characterized by negative thoughts and expectations for the future, while Seligman (1975, p.9) defines helplessness as "the psychological state that frequently results when events are uncontrollable." Lester (2001) underlines that hopelessness and helplessness are related but distinct cognitive responses to stress. In this context, helplessness is related to an individual's competence and potential to cope with difficulties. At the same time, hopelessness is the belief that current conditions will not change in the future from a pessimistic perspective (Gençöz et al., 2006). For example, individuals experiencing helplessness believe that their actions do not affect a particular outcome.

In contrast, those experiencing hopelessness believe that their actions can have an effect but have a negative effect (Ejdemyr et al., 2021). Swendsen (1997) found that hopelessness was more dominant in depression and that the feeling of helplessness was more pronounced than hopelessness in anxiety disorders. Similarly, Vatan and Dağ (2009) reported that hopelessness predicted depressive symptoms, anxiety, and somatization, while helplessness significantly predicted only low self-worth and workplace-related problems. Hopelessness and helplessness are also parallel concepts. In this framework, individuals who perceive themselves as having lost control over their environment are more likely to have pessimistic expectations about the future (Mercer & Kane, 1979). Earlier studies reported helplessness and

hopelessness correlated with passive and depressive reaction patterns (Odéen et al., 2013) and suicidal ideation (Leisther & Walker, 2007).

Hopelessness can be considered an essential factor in affecting individuals with negative experiences related to the disease during the pandemic. Parada-Fernandez et al. (2020) conceptualized hopelessness as a factor of vulnerability in the face of stressful life events. Negative experiences such as economic difficulties encountered during the pandemic, death of loved ones, and interruption of daily routines and plans due to isolation played an essential role in people's hopelessness levels. Indeed, Elliot and Frude (2001) have reported that stress factors such as health problems, changes in work or social activities, and new living conditions predict hopelessness. Also, financial difficulties, job loss, illness, loss of a loved one, isolation, and social distance contributed to the increased hopelessness (Amendola et al., 2021). Previous studies have reported that hopelessness is related to anxiety (Amendola et al., 2021; Hacimusalar et al., 2020; Kazan Kızılkurt et al., 2021; Lee, 2020), depression (Amendola et al., 2021; Pretorius, 2021), fear of COVID-19 (Saricali et al., 2020), stress from COVID-19 (Olah & Ford, 2021), and well-being (Sønderskov et al., 2020). Parada-Fernández et al. (2021) emphasized that negative attributions to the experiences during the pandemic process could deepen the hopelessness experienced by the individual and make him/her fragile due to difficulty in coping with this process (Abramson et al., 1989). Considering all these issues, one may expect that hopelessness could directly or indirectly affect an individual's mental health. In other words, the individual may fall into despair due to the adverse life events experienced during the pandemic. Consequently, a high level of hopelessness can cause deterioration of an individual's mental health.

Like hopelessness, another possible variable that may cause individuals' psychological health due to the impact of adverse life events is the feeling of helplessness. The sudden intrusion of the coronavirus epidemic affected the world and people's lives and changed lifestyles. This situation resulted in passivization and excessive uncertainties in the face of the epidemic, which may have caused people to be unable to control their lives, and thus feel helpless. Recent studies have reported that the level of helplessness is high during the pandemic (Al Dhaheri et al., 2021; Amerio et al., 2020; El-Zoghby et al., 2020). For example, in a large-scale study covering 18 countries in the Middle East and North Africa, Al Dhaheri et al. (2021), found that approximately 45.2% of respondents felt helpless due to the pandemic.

Additionally, Mulkincer (1994) states that helplessness is a psychological state associated with depression, anxiety, and negative psychological functioning. Many researchers have supported this view. Recent studies (e.g., Lifshin et al., 2020; Özçevik-Subaşi et al. 2020) showed that a sense of helplessness in a pandemic was related to situational anxiety, fear of being infected (Liftshin et al., 2020), anxiety (Özçevik-Subaşi et al.,2020), depressive symptoms (Amerio et al., 2020), loneliness and depression (Khan et al., 2020). In other words, when individuals cannot cope with the adverse life events experienced during the pandemic, they may experience helplessness. A high level of helplessness may cause deterioration of the individual's mental health. All in all, one may suppose that another important mechanism that can mediate the effects of adverse life events on the individual's psychological health may be feelings of helplessness.

Like feelings of hopelessness and helplessness, cognitive emotion regulation strategies (CERS) used by the individual may also serve as a moderating mechanism in the relationship between adverse life events and psychological distress. Garnefski et al. (2001) suggest that regulating emotions through cognitive processes helps us to manage, regulate and control our emotions during and after adverse life events. Cognitive emotion regulation is defined as coping strategies individuals use to manage their emotions when exposed to stressful life events or after stressful events (Garnefski et al., 2001). Previous research has conceptually addressed cognitive emotion regulation strategies from nine different perspectives: self-blame, acceptance, rumination, positive refocusing, refocus planning, positive reappraisal, putting into perspective, catastrophizing, and blaming others (Garnefski et al., 2001). Among these, self-blame, blaming others, rumination, and catastrophizing are maladaptive strategies. Accepting, re-planning, positive refocusing, positive reappraisal, and putting them into perspective are considered adaptive strategies (Garnefski et al., 2001). People can use positive strategies such as refocusing on planning and putting it into perspective or negative strategies such as self-blame and catastrophe. While positive strategies make it easier for the individual to cope with problems, negative strategies may make it difficult to adapt.

In this vein, Min et al. (2013) suggested that more use of adaptive strategies and less use of maladaptive strategies contribute to resilience in patients with anxiety and depression. For example, Garnefski and Kraaij (2007) stated that maladaptive emotion regulation strategies such as self-blame, catastrophizing, and rumination significantly affected the emergence of depression and anxiety symptoms. Similarly, Damaradzka and Fajkowska (2018) found that anhedonic depression is negatively related to adaptive strategies and positively associated with maladaptive strategies. In contrast, using functional strategies such as positive refocusing increased the positive emotions felt in individuals' lives (Schroever et al., 2008). Many recent studies have shown that cognitive emotion regulation is an essential predictor of depression, anxiety, and stress during the pandemic (Riaz et al., 2021; Solbakken et al., 2021; Wang et al., 2021). For example, in their longitudinal study, Solbakken et al. (2021) found that emotion regulation difficulties predicted psychological problems such as depression and anxiety experienced during the pandemic. Apart from the direct link between emotion regulation strategies and distress outcomes, some research has focused on its protective effect on psychological distress. For example, Jungmann and Witthhöft (2020) revealed that adaptive emotion regulation strategies moderated the relationship between feeling well informed about COVID-19 and anxiety regarding being infected.

Similarly, Muñoz-Navarro et al. (2021) reported that both adaptive and maladaptive cognitive emotion regulation strategies moderated the impact of anxiety about COVID-19 on generalized anxiety. In sum, one may suppose that cognitive emotion regulation strategies (CERS) can be expected to play a moderating role in the relationship between negative life events and psychological distress. In other words, the relationship between two variables may vary according to the CERS used by the individual. These strategies may also act as a moderating mechanism in the relations between adverse life events, psychological distress, helplessness, and hopelessness. To put it more explicitly, the possible mediating role of helplessness and

hopelessness in the relationship between negative life events and psychological distress can vary depending on whether the emotion regulation strategy is adaptive or maladaptive.

## The Current Study

The current study examines the roles of feelings of hopelessness and helplessness in mediating the relationship between negative life events and psychological distress and the moderating role of cognitive emotion regulation strategies as a protective factor.

A considerable number of studies in the literature have revealed the negative effects of the pandemic on the individual's mental health. Some studies have focused on the prevalence of psychological distress, while others have focused on the direct impact of fear or anxiety of COVID-19 on an individual's mental health. The evidence reviewed here suggests that the pandemic process does not necessarily cause psychological distress since individuals experience it differently. This indicates that different mechanisms may play a role in this relationship. However, the issue of which intermediate mechanisms play a role in the effects of negative life events on the individual's psychological health remains unclear. Some mechanisms may help to explain the association between negative life events and psychological distress or what mediates or moderates this relationship. Indeed, earlier findings revealed that hopelessness (Uçar et al., 2019) and helplessness (Madubata et al., 2018; Sparr & Sonnentag, 2008) function as mediating variables. Therefore, feelings of hopelessness and helplessness can be expected to play a potential mediator role in the relationship between adverse life events and psychological distress. In other words, as negative life events increase during the pandemic, the hopelessness and helplessness of individuals who cannot cope with this process may increase, and the increased feelings of hopelessness and helplessness may cause psychological distress. All studies reviewed here support the hypothesis that hopelessness and helplessness might mediate the link between COVID-19-related NLEs and psychological distress. Thus, we hypothesized that hopelessness would mediate the relationship between COVID-19-related NLEs and psychological distress (Hypothesis 1). In the same vein, we hypothesized that helplessness would mediate the relationship between COVID-19-related NLEs and psychological distress (Hypothesis 2).

Overall, evidence shows that cognitive emotion regulation strategies predict psychological distress such as anxiety and depression (e.g., Riaz et al., 2021) and play a moderator role in the relationship between feeling well informed about COVID-19 and anxiety regarding being infected (Muñoz-Navarro et al., 2021). Given these relationships, adaptive emotion regulation strategies might protect the relationship between COVID-19-related NLES and psychological distress. In other words, the relationship between COVID-19-related NLES and psychological distress would be weaker depending upon adaptive emotion regulation strategies. On the other hand, given its links to psychological distress and maladjustment, maladaptive emotion regulation strategies may increase vulnerability to psychological distress in response to stress. This means that the association between Covid-19-related NLES and

psychological distress will be even stronger in the context of maladaptive emotion regulation strategies. Thus, we hypothesized that adaptive and maladaptive cognitive emotion regulation strategies would moderate the link between COVID-19-related NLEs and psychological distress (Hypothesis 3).

Finally, Garnefski et al. (2001) stated that regulating emotions through cognitions helps people to control their emotions after or during a stressful event. Garnefski et al. (2002) found that adjustment in psychological distress arising from the experiences of trauma or stressful life events is related to the cognitive emotion regulation strategies that individuals use to cope with these events. Given all these explanations and findings, it can be claimed that the effect of NLEs on hopelessness or helplessness would vary depending on the cognitive emotion regulation strategy. For example, individuals using adaptive cognitive emotion regulation strategies in the face of negative life events may have lower levels of helplessness or hopelessness, while individuals using maladaptive cognitive emotion regulation strategies may have higher levels of helplessness or hopelessness. Accordingly, the indirect impact of NLEs on psychological distress through hopelessness/helplessness may vary. In other words, the strength of the direct or indirect relationships between these variables may differ depending on whether the emotion regulation strategy is adaptive or maladaptive. Therefore, the indirect impact of the NLEs on psychological distress through hopelessness or helplessness might differ depending on cognitive emotion regulation strategies. Thus, we hypothesized that the indirect effect of the COVID-19-related life events on psychological distress through feelings of hopelessness or helplessness would vary depending on adaptive/maladaptive cognitive emotion regulation strategies (Hypothesis 4; Fig. 1).

## Method

### Participants

A total of 432 adults (77.8% were women), ranging from 18 to 64 years old, were included in this study. The mean age of the participants was 33.76, and the standard deviation was 10.56. We created a web-based survey using an online platform (doc.
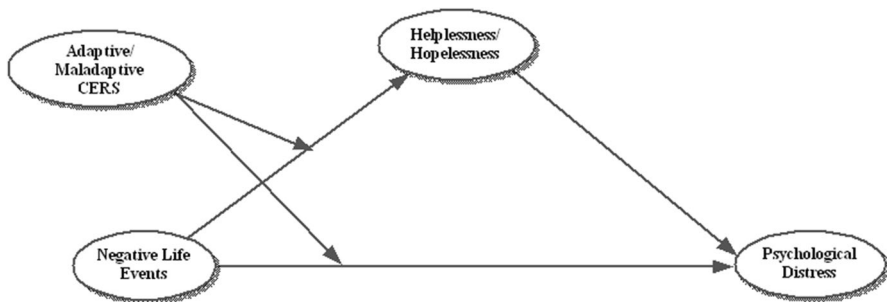


**Fig. 1** Moderated mediation model

google.com/forms) available from May 26 to June 13, 2021. We invited people to participate in the study using professional and social networks (e.g., email, WhatsApp). The participants were provided study content and informed that they could withdraw from the study at any time, for any reason.

## Instruments

### General Health Questionnaire-12 (GHQ-12)

We used the GHQ-12 to determine the general mental health status of participants. The GHQ-12 was developed by Goldberg and Williams (1988) and adapted to Turkish culture by Kılıç (1996). The GHQ-12 is a self-reported screening tool that includes 12 items to measure the severity of mental problems over the past few weeks using a 4-point Likert-type scale (from 0 to 3). Goldberg et al. (1997) reported that Cronbach's alpha coefficient of GHQ-12 varied between 0.82 and 0.84. Kılıç (1996) reported that GHQ-12 has good psychometric properties for the Turkish sample. The alpha coefficient for the current study was 0.92.

### Negative Life Events During the COVID-19

The COVID-19-related Negative Life Events Checklist (COVID-19-related NLEs) was used to determine the adverse life events the participants were exposed to during the COVID-19 period (Balkis and Duru, 2022). The NLE Checklist includes two response options from 0 (no) to 1 (yes) and consists of a 23-item negative life events checklist. Life events include economic, social, and health events. Participants were asked to report the number of adverse life events they were exposed to during COVID-19. Sample items are "Hospitalization due to coronavirus" and "Death of a family member due to the coronavirus." "Job loss due to covid-19". " Loneliness and being away from family " and " Having troubles with an important person or persons in your life." The coefficient alpha was 0.81 with the current sample.

### Cognitive Emotion Regulation Questionnaire-18 (CERQ-18)

The CERQ-18was utilized to determine the participants' cognitive emotion regulation strategies. The CERQ-18 was developed by Garnefski and Kraaij (2006). It consisted of 18 items to assess nine different cognitive strategies (self-blame, acceptance, rumination, positive refocusing, positive reappraisal, refocusing on planning, putting into perspective, catastrophizing, and blaming others) that people use to regulate their emotions when exposed to a stressful life event. The CERS-18 is a five-point Likert-type scale. The participants were asked to rate each item from 1 (Almost never) to 5 (Almost always).). Garnefski and Kraaij (2006) reported Cronbach's alpha coefficients of the scale ranged between 0.67 and 0.81. The Turkish version of CERS-18 was used in the present study (Cakmak & Cevik, 2010). Çevik and Çakmak (2010) reported that Cronbach's alpha

reliability coefficients obtained from the CERQ-TR short-scale ranged between 0.63 and 0.74, and alpha ranged between 0.65 and 0.78 for the original scales. The Cronbach's alpha coefficients of the scale ranged between 0.77 and 0.95 for the current sample.

## Hopelessness and Helplessness Scale (HHS)

We developed a novel scale to assess the participants' levels of hopelessness and helplessness. The HHS consists of 12 items with a five-point Likert-type scale ranging from 1 (Almost never) to 5 (Almost always). Some sample items are "I do not believe the future will be better than today" (for hopelessness) and "I feel trapped when faced with a problem" (for helplessness). We first applied the 12-item scale to 150 participants who were not included in the sample of this study. We examined the factorial structure of the HHS via exploratory factor analyses. The findings from factor analyses indicated that two factors explained 72.939% of the total variance with an eigenvalue greater than 1. The first and main factor (Helplessness – 6 items) has 7.1581 eigenvalues and explains 59.843% of the total variance. Then, the second factor (Hopelessness – 6 items) has 1.578 eigenvalues and explains 13.146% of the total variance. The inter-reliability coefficients were $\alpha = 0.89$ for hopelessness, $\alpha = 0.95$ for helplessness. Additionally, Cronbach's alpha coefficient of the scale was $\alpha = 0.94$.

## Data Analysis

We analyzed all data using SPSS.22 and PROCESS macro (Hayes, 2013). In the first step, we performed descriptive statistics. In a second step, we executed mediation analyses to test adverse life events' direct and indirect effects on psychological distress using bootstrapping techniques (5000 bootstrapped samples) performed in the PROCESS macro for SPSS (Model 4; Hayes, 2013). To understand the direct and indirect effects of the independent variable (COVID-19 related NLES) on the dependent variable (psychological distress), the mediation model (Model 4) was tested two times – once for each mediator (helplessness, hopelessness). In the third step, we performed moderation analyses to test the role of cognitive emotion regulation strategies (Model 1) on the association between NLEs and psychological distress. The moderation model was tested two times, once for each moderator (general adaptive CERS and maladaptive CERS). In the fourth step, we conducted moderated mediation analyses to examine whether the indirect predictive impact of negative life events on psychological distress via hopelessness and helplessness depends on the specific value of cognitive emotion regulation strategies (Model 8). The moderated mediation model was tested two times for each moderator (total score of adaptive CERS and maladaptive CERS). Finally, we interpreted whether the indirect effect of negative life events associated with COVID-19 on psychological distress was significant by performing the bootstrapped confidence interval (CI).

## Findings

### Preliminary Analysis

Table 1 presents the variables' means, standard deviations, skewness, and kurtosis. The finding from correlation analysis showed that psychological distress was positively correlated to the COVID-19-related NLEs, sense of helplessness, hopelessness, maladaptive CERS, and negatively related to adaptive CERS.

### Testing the Role of Hopelessness

We tested the role of hopelessness in the relationship between negative life events associated with COVID-19 and psychological distress using Hayes' (2013) PROCESS macro (Model 4). The findings from mediation analyses indicated that (a) negative life events predicted hopelessness ($p < 0.001$) and psychological distress ($p < 0.001$), (b) hopelessness predicted psychological distress ($p < 0.001$), and (c) negative life events indirectly predicted psychological distress through hopelessness ($ab = 0.17$, $SE. = 03$, 95% of $CI = 0.11 - 0.23$). This finding suggested that hopelessness partially mediated the relationship between negative life events and psychological distress (Table 2).

### Testing the Role of Helplessness

We then examined the role of helplessness in the relationship between negative life events associated with COVID-19 and psychological distress using Hayes' (2018) PROCESS macro (Model 4). The current findings displayed that a) negative life events predicted helplessness ($p < 0.001$) and psychological distress ($p < 0.001$), (b) helplessness predicted psychological distress ($p < 0.001$), and (c) negative life events indirectly predicted psychological distress through helplessness ($ab = 0.29$, $SE. = 04$, 95% of $CI = 0.22 - 0.37$). This finding suggested that helplessness partially mediated the relationship between negative life events and psychological distress (Table 2).

### Testing the Moderating Role of Cognitive Emotion Regulation Strategies (CERS)

We tested the moderating role of the adaptive and maladaptive CERS in the relationship between negative life events and psychological distress in two steps using Hayes' (2018) PROCESS macro (model 1). First, we tested the moderating role of general adaptive CERS in the relationship between negative life events and

**Table 1** Descriptive statistics and correlation analysis ($N = 432$)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-NLE | – | .67** | .36** | .43** | .30** | .23** | .10* | .24** | .18** | −.08 | .06 | −.14** | −.10* | −.10* | −.01 |
| 2-PD | | – | .48** | .61** | .45** | .39** | .13** | .37** | .20** | −.23** | .08 | −.28** | −.25** | −.28** | −.08 |
| 3-HP | | | – | .65** | .39** | .26** | −.10 | .44** | .24** | −.21** | .05 | −.17** | −.26** | −.28** | −.08 |
| 4-HLP | | | | – | .54** | .45** | .03 | .50** | .31** | −.30** | .08 | −.29** | −.36** | −.35** | −.13** |
| 5-MCERS | | | | | – | .72** | .38** | .77** | .59** | −.12* | .22** | −.27** | −.12* | −.25** | −.003 |
| 6-SB | | | | | | – | .10* | .38** | .22** | −.21** | .17** | −.33** | −.21** | −.23** | −.13** |
| 7-RUM | | | | | | | – | .06 | −.13** | .35** | .35** | .10* | .31** | .20** | .24** |
| 8-CATS | | | | | | | | – | .40** | −.19** | .05 | −.26** | −.14** | −.29** | −.03 |
| 9-OB | | | | | | | | | – | −.20** | −.01 | −.15** | −.22** | −.26** | −.07 |
| 10-ACERS | | | | | | | | | | – | .49** | .73** | .72** | .79** | .74** |
| 11-ACPT | | | | | | | | | | | – | .09 | .13** | .16** | .28** |
| 12-PREF | | | | | | | | | | | | – | .46** | .53** | .41** |
| 13-PREA | | | | | | | | | | | | | – | .57** | .37** |
| 14-ROP | | | | | | | | | | | | | | – | .48** |
| 15-RIF | | | | | | | | | | | | | | | – |
| Mean | 8.05 | 14.85 | 16.98 | 13.95 | 22.63 | 4.77 | 7.92 | 5.51 | 4.43 | 35.36 | 6.71 | 6.20 | 7.75 | 7.30 | 7.40 |
| SD | 4.22 | 7.18 | 6.29 | 6.26 | 4.94 | 2.14 | 1.79 | 2.13 | 1.83 | 6.72 | 2.02 | 2.06 | 1.76 | 1.97 | 1.94 |
| Skewness | .185 | .556 | .074 | .568 | .321 | .575 | −.732 | .383 | .502 | −.161 | −.184 | .011 | −.589 | −.475 | −.356 |
| Kurtosis | −.132 | −.187 | −.723 | −.401 | .182 | −.316 | .177 | −.499 | −.065 | .142 | −.572 | −.566 | .091 | −.208 | −.421 |

*NLF* negative life events, *PD* psychological distress, *HP* hopelessness, *HLP* helplessness, *MCERS* maladaptive emotion regulation strategies, *SB* self-blame, *RUM* rumination, *CATS* catastrophizing, *OB* other-blame, *ACERS* adaptive emotion regulation strategies, *ACPT* acceptance, *PREA* positive reappraisal, *PREF* positive refocusing, *ROP* refocusing on planning, *RIF* putting into perspective

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

**Table 2** Mediation statistics ($N = 432$)

| | Direct effect (B) | SE | Indirect effect (95% CI) | Total effect | t |
|---|---|---|---|---|---|
| *Mediating variable: Hopelessness outcome: Psychological distress* | | | | | |
| NLEs→HOP | .53[.40 -.67] | .07 | – | 53[.40 -.67] | 7.97*** |
| NLEs→PD | .97[.85 -1.09] | .06 | .17[.11 -.23] | 1.14[1.01 -1.26] | 18.63*** |
| HOP→PD | .31[.23 -.39] | .04 | | .31[.23 -.39] | 7.61*** |
| *Mediating variable: Helplessness outcome: Psychological distress* | | | | | |
| NLEs→HELP | .64[.51 -.77] | .06 | - | 64[.51 -.77] | 9.90*** |
| NLEs→PD | .84[.73 -.96] | .06 | .29[.22 -.37] | 1.14[1.02 -1.26] | 18.64*** |
| HELP→PD | .46[.38 -.54] | .04 | | .46[.38 -.54] | 11.53*** |

Unstandardized regression coefficients were reported. Bootstrap sample size = 5000

*NLEs* negative life events, *PD* psychological distress, *HELP* helplessness, *HOP* hopelessness

***$p < .001$

psychological distress. Next, we examined the moderation role of general maladaptive CERS in this relationship (Table 3, Fig. 2a, b, and c).
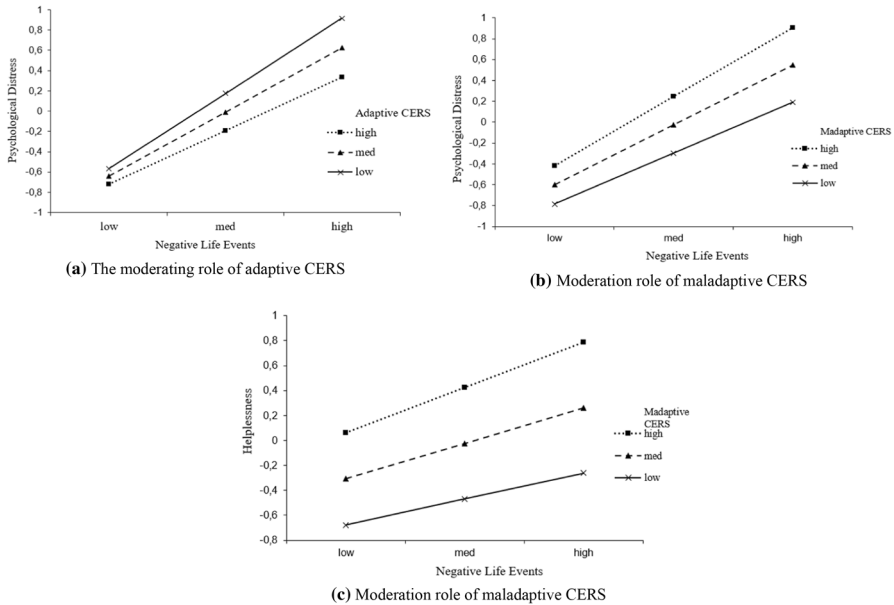
*Concerning adaptive CERS*, moderation analysis indicated that psychological distress was significantly predicted by negative life events ($p < 0.001$), adaptive CERS

**Table 3** Moderation statistics ($N = 432$)

| Outcome: Psychological distress | | | | | |
|---|---|---|---|---|---|
| *Predictor variables* | B | Boot *CI* | SE | t | Model $R^2$ |
| Negative life events(NLEs) | .98 | [.96 – .1.10] | .06 | 16.29*** | .52*** |
| Maladaptive CERS | .39 | [.29 – .49] | .05 | 7.71*** | |
| NLEs xMaladaptive CERS | .03 | [.01 – .05] | .01 | 2.76** | |
| Negative life events(NLEs) | 1.02 | [.91 – .1.14] | .06 | 17.23*** | .51*** |
| Self-blame | .78 | [.55 – 1.01] | .11 | 6.69*** | |
| NLEs x self-blame | .07 | [.02 – .12] | .03 | 2.65** | |
| Negative life events(NLEs) | 1.08 | [.96 – .1.20] | .06 | 18.07*** | .49*** |
| Adaptive CERS | -.20 | [-.27 – −.12] | .04 | -5.30*** | |
| NLEs x adaptive CERS | -.03 | [-.04 – −.01] | .01 | -3.31** | |
| Negative life events(NLEs) | 1.08 | [.96 – .1.19] | .06 | 18.08*** | .49*** |
| Positive refocusing | -.66 | [-.90 – −.42] | .12 | −5.41*** | |
| NLEs x positive refocusing | -.08 | [-.13 – −.02] | .03 | −2.79** | |
| Negative life events(NLEs) | 1.07 | [.95 – .1.18] | .06 | 18.12*** | .51*** |
| Positive reappraisal | -.79 | [-1.03 – −.55] | .12 | −6.36*** | |
| NLEs x positive reappraisal | -.09 | [-.15 – −.04] | .03 | −3.34*** | |
| Negative life events(NLEs) | 1.09 | [.97 – .1.21] | .06 | 18.19*** | .49*** |
| Planning | −.73 | [-1.01 – −.45] | .14 | −5.13*** | |
| NLEs x planning | -.06 | [-.12 – −.01] | .03 | −2.18* | |

Unstandardized regression coefficients were reported. Bootstrap sample size = 5000

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

**(a)** The moderating role of adaptive CERS



**(b)** Moderation role of maladaptive CERS



**(c)** Moderation role of maladaptive CERS

**Fig. 2** **a** The moderating role of adaptive CERS **b** Moderation role of maladaptive C **c** Moderation role of maladaptive CERS

($p < 0.001$) and their interactions ($B = -\text{--}.03$, $SE = 0.01$, $\Delta R^2 = 0.01$, $p < 0.001$, 95% of $CI = -0.04$, -0.01). Similarly, we reperformed moderation analyses for each adaptive CERS. The findings of our analysis showed that (a) the interaction of NLE associated with COVID-19 and positive refocusing ($B = -\text{--}.08$, $SE = 0.03$, $\Delta R^2 = 0.01$, $p = 0.006$, 95% of $CI = -0.13, -0.02$), (b) the interaction of NLE associated with COVID-19 and positive refocusing reappraisal ($B = -\text{--}.09$, $SE = 0.03$, $\Delta R^2 = 0.01$, $p < 0.001$, 95% of $CI = -0.15$, $-0.04$), (c) the interaction of NLE associated with COVID-19, and refocusing on planning ($B = -\text{--}.06$, $SE = 0.03$, $\Delta R^2 = 0.01$, $p = 0.030$, 95% of $CI = -0.12$, $-0.01$) significantly predicted psychological distress.

*Concerning maladaptive CERS,* the findings gathered from moderation analysis indicated that psychological distress was significantly predicted by negative life events ($p < 0.001$), maladaptive CERS ($p < 0.001$), and their interactions ($B = 0.03$, $SE = 0.01$, $\Delta R^2 = 0.01$, $p = 0.006$, 95% of $CI = 0.01$, 0.05).

## Additional Moderating Analysis

We conducted the additional moderating analysis to see which adaptive/maladaptive CERS strategy has a more significant moderator role in the relationship between NLEs associated with COVID-19 and psychological distress. The additional moderation model was tested nine times for each moderator (subscale of adaptive and maladaptive CERS).

*For subscale of adaptive CERS*, the findings of moderation analysis showed that (a) the interaction of NLE associated with COVID-19 and positive refocusing ($B = -0.08$, $SE = 0.03$, $\Delta R^2 = 0.01$, $p = 0.006$, 95% of $CI = -0.13$, -0.02), (b) the interaction of NLE associated with COVID-19 and positive refocusing reappraisal ($B = -0.09$, $SE = 0.03$, $\Delta R^2 = 0.01$, $p < 0.001$, 95% of $CI = -0.15$, -0.04), (c) the interaction of NLE associated with COVID-19, and refocusing on planning ($B = -0.06$, $SE = 0.03$, $\Delta R^2 = 0.01$, $p = 0.030$, 95% of $CI = -0.12$, -0.01) significantly predicted psychological distress.

*For subscale of maladaptive CERS,* moderation analysis demonstrated that only the interaction of negative life events and self-blame predicted psychological distress ($B = 0.07$, $SE = 0.03$, $\Delta R^2 = 0.01$, $p = 0.008$, 95% of $CI = 0.02$, 0.12).

## Moderated Mediating Analysis

We performed moderated mediating analysis to examine whether the indirect predictive effect of NLE on psychological distress via hopelessness or helplessness varied depending on a certain level of adaptive/maladaptive CERS (Model 8).

Moderated mediation analyses revealed that only maladaptive CERS moderated the indirect predictive effect of NLE on psychological distress via helplessness. The results from analysis noticed that (a) NLE associated with COVID-19 ($p < 0.001$) and helplessness ($p < 0.001$) predicted psychological distress, (b) helplessness was predicted by NLE associated with COVID-19 ($p < 0.001$), maladaptive CERS ($p < 0.001$), and the interaction of NLE associated with COVID-19 and maladaptive CERS ($B = 0.02$, $SE = 0.01$, $\Delta R^2 = 0.01$, $p = 0.032$, 95% of $CI = 01$, 04). These findings showed that the direct predictive effect of NLEs on helplessness was strong when the level of maladaptive CERS was high ($b = 0.54$, $p < 0.001$) rather than medium ($b = 0.42$, $p < 0.001$) and low ($b = 0.31$, $p < 0.001$). In other words, the level of helplessness experienced by the person exposed to negative life events may vary depending on the level of maladaptive emotion regulation strategies.

Next, we tested if a significant indirect effect of NLE on psychological distress via helplessness depends on maladaptive CERS using bootstrapping ($N = 5.000$). The findings indicated that the indirect predictive effect of NLE on the psychological distress via helplessness was more powerful when the level of CERS was high (ab$= 0.25$, $SE = 0.07$, 95% $CI = 0.17$, 0.33) rather than medium (ab$= 0.19$, $SE = 0.03$, 95% $CI = 0.14$, 0.26) or low (ab$= 0.14$, $SE = 0.03$, 95% $CI = 0.08$, 0.21). These findings indicated that the indirect predictive effect of NLE on psychological distress through helplessness depends on the level of maladaptive CERS (Table 4).

## Discussion

This study focused on the role of emotion regulation strategies, hopelessness, and helplessness in the relationship between COVID-19-related NLEs and psychological distress. Although previous studies have clearly shown that COVID-19 affects people's psychological health worldwide to varying degrees, they have generally

**Table 4** Moderated mediation statistics ($N = 432$)

| Model 8 | | | | Outcome: Helplessness | |
|---|---|---|---|---|---|
| Predictor variables | B | Boot CI | SE | t | Model $R^2$ |
| Negative life events | .42 | [.30–.54] | .06 | 7.05*** | .37*** |
| Maladaptive CERS | .57 | [.47–.67] | .05 | 11.15*** | |
| NLEs x maladaptive CERS | .02 | [.01–.04] | .01 | 2.16* | |
| *Outcome: Psychological Distress* | | | | | |
| Negative life events | .82 | [.88–.43] | .06 | 13.90*** | .58*** |
| Helplessness | .38 | [.12–.29] | .04 | 8.54*** | |
| Maladaptive CERS | .18 | [.07–.28] | .05 | 3.29** | |
| NLEs x maladaptive CERS | .02 | [.001–.04] | .01 | 2.09* | |
| *Conditional indirect effect analysis* | | | Outcome: Psychological Distress | | |
| Maladaptive CERS | ab | | Boot SE | Boot CI | |
| Low | .12 | | .03 | [.06—.19] | |
| Med | .16 | | .03 | [.11—.22] | |
| High | .21 | | .04 | [.14—.28] | |

Unstandardized regression coefficients were reported. Bootstrap sample size = 5000

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

referred to the direct impact of COVID-19 on psychological health. This study adds to the existing literature by including cognitive emotion regulation strategies, helplessness, and hopelessness regarding the relationship between the COVID-19-related NLEs and psychological distress. The current findings reveal that (a) the NLEs predict psychological distress directly and indirectly through hopelessness and helplessness, and (c) this direct and indirect predictive effect varies depending on the level of CERS.

The first two hypotheses of this study aimed to determine the role of hopelessness and helplessness as a mediating mechanism in the relationship between COVID-19-related NLEs and psychological distress. The findings suggest that the NLEs, directly and indirectly, predict psychological distress through hopelessness and helplessness. These results indicate that hopelessness and helplessness may act as mediating mechanisms in this relationship during the pandemic. The results are consistent with previous studies showing that people feel high levels of helplessness (e.g., Al Dhaheri et al., 2021) and hopelessness (e.g., Gill et al., 2020) and that people with high levels of helplessness and hopelessness report higher levels of depression (Amendola et al., 2021; Amerio et al., 2020; Pretorius, 2021), anxiety (Hacimusalar et al., 2020; Lee, 2020; Subaşı et al., 2020), and fear of the COVID-19 (Lifshin et al., 2020; Sarıcali et al., 2020) during the pandemic. The findings also correspond to previous research, which indicated that hopelessness (e.g., Hirsch et al., 2021; Nalipay & Ku, 2019) and helplessness (e.g., Sparr & Sonnentag, 2008) mediate the relationship between stressful events and well-being.

Regarding hopelessness, the findings showed that COVID-19-related NLEs predicted hopelessness, which in turn predicted psychological distress. In this respect, Elliot and Frude (2001) stated that stress factors in daily life such as one's health problems

or health problems of loved ones, changes in work or social activities, and new living conditions predict hopelessness. Similarly, factors such as financial difficulties, job loss, illness, loss of a loved one, isolation, and social distance during the pandemic have also contribute to hopelessness (Amendola et al., 2021). Additionally, Parada-Ferna'ndez et al. (2021) argued that a person exposed to negative life events might experience hopelessness and be more inclined to attribute negative causes and effects to such events, which may increase their risk of experiencing psychological distress. In a similar vein, Abramson et al. (1989) stated that negative life events primarily lead to hopelessness in the person and then psychological distress symptoms occur depending on this situation. These explanations and findings support the current findings showing that hopelessness may be essential in the relationship between the NLEs and psychological distress. In other words, having negative experiences with COVID-19 affects an individual's mental health directly and indirectly through a sense of hopelessness.

Concerning helplessness, the present finding suggests that COVID-19-related NLEs predicted helplessness, which predicted psychological distress. The unexpected entry of the coronavirus pandemic across the world resulted in lifestyle changes, people's passiveness in the face of the epidemic, and the excess of uncertainties, all of which can develop a sense of inability to control life and helplessness for the individual. The learned helplessness theory argues that the source of helplessness is the inability to act and control life due to adverse life events and traumas that the individual tries to accept as unsuccessful. This situation fosters psychological distress such as depression and anxiety (Davison & Neale, 2004). Similarly, Alloy and Clements (1992) stated that psychopathology symptoms occur after an adverse life event, depending on the inadequacy of the person's perception of control and the level of helplessness. In other words, negative experiences of the individual related to COVID-19 affect the individual's mental health directly and indirectly through the sense of helplessness as a function of not being able to cope with this process effectively. Therefore, the individual's feelings of helplessness can also result from negative life events. Considering all this evidence, we can conclude that the feelings of hopelessness and helplessness function as a mediating mechanism in the relationship between the NLEs and psychological distress. Briefly, these findings indicate that adverse life events experienced during the pandemic increase feelings of helplessness and hopelessness, and these feelings negatively affect individuals' psychological distress levels.

The third hypothesis in this study aimed to test the moderating role of adaptive and maladaptive cognitive emotion regulation strategies (CERS) in the relationship between COVID-19-related NLEs and psychological distress. Concerning moderating role of maladaptive CERS, the current findings suggest that maladaptive CERS (particularly self-blame) can function as a risk factor in the relationship between the NLEs and psychological distress. The findings demonstrate that the NLEs are directly associated with increased psychological distress. Further, the findings suggest that a high level of maladaptive CERS (particularly self-blame) strengthened the association between COVID-19-related NLEs and psychological distress. This means that the tendency to engage in maladaptive CERS, especially self-blame, is more likely to left the individual vulnerable to the destructive effects of negative life events.

Further analyses indicate that the detrimental effect of COVID-19-related NLEs on psychological health is significant at different levels of maladaptive emotion regulation strategies.This effect is the strongest when the level of maladaptive CERS, especially self-blame, is high. For example, when individuals blame themselves for a negative event, the effect of the negative life event on psychological distress increases. If individuals cannot cope with the negative life events associated with the pandemic process and resort to maladaptive emotion regulation strategies, their mental health is negatively affected. More clearly, if the person thinks that the responsibility of not coping with the situation belongs to her/him and blames herself/himself, her/his mental health will be adversely affected. In this case, our finding seems significant considering that there may be feelings of anger and sadness inward under self-blame and that anger-in is also associated with depression. In this sense, Aldao et al. (2010) suggested that maladaptive emotion regulation strategies play a central role in psychological distress.

Similarly, Riaz et al. (2021) revealed that cognitive emotion regulation is an important predictor of psychological distress such as depression, anxiety, and stress during the spread of COVID-19 in the general population. Brehl et al. (2021) also reported that maladaptive emotion regulation strategies predict state anxiety and stress. Also, Wang et al. (2020) found that maladaptive cognitive emotion strategies (self-blame, rumination, and catastrophizing) were significant predictors of psychological distress, such as depression and anxiety, among nurses during COVID-19.

Regarding adaptive emotion regulation strategies (CERS), the present findings indicate that the interaction effect of COVID-19-related NLEs and adaptive CERS added additional predictive power to the regression model beyond the main effects of COVID-19-related NLEs and adaptive CERS. This means that the predictive effect of COVID-19-related NLEs on subsequent psychological distress symptoms depends on the adaptive CERS (particularly positive refocusing reappraisal, positive refocusing, and refocusing on planning). More specifically, the current findings suggest that highly adaptive CERS (positive refocusing reappraisal, positive refocusing, and refocusing on planning) can act as a protective factor in this context, weakening the association between COVID-19-related NLEs and psychological distress. In other words, when individuals plan to change the adverse effect of the negative life event on themselves, focus on the positive aspect of the event and restructure their emotions positively, the impact of the negative life event on psychological distress decreases. These results are consistent with prior findings. For example, Kraaij et al. (2008) stated that using adaptive strategies such as positive refocusing or refocusing on the plan increases positive emotions felt in the lives of individuals. Indeed, previous findings indicated that adaptive CERS were negatively related to psychological distress such as anxiety (Jungmann & Witthöft, 2020) and depression (Aldo et al., 2010). Jungmann and Witthöft (2020) found that current virus anxiety decreased when people used adaptive CERS. Thus, the present findings are consistent with the recent findings (Muñoz-Navarro et al., 2021), which have shown that the impact of COVID-19 fear on anxiety increases when maladaptive strategies are engaged but decreases when adaptive strategies are engaged.

Concerning the final hypothesis of the research, the findings indicate that the indirect predictive effect of COVID-19-related NLEs on psychological distress via helplessness varied depending on the level of maladaptive CERS. Furthermore, the results suggest that the indirect predictive effect of NLEs via helplessness was strengthened when a level of maladaptive CERS was high. In other words, a person exposed to negative life events during the pandemic may feel more helpless when they blame themselves or others for the situation, make the situation catastrophic, or think about the adverse effects of the event, which may increase the likelihood of experiencing psychological distress. In parallel to this result, Garnefski and Kraaij (2007) state that maladaptive strategies such as self-blame, catastrophizing, and rumination significantly explain psychological distress symptoms such as depression and anxiety. Furthermore, it is stated that maladaptive strategies have an important role in developing and maintaining negative emotions (Martin & Dahlen, 2005). Ding et al. (2017) also argued that when individuals exposed to traumatic experiences cannot change their attitudes towards the world- which are described as pessimistic, helpless, and hopeless- they cannot adapt well to negativities and may experience many psychological problems. This combination of findings provides evidence for the conceptual premise that while maladaptive emotion regulation strategies may act as a vulnerability factor in the association between negative life events and psychological distress, adaptive strategies may function as a protective factor.

Finally, the findings of this study should be interpreted cautiously considering its limitations. The most important limitation of this study is that it is cross-sectional. This limitation does not allow us to evaluate the relationships between the variables within the framework of cause-effect relationships. Therefore, future longitudinal studies may contribute to a better understanding of the vulnerability role of helplessness and hopelessness and the protective role of cognitive emotion regulation strategies. Another limitation of this study is related to its sample. Most of the participants in this study were women, which limits the generalizability of the present findings to both genders. Conducting future studies with equal numbers of participants from both genders may contribute to the generalizability of the findings. Finally, although the correlation between helplessness and hopelessness is high (0.65), it does not indicate multicollinearity between these two variables (Tabachnick & Fidell, 1996). However, this result can be considered a limitation of the study. Therefore, future studies that plan to test the mediating role of both variables in the same equation should consider this limitation. Another important issue is that the high correlation between helplessness and hopelessness may increase the standard error. So, findings regarding the mediating role of helplessness and hopelessness in the relationship between the NLEs and psychological distress should be evaluated within these limitations.

## Conclusion

Returning to the hypotheses established at the beginning of this study, it is now possible to say when and how COVID-19-related NLEs can, directly and indirectly, affect an individual's psychological health. The findings suggest that hopelessness and helplessness partially mediate the relationship between the NLEs

and psychological distress. This study also suggests that the association between the NLEs and psychological distress is strengthened when the level of maladaptive CERS (especially self-blame) is high and adaptive CERS (positive refocusing, positive reappraisal, and refocusing on planning) is low. Finally, the findings from the current study suggest that the indirect effect of the NLEs on psychological distress via helplessness is strengthened when the level of maladaptive CERS is high. In other words, a person exposed to negative life events during the pandemic may feel more helpless when they blame themselves or others for the situation, make the situation catastrophic, or think about the adverse effects of the event, which may increase the likelihood of experiencing psychological distress.

The present study contributes to the existing literature by demonstrating the role of helplessness, hopelessness, and CERS in the relationship between COVID-19-related NLES and psychological distress. The current findings may help to structure intervention recommendations for psychological distress during the pandemic. Also, the results of this study have some important implications for practitioners. First, negative life events directly affect psychological health and feelings of helplessness and hopelessness. For this reason, psychological counselors should consider the feelings accompanying the complaint and the effect on the mental health of individuals who come with psychological distress complaints related to COVID-19. Secondly, it seems important that cognitive emotion regulation strategies are used to cope with negative life events during the pandemic process. In this process, the mental health levels of those who use more adaptive strategies are less affected by negative life events. The findings also support the claim that the effects of negative life events on mental health decrease when individuals change the negative impact of the negative life event on themselves, focus on the positive aspect of the event, and positively restructure their emotions. Therefore, counselors may encourage individuals to use adaptive strategies such as rethinking, refocusing, and positive framing instead of ineffective strategies such as self-blame, catastrophizing, and rumination to cope with the pandemic. Finally, experiencing intense feelings of helplessness while coping with negative life events may be associated with ineffective emotion regulation strategies. More clearly, the negative effect of helplessness on mental health as a mediating mechanism in the relationship between negative life events and psychological health increases in cases where the level of maladaptive CERS, especially self-blame, is high. For this reason, psychological counselors and practitioners should consider that individuals with psychological problems may experience self-blame behaviors accompanying a sense of helplessness during the pandemic.

## Declarations

**Conflict of İnterests** The authors declare no conflicts of interest concerning this article's research, authorship, and publication.

**Ethical Approval** All procedures performed in studies involving human participants were by the ethical standards of the Social and Human Sciences Research and Publication Ethics Committee of University *with the decision no.20220/10–04 dated 07.08.2020*

**Informed Consent** Informed consent was obtained from each participant.

**Data Availability Statement** The data supporting this study's findings are available from the corresponding author upon reasonable request.

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