

Emotion regulation, resilience, and mental health: A mediation study with university students in the pandemic context

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Abstract

The COVID-19 pandemic had a huge impact on people's lives due to the fear of getting infected and having the disease, as well as the necessary prevention and containment measures. University students were one of the most affected groups, as they were forced to cope with significant life changes. However, not all displayed symptoms of psychological distress, which means that internal resources such as emotional regulation and resilience may have acted as protective variables. This cross-sectional study aimed to examine the extent to which the relationship between emotion regulation and stress, anxiety, depression, and posttraumatic stress disorder (PTSD) symptoms was mediated by resilience in a sample of university students. Results showed that emotion regulation strategies were positively associated with lower mental health. Some resilience dimensions mediated these relationships, with perception-of-self mediating all associations. Planned future mediated the association between emotion regulation and depression, family cohesion mediated the relation between emotion regulation and stress, and social resources mediated the association of cognitive reappraisal with anxiety and PTSD by suppressing the direct positive relationship. These

results highlight the relevance of resilience as a key resource in coping effectively with the uncertainties, and changes that arise during stressful periods such as a pandemic.

KEYWORDS

COVID-19, emotion regulation, mental health, resilience, university students

1 | INTRODUCTION

During the first 2 years that the world was under the threat of the COVID-19 pandemic, and especially before the mass rollout of vaccines, it was necessary to adopt containment measures that significantly affected people's daily lives. Lockdowns, quarantine, physical and social distancing, curfews, and isolation were some of those measures. These had a huge impact on the mental health of individuals, as reported in numerous studies (Kola et al., 2021; Samji et al., 2022). The evidence shows an increase in poor mental health outcomes such as stress, depression, and anxiety (AlAzzam et al., 2021; Paulino et al., 2020; Simegn et al., 2021; Soltan et al., 2021) as well as posttraumatic stress symptoms (henceforth referred to as posttraumatic stress disorder [PTSD]) (Brooks et al., 2020; Cao et al., 2020; Paulino et al., 2020), following the *Diagnostic and Statistical Manual of Mental Disorders (5th edition, DSM-V)* symptoms clusters: intrusions, avoidance, negative alterations in cognition and mood, and alterations in arousal and reactivity (American Psychiatric Association, 2013). Research on previous pandemics (e.g., SARS, MERS) confirms the potential presence of trauma symptoms in individuals (Lam et al., 2009; Mak et al., 2009). A review study by Ahmed et al. (2020) collated the long-term clinical complications reported in survivors of these pandemics. The results clearly demonstrated the presence of PTSD, along with other psychological problems, in up to one-third of survivors.

The evidence points in a similar direction for COVID-19, as it indicates a potential increase in the prevalence of PTSD resulting from COVID-19 as a public health concern (Haderlein et al., 2021; Horesh & Brown, 2020). According to Forte et al. (2020), the prevailing sense of uncertainty and anxiety at the individual and community level, arising from the fear of contracting a new, potentially life-threatening highly infectious disease, gives the COVID-19 pandemic the status of a traumatic event.

University students were one of the groups most vulnerable to the consequences of the pandemic (Browning et al., 2022; Nahar et al., 2022; Villanueva-Silvestre et al., 2022). Their academic, social, and family lives underwent significant changes due to home confinement and quarantines, interruption of regular school and extracurricular activities, distance-learning and physical distancing mandates (Al-Rabiaah et al., 2020; Samji et al., 2022; Simegn et al., 2021). Like the rest of the population, they also had to deal with other threats, such as fear and worry about infection (Xiang et al., 2020), fake information, difficulties accessing the Internet (AlAzzam et al., 2021), unemployment, worsening economic conditions, and the direct and indirect impact of these (Cao et al., 2020; Villatoro et al., 2022).

All these stressors are likely to have had a negative impact on university students' mental health. Several studies reported high rates of depression, anxiety, stress, and PTSD (Cao et al., 2020; Simegn et al., 2021; Soltan et al., 2021). Other studies reported externalizing and attention problems (Copeland et al., 2021), more negative mood, and increased alcohol use (Charles et al., 2021). However, these studies focused essentially on assessing the impact of the pandemic on the mental health of this group and determining some predictor variables. Most of them only considered the sociodemographic predictors associated with COVID, and failed to examine the potential

interaction between psychological variables and their impact. The present study seeks to achieve this by adopting a processual approach that considers emotion regulation and resilience as relevant psychological resources in addressing the impact of COVID.

Emotion regulation has long been associated with mental health outcomes, with several studies associating anxiety, depression, and PTSD with difficulties in regulating emotions (Campbell-Sills & Barlow, 2007; McLean & Foa, 2017; Weiss et al., 2012). COVID-related research confirms this association, namely the relation between maladaptive emotion regulation strategies and anxiety (Jungmann & Witthöft, 2020; Riaz et al., 2021; Russell et al., 2022; Waterschoot et al., 2022) or poor mental health (Li et al., 2021).

Emotion regulation refers to the process “by which individuals influence which emotions they have when they have them, and how they experience and express these emotions” (Gross, 1998, p. 275). Traditionally, different emotion regulation strategies were associated with distinct mental health outcomes (Slanbekova et al., 2019; Tyra et al., 2021), with a focus on expressive suppression as a nonadaptive strategy, i.e., associated with poorer outcomes (Eldesouky, 2015; Millgram et al., 2018; Tyra et al., 2021). This contrasts with cognitive reappraisal, which is related to more positive outcomes (Cludius et al., 2020; Gross & John, 2003).

Resilience is also related to adult mental health. It can be defined as a resource, a protective factor in stressful situations that enhances adaptation to these situations (Schaap, et al., 2009). It is a dynamic multidimensional concept, which presupposes the presence of psychological competencies, but also the capacity of individuals to resort to the different systems of their context (e.g., family, social network) to better cope with adverse situations (Pereira et al., 2017).

Several research studies have demonstrated a negative association between resilience and indicators of poor mental health and a positive association with indicators of mental health well-being (Cano et al., 2020; Hu et al., 2015; Verdolini et al., 2021). COVID-related studies have confirmed this association, with higher levels of resilience being associated with better mental health outcomes, namely, with regard to depression, anxiety (Hezel et al., 2022; Killgore et al., 2020; Mosheva et al., 2020) and well-being (Skalski et al., 2022).

Both emotion regulation and resilience have been studied in the light of their relationship with mental health—mainly depression and anxiety. Their importance is evident and agreed upon, which justifies their choice as variables in this study. The evidence also shows a relationship between these two individual internal resources in diverse samples (Polizzi & Lynn, 2021). According to Banyard et al. (2017), emotion regulation is one of multiple protective factors that contribute to resilience. Mouatsou and Koutra (2021, p. 21) state that “individuals who effectively manage their emotions tend to cope well in stressful situations and, therefore, could be characterized as more “resilient.”

According to some authors (Chen et al., 2022; Gross, 1998), adaptive emotion regulation strategies help the individual to reduce distress and negative emotions by generating positive interpretations of (or perspectives on) a stressful situation. We consider that there may be a similar effect in relation to resilience. In individuals, adaptive strategies facilitate the adoption of a positive perspective on their own competencies and their ability to draw on the systems of their context to better cope with adverse situations.

Polizzi and Lynn (2021) point out that, according to several studies, “assessing a stressor and regulating consequent emotional reactions generates positive emotionality, which protects against negative affect and promotes resilience through biopsychosocial benefits.” The research has also demonstrated a strong association between emotion regulation during and after a negative experience and resilience (Caston & Mauss, 2011; Orcutt et al., 2014). Positive emotion regulation strategies can be used as a protective factor that stimulates internal resources to stabilize emotional state, develop positive factors, and improve the level of psychological resilience in challenges and adversity (Tugade & Fredrickson, 2007).

Thus, adaptive emotion regulation will be associated with greater resilience (Mestre et al., 2017; Mouatsou & Koutra, 2021). Specifically, several researchers have found a positive correlation between cognitive reappraisal and resilience (Mestre et al., 2017; Mouatsou & Koutra, 2021; Troy & Mauss, 2011), while fewer have demonstrated a negative correlation between expressive suppression and resilience (Mouatsou & Koutra, 2021).

To our knowledge, only one study has tested the existence of a mediation relationship between these two variables in a sample of university students, with resilience functioning as a mediator of the relationship between emotion regulation and depression (Ye et al., 2022). Therefore, it is relevant to examine the relationship between emotion regulation, resilience, and mental health by adopting a processual approach that seeks to contribute to knowledge about the interaction between these variables in a global adverse context like the COVID-19 pandemic.

1.1 | The present study

The main objective of this study is to explore the role of two individual variables—namely emotion regulation and resilience—in explaining individual differences in the psychological functioning of university students. More specifically, it aims to identify to what extent the relationship between emotion regulation strategies and various mental health indicators (stress, anxiety, depression, and PTSD symptoms) is mediated by resilience among university students who experienced a particularly stressful period due to the Covid-19 pandemic. Previous research has identified the potential for increased PTSD prevalence resulting from COVID-19 as a public health concern (Haderlein et al., 2021).

Following the literature review, we have formulated the following hypotheses:

H1. As expressive suppression has been linked to poor health outcomes (Eldesouky, 2015; Millgram et al., 2018; Tyra et al., 2021), we expect to find a positive association between expressive suppression and stress, anxiety, depression, and PTSD symptoms.

H2. In contrast, in accordance with previous studies that established a relation between cognitive reappraisal and better mental health outcomes, we expect a negative association with stress, anxiety, depression, and PTSD symptoms (Cludius et al., 2020; Gross & John, 2003).

H3. Since resilience is a dynamic process through which people adjust to adversity and buffer anxiety and depression (Taylor et al., 2022), there is evidence of an association with emotion regulation strategies (e.g., Mestre et al., 2017) and some studies suggest that emotional regulation strategies like cognitive reappraisal can protect a person's mental health by enhancing resilience (Mestre et al., 2017; Ye et al., 2022). We therefore expect that resilience dimensions will mediate the relation between emotion regulation and stress, anxiety, depression, and PTSD symptoms.

2 | METHOD

2.1 | Participants

A total of 426 students from two universities, one public and one private, participated in this study, 64.9% of whom were women. The participants' age ranged between 18 and 69 years ($M_{\text{age}} = 28.03$, $SD = 10.76$, $Mdn_{\text{age}} = 23.00$). Most of the participants were single (71.5%). Approximately half of the participants were working-student (48.8%) and most of them (82.8%) were enrolled in undergraduate studies. Almost 80% reported having medium, good, or very good socioeconomic status.

At the time of data collection, only 10% of the participants had ever been infected with COVID-19, with no need for hospitalization. However, 40% of the participants reported at least one family member had been infected with COVID-19, with only 10% reporting the need for their hospitalization. Seven and a half percent lost family members due to COVID-19.

2.2 | Measures

2.2.1 | Resilience

Resilience was assessed through the RSA-Resilience Scale for Adults (Hjemdal et al., 2001; 2011 Portuguese version: Pereira et al., 2013), a 33-item instrument rated on a 7-point scale with specific descriptors for each item (the two extreme response poles). Items are organized into six dimensions: Perception of self, which assesses confidence in one's own judgements, self-efficacy and realistic expectations (6 items, example: "*When something unforeseen happens: 1. I often feel disorientated/7. I always find a solution*"), Planned future, which assesses the ability to plan ahead, to take an optimistic view and be guided by clear and achievable goals (4 items, example: "*My plans for the future are: 1. Hard to achieve/Easy to achieve*"), Social competence, which refers to flexibility in social interactions, the ability to create new friendships, feeling at ease in social environments and the positive use of humor (6 items, example: "*Being flexible in social contexts: 1. Is not important to me/7. Is very important to me*"), Structured style, which evaluates the ability to have and follow routines, organize one's own time, and a preference for clear objectives and plans before carrying out activities (4 items, example: "*When I start new things/projects: 1. I rarely plan, I just go ahead with things/7. I prefer to have a thorough plan*"), Family cohesion, regarding whether values are shared or there is disagreement about these in the family, whether family members enjoy spending time together, whether they have an optimistic view of the future, whether they are loyal to each other and have a sense of appreciation and support each other (6 items, example: "*My family's perspective on what is important in life is: 1. Very different from mine/7. Very similar to mine*"), and Social resources, which measures the availability of social support, whether there is a confidant outside the family nucleus and whether there are people to turn to outside the family if they need help (7 items, example: "*I can discuss personal matters with 1. No one/7. Friends/family*"). In this study, all dimensions presented good internal consistency values, except structured style ($\alpha = .78$ for perception of self; $\alpha = .81$ for planned future; $\alpha = .77$ for social competence; $\alpha = .48$ for structured style; $\alpha = .85$ for family cohesion; $\alpha = .84$ for social resources).

2.2.2 | Emotion regulation

Emotion regulation strategies were measured using the ERQ-Emotion Regulation Questionnaire (Gross & John, 2003; Portuguese version: Machado-Vaz, 2009). The ERQ is a 10-item self-report scale that examines expressive suppression, a strategy that comprises efforts to hide or inhibit the emotion-expressive behavior (4 items, example: "*I control my emotions by not expressing them*") and cognitive reappraisal, a strategy that comprises efforts to change the way one thinks about an emotion-eliciting situation (Gross & John, 2003) (6 items, example: "*I control my emotions by changing the way I think about the situation I'm in*"). Items are scored on a 7-point Likert scale (1 = "*strongly disagree*" to 7 = "*strongly agree*"). In the present study, both dimensions presented good internal consistency values ($\alpha = .77$ for expressive suppression; $\alpha = .82$ for cognitive reappraisal).

2.2.3 | Depression, anxiety, and stress

Depression, anxiety and stress were evaluated using the Depression Anxiety and Stress Scale (DASS-21) (Lovibond & Lovibond, 1995; Portuguese version: Pais-Ribeiro et al., 2004), a 21-item self-report scale scored on a 4-point scale (0 = "*Did not apply to me at all*" to 3 = "*Applied to me very much or most of the time*"). Each dimension is assessed through seven items (Depression example item: "*I could see nothing in the future to be hopeful about*"; anxiety example item: "*I experienced breathing difficulty*"; stress example item: "*I found it difficult to relax*"). In this

study, all dimensions presented excellent internal consistency values ($\alpha = .93$ for depression; $\alpha = .90$ for anxiety; $\alpha = .92$ for stress).

2.2.4 | Posttraumatic stress symptoms

Posttraumatic stress symptoms were measured with the Posttraumatic Stress Disorder Checklist (PCL-5) (Weathers et al., 2013; Portuguese version: Carvalho et al., 2020), a 20-item self-report scale that assesses the 20 DSM-V diagnostic criteria for PTSD, scored on a 5-point Likert scale (0 = "Not at all" to 5 = "Extremely") (example item: "In the past month, how much you have been bothered in the last month with repeated, disturbing, and unwanted memories of the stressful experience?"). A global score was used to assess symptom severity (Carvalho et al., 2020). In the present study, the internal consistency value was excellent ($\alpha = .96$).

2.3 | Procedure

In Portugal, the first cases of COVID-19 appeared on 2 March 2020. The rapid spread of the virus led the government to impose immediate measures, such as closing nightclubs and schools (moving to a distance learning system), and restricting people's access to public services and shopping centers (Ferreira da Silva et al., 2022). The first State of Emergency was declared on 18 March, with a general lockdown that lasted for 6 weeks. Schools remained closed until the summer. Between September 2020 and January 2021, two news States of Emergency were decreed, with restrictive measures. Vaccination of the population began in December 2020 and from February 2021, a sharp decrease in the number of cases, deaths and hospitalizations was observed, leading to the end of the State of Emergency at the end of April. In early October 2021, 85% of the Portuguese population had been vaccinated (including young people) and most of the restrictive measures were withdrawn (Ferreira da Silva et al., 2022).

This study was approved by the Research Ethics Committee of CIP—Psychology Research Centre (Reference: 14-2021). Participants from one university in Lisbon and one university in Algarve answered an online survey hosted by LimeSurvey. The survey link was released on social media between May and November 2021. Students also received a link with the participation request in their university email.

Informed consent was obtained for all participants. The first page of the survey contained a statement assuring confidentiality and voluntary participation. A presentation of the study was also made, indicating that responses should be based on experience of the pandemic and related events (e.g., having been infected; having been hospitalized; having family members infected; having family members hospitalized). Participants took an average of 15 min to complete the survey responses.

2.3.1 | Data analysis

Data analysis was performed using SPSS (version 26; IBM, SPSS Inc.). Descriptive statistics were run for all variables. Pearson correlation was used to examine bivariate associations among the study variables. To test mediation, multiple mediational models (model 4) using the PROCESS macro (version 4.00; Hayes, 2021) were conducted. Eight models were tested, always using one independent variable, four mediator variables, and one outcome variable. Emotion regulation strategies were included as independent variables, resilience dimensions were included as mediation variables, and stress, anxiety, depression, and PTSD were included as outcome variables. Direct and indirect effects were subject to bootstrap analyses (5000 samples). Indirect effects were considered significant in the presence of 95% confidence intervals not including zero. Unstandardized betas were

reported. The suppression effect (or inconsistent mediation) was considered when the directionalities of the direct, indirect, and total effects were different (MacKinnon, 2000).

3 | RESULTS

3.1 | Descriptive statistics and bivariate associations between variables

All measures had the maximum response range, i.e., they varied between the minimum and maximum possible values in each one. In terms of emotional regulation, cognitive reappraisal ($M = 4.56$, $SD = 1.27$) was, on average, more used than expressive suppression ($M = 4.05$, $SD = 1.46$). Regarding resilience, the dimensions with higher mean scores were social resources ($M = 5.75$, $SD = 1.12$) and family cohesion ($M = 5.31$, $SD = 1.27$). Social skills ($M = 4.78$, $SD = 1.23$) and self-perception ($M = 4.77$, $SD = 1.25$) dimensions obtained lower mean values. Anxiety was the variable with the lowest mean value, followed by depression and stress (respectively, $M = 9.98$, $SD = 10.52$; $M = 12.72$, $SD = 11.58$; $M = 15.12$, $SD = 11.25$). PTSD symptoms had a mean value of 46.96 ($SD = 19.30$). Descriptive statistics (mean and standard deviation), as well as Bivariate Pearson correlations, are presented in Table 1.

There were significant weak negative associations between expressive suppression and the resilience dimensions: perception of self, planned future, social competence, family cohesion, and social resources. Conversely, cognitive reappraisal was positively associated with all these resilience dimensions.

Expressive suppression was positively associated with depression, anxiety, stress, and PTSD symptoms. There was no significant association between cognitive reappraisal and depression, anxiety, stress, and PTSD symptoms. All the dimensions of resilience (perception of self, planned future, social competence, family cohesion, and social resources) showed significant negative associations with depression, anxiety, stress, and PTSD symptoms.

3.2 | Mediational models

Multiple mediation models stating that emotion regulation should be related to depression, anxiety, stress, and PTSD symptoms via resilience were tested.

3.2.1 | Emotion regulation, resilience, and depression

Initially, we examined the effects of expressive suppression on predicting depression. The results are presented in Table 2. Regarding the direct effects, the negative association between expressive suppression and all dimensions of resilience was significant. High levels of expressive suppression were associated with lower levels of resilience, namely, perception of self, planned future, family cohesion, social competence, and social resources. Perception of self and planned future were negatively associated with depression. Expressive suppression was positively associated with depression.

With resilience dimensions as mediators, the association between expressive suppression and depression remained significant, indicating a partial mediation. An examination of the confidence intervals revealed that perception of self had a significant indirect effect, as did planned future. Social competence, family cohesion, and social resources did not have a significant effect. High levels of expressive suppression were positively associated with lower perception of self and planned future which, in turn, were associated with higher levels of depression.

We then tested the effects of cognitive reappraisal as a predictor of depression. Considering the direct effects, the associations between cognitive reappraisal and the resilience dimensions were positive and significant. High

TABLE 1 Bivariate pearson correlations among study variables (N = 426).

	M (SD)	ES	CR	SP	PF	SS	FC	SR	DP	AN	ST	PT
ER												
Expressive suppression (ES)	4.05 (1.46)	-										
Cognitive reappraisal (CR)	4.56 (1.27)	0.209**	-									
RE												
Self-perception (SP)	4.77 (1.25)	-0.284**	0.222**	-								
Perception of future (PF)	4.88 (1.50)	-0.272**	0.171**	0.675**	-							
Social skills (SS)	4.78 (1.23)	-0.376**	0.120*	0.520**	0.468**	-						
Family cohesion (FC)	5.31 (1.27)	-0.146**	0.138**	0.333**	0.365**	0.396**	-					
Social resources (SR)	5.75 (1.12)	-0.307**	0.172**	0.427**	0.442**	0.522**	0.617**	-				
Depression (DP)	12.72 (11.58)	0.410**	-0.079	-0.644**	-0.566**	-0.420**	-0.351**	-0.431**	-			
Anxiety (AN)	9.98 (10.52)	0.309**	0.007	-0.482**	-0.374**	-0.300**	-0.291**	-0.350**	0.755**	-		
Stress (ST)	15.12 (11.25)	0.298**	0.012	-0.544**	-0.397**	-0.289**	-0.310**	-0.322**	0.811**	0.839**	-	
PTSD symptoms (PT)	46.96 (19.30)	0.331**	-0.044	-0.593**	-0.465**	-0.352**	-0.307**	-0.385**	0.830**	0.829**	0.867**	-

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

TABLE 2 Direct, indirect, and total effects of emotion regulation strategies on depression through resilience dimensions.

	Direct effect B (SE)	95% CI	p	Indirect effect* B (SE)	95% CI	Total effect B (SE)	95% CI	p
ES->SP	-0.24 (0.04)	(-0.32, -0.16)	<.001	-	-	-0.24 (0.04)	(-0.32, -0.16)	<.001
ES->PF	-0.28 (0.05)	(-0.37, -0.19)	<.001	-	-	-0.28 (0.05)	(-0.37, -0.19)	<.001
ES->SS	-0.32 (0.04)	(-0.39, -0.24)	<.001	-	-	-0.32 (0.04)	(-0.39, -0.24)	<.001
ES->FC	-0.13 (0.04)	(-0.21, -0.05)	.003	-	-	-0.13 (0.04)	(-0.21, -0.05)	.003
ES->SR	-0.23 (0.04)	(-0.30, -0.17)	<.001	-	-	-0.23 (0.04)	(-0.30, -0.17)	<.001
SP->Depression	-3.93 (0.46)	(-4.83, -3.03)	<.001	-	-	-3.93 (0.46)	(-4.83, -3.03)	<.001
PF->Depression	-1.36 (0.37)	(-2.09, -0.62)	<.001	-	-	-1.36 (0.37)	(-2.09, -0.62)	<.001
SS->Depression	0.34 (0.42)	(-2.09, -0.62)	.425	-	-	0.34 (0.42)	(-2.09, -0.62)	.425
FC->Depression	0.76 (0.40)	(-1.55, 0.03)	.060	-	-	0.76 (0.40)	(-1.55, 0.03)	.060
SR->Depression	0.76 (0.50)	(-1.74, 0.23)	.134	-	-	0.76 (0.50)	(-1.74, 0.23)	.134
ES->SP->Depression	1.75 (0.30)	(1.16, 2.34)	<.001	0.95 (0.18)	(0.61, 1.31)	3.24 (0.35)	(2.56, 3.94)	<.001
ES->PF->Depression				0.38 (0.13)	(0.15, 0.66)			
ES->SS->Depression				-0.06 (0.09)	(-0.25, 0.10)			
ES->FC->Depression				-0.02 (0.04)	(-0.11, 0.05)			
ES->SR->Depression				0.07 (0.05)	(-0.02, 0.18)			
$R^2 = 17\%$								
CR->SP	0.22 (0.05)	(0.13, 0.31)	<.001	-	-	0.22 (0.05)	(0.13, 0.31)	<.001
CR->PF	0.20 (0.06)	(0.09, 0.31)	<.001	-	-	0.20 (0.06)	(0.09, 0.31)	<.001
CR->SS	0.12 (0.05)	(0.03, 0.21)	.013	-	-	0.12 (0.05)	(0.03, 0.21)	.013
CR->FC	0.14 (0.05)	(0.04, 0.23)	.004	-	-	0.14 (0.05)	(0.04, 0.23)	.004

TABLE 2 (Continued)

	Direct effect B (SE)	95% CI	p	Indirect effect* B (SE)	95% CI	Total effect B (SE)	95% CI	p
CR->SR	0.15 (0.04)	(0.07, 0.23)	<.001	-	-	0.15 (0.04)	(0.07, 0.23)	<.001
CR->SP->Depression	0.78 (0.33)	(0.12, 1.43)	.021	-0.92 (0.26)	(-1.47, -0.45)	-0.73 (0.44)	(-1.60, 1.45)	.102
CR->PF->Depression				-0.30 (0.13)	(-0.59, -0.09)			
CR->SS->Depression				0.02 (0.06)	(-0.15, 0.09)			
CR->Fc->Depression				-0.08 (0.07)	(-0.23, 0.04)			
CR->SR->Depression				-0.19 (0.11)	(-0.42, -0.02)			

Note: Bold font indicates significant effects ($p < .05$). B = unstandardized regression coefficients; SE = standard error; 95% CI = bootstrapped 95% confidence intervals; $p = p$ -values. *Indirect effects were considered significant in the presence of 95% confidence intervals not including zero.

Abbreviations: CR, cognitive reappraisal; ES, expressive suppression; FC, family cohesion; PF, perception of future; SP, self-perception; SR, social resources; SS, social skills.

TABLE 3 (Continued)

	Direct effect		Indirect effect*		Total effect	
	B (SE)	95% CI	B (SE)	95% CI	B (SE)	95% CI
CR->SR	0.15 (0.04)	(0.07, 0.23)	-	-	0.15 (0.04)	(0.07, 0.23)
CR->SP->Anxiety	1.14 (0.36)	(0.44, 1.84)	-0.75 (0.23)	(-1.23, -0.35)	0.06 (0.40)	(-0.73, 0.85)
CR->PF->Anxiety			-0.05 (0.09)	(-0.24, 0.13)		
CR->SS->Anxiety			0.02 (0.06)	(-0.10, 0.15)		
CR->FC->Anxiety			0.09 (0.08)	(-0.27, 0.05)		
CR->SR->Anxiety			-0.21 (0.12)	(-0.46, -0.02)		

Note: Bold font indicates significant effects ($p < .05$). B = unstandardized regression coefficients; SE = standard error; 95% CI = bootstrapped 95% confidence intervals; $p = p$ -values. *Indirect effects were considered significant in the presence of 95% confidence intervals not including zero.

Abbreviations: CR, cognitive reappraisal; ES, expressive suppression; FC, family cohesion; PF, perception of future; SP, self-perception; SR, social resources; SS, social skills.

levels of cognitive reappraisal were associated with a higher perception of self, planned future, family cohesion, social competence, and social resources. The association with depression was also positive and significant.

When all the variables were entered in the mediation model, the association between cognitive reappraisal and depression remained significant. Regarding the indirect effects, an examination of the confidence intervals showed that cognitive reappraisal had a significant indirect effect on depression through the perception of self, planned future, and social resources. The values indicated a suppression effect since the directionalities of the effects were opposite.

High levels of cognitive reappraisal were associated with lower levels of depression due to resilience dimensions. The presence of high levels of perception of self, planned future, and social resources suppressed the positive effect of cognitive reappraisal on depression.

3.2.2 | Emotion regulation, resilience, and anxiety

We examined the effects of emotion regulation in predicting anxiety (Table 3), starting with the expressive suppression strategy. Considering direct effects, as reported above, the association between expressive suppression and resilience dimensions was negative and significant. Perception of self was negatively associated with anxiety. Expressive suppression was positively associated with anxiety.

When all the resilience dimensions were entered in the mediation model, the previous positive association between expressive suppression and anxiety remained significant, indicating a partial mediation. An examination of the confidence intervals showed that only perception of self had a significant indirect effect. High expressive suppression was associated with lower perception of self which, in turn, was associated with higher anxiety.

We then tested the effects of cognitive reappraisal on anxiety through resilience. Considering direct effects, the positive associations between cognitive reappraisal and the resilience dimensions were significant. There was also a positive significant association between cognitive reappraisal and anxiety.

Regarding the indirect effects, the examination of the confidence intervals showed that cognitive reappraisal had a significant negative indirect effect on anxiety due to the perception of self and social resources. Again, there is a suppression effect, since the directionalities of the effects are different. High levels of cognitive reappraisal were associated with lower levels of anxiety because of the perception of self and social resources.

3.2.3 | Emotion regulation, resilience, and stress

We then tested the mediation model to examine the effects of emotion regulation on stress, mediated by resilience dimensions (Table 4).

An examination of the direct effects showed that stress was significantly predicted by expressive suppression, perception of self, and family cohesion.

With the resilience dimensions entered into the mediation model, the positive association between expressive suppression and stress remained significant, indicating a partial mediation. When we examined the confidence intervals, we found that perception of self and family cohesion had a significant indirect effect. Higher expressive suppression was associated with higher stress because of lower values of perception of self and family cohesion.

Next, we tested the effects of cognitive reappraisal on stress. Concerning the direct effects, stress was significantly predicted by cognitive reappraisal (positively), perception of self, and family cohesion (both in a negative way).

When the mediators were included in the model, the confidence intervals showed that cognitive reappraisal had a significant negative indirect effect on stress due to resilience dimensions in relation to perception of self and

TABLE 4 Direct, indirect, and total effects of emotion regulation strategies on stress through resilience dimensions.

	Direct effect		Indirect effect*		Total effect		
	B (SE)	95% CI	B (SE)	95% CI	B (SE)	95% CI	p
ES->SP	-0.24 (0.04)	(-0.32, -0.16)	-	-	-0.24 (0.04)	(-0.32, -0.16)	<.001
ES->PF	-0.28 (0.05)	(-0.37, -0.19)	-	-	-0.28 (0.05)	(-0.37, -0.19)	<.001
ES->SS	-0.32 (0.04)	(-0.39, -0.24)	-	-	-0.32 (0.04)	(-0.39, -0.24)	<.001
ES->FC	-0.13 (0.04)	(-0.21, -0.05)	-	-	-0.13 (0.04)	(-0.21, -0.05)	.003
ES->SR	-0.23 (0.04)	(-0.30, -0.17)	-	-	-0.23 (0.04)	(-0.30, -0.17)	<.001
SP->Stress	-4.37 (0.51)	(-5.38, -3.36)	-	-	-4.37 (0.51)	(-5.38, -3.36)	<.001
PF->Stress	-0.06 (0.42)	(-0.88, 0.77)	-	-	-0.06 (0.42)	(-0.88, 0.77)	.890
SS->Stress	0.89 (0.48)	(-0.42, 1.83)	-	-	0.89 (0.48)	(-0.42, 1.83)	.061
FC->Stress	-1.31 (0.45)	(-2.20, -0.42)	-	-	1.31 (0.45)	(-2.20, -0.42)	.004
SR->Stress	-0.21 (0.57)	(-1.32, 0.91)	-	-	-0.21 (0.57)	(-1.32, 0.91)	.072
ES->SP->Stress	1.29 (0.34)	(0.63, 1.95)	1.06 (0.22)	(0.66, 1.52)	2.29 (0.36)	(1.59, 2.99)	<.001
ES->PF->Stress			0.02 (0.13)	(-0.24, 0.27)			
ES->SS->Stress			-0.28 (0.16)	(-0.60, 0.03)			
ES->FC->Stress			0.16 (0.09)	(0.02, 0.38)			
ES->SR->Stress			0.05 (0.14)	(-0.23, 0.35)			
$R^2 = 09\%$							
CR->SP	0.22 (0.05)	(0.13, 0.31)	-	-	0.22 (0.05)	(0.13, 0.31)	<.001
CR->PF	0.20 (0.06)	(0.09, 0.31)	-	-	0.20 (0.06)	(0.09, 0.31)	<.001
CR->SS	0.12 (0.05)	(0.03, 0.21)	-	-	0.12 (0.05)	(0.03, 0.21)	.013
CR->FC	0.14 (0.05)	(0.04, 0.23)	-	-	0.14 (0.05)	(0.04, 0.23)	.004

(Continues)

TABLE 4 (Continued)

	Direct effect B (SE)	95% CI	p	Indirect effect* B (SE)	95% CI	Total effect B (SE)	95% CI	p
CR->SR	0.15 (0.04)	(0.07, 0.23)	<.001	-	-	0.15 (0.04)	(0.07, 0.23)	<.001
CR->SP->Stress	1.37 (0.36)	(0.65, 2.08)	.001	-1.03 (0.29)	(-1.64, -0.51)	0.11 (0.43)	(-0.74, 0.96)	.800
CR->PF->Stress				-0.03 (0.10)	(-0.23, 0.17)			
CR->SS->Stress				0.07 (0.07)	(-0.04, 0.21)			
CR->FC->Stress				-0.16 (0.10)	(-0.39, -0.02)			
CR->SR->Stress				-0.10 (0.11)	(-0.33, 0.09)			

Note: Bold font indicates significant effects ($p < .05$). B = unstandardized regression coefficients; SE = standard error; 95% CI = bootstrapped 95% confidence intervals; $p = p$ -values. *Indirect effects were considered significant in the presence of 95% confidence intervals not including zero.

Abbreviations: CR, cognitive reappraisal; ES, expressive suppression; FC, family cohesion; PF, perception of future; SP, self-perception; SR, social resources; SS, social skills.

family cohesion. There is a suppression effect since the directionalities of the effects are different. High levels of cognitive reappraisal were associated with lower levels of stress due to the perception of self and family cohesion.

3.2.4 | Emotion regulation, resilience, and PTSD symptoms

The last two mediation models were intended to test the effects of emotion regulation on PTSD symptoms mediated by resilience. Results are presented in Table 5.

TABLE 5 Direct, indirect, and total effects of emotion regulation strategies on PTSD symptoms through resilience dimensions.

	Direct effect			<i>p</i>	Indirect effect*		Total effect		
	<i>B</i> (SE)	95% CI			<i>B</i> (SE)	95% CI	<i>B</i> (SE)	95% CI	<i>p</i>
ES->SP	-0.24 (0.04)	(-0.32, -0.16)	<.001	-	-	-0.24 (0.04)	(-0.32, -0.16)	<.001	
ES->PF	-0.28 (0.05)	(-0.37, -0.19)	<.001	-	-	-0.28 (0.05)	(-0.37, -0.19)	<.001	
ES->SS	-0.32 (0.04)	(-0.39, -0.24)	<.001	-	-	-0.32 (0.04)	(-0.39, -0.24)	<.001	
ES->FC	-0.13 (0.04)	(-0.21, -0.05)	.003	-	-	-0.13 (0.04)	(-0.21, -0.05)	.003	
ES->SR	-0.23 (0.04)	(-0.30, -0.17)	<.001	-	-	-0.23 (0.04)	(-0.30, -0.17)	<.001	
SP->PTSD	-7.33 (0.84)	(-8.98, -5.68)	<.001	-	-	-7.33 (0.84)	(-8.98, -5.68)	<.001	
PF->PTSD	-0.82 (0.69)	(-2.17, 0.53)	.233	-	-	-0.82 (0.69)	(-2.17, 0.53)	.233	
SS->PTSD	0.95 (0.78)	(-0.58, 2.49)	.222	-	-	0.95 (0.78)	(-0.58, 2.49)	.222	
FC->PTSD	-1.03 (0.74)	(-2.49, 0.42)	.164	-	-	-1.03 (0.74)	(-2.49, 0.42)	.164	
SR->PTSD	1.63 (0.93)	(-3.46, 0.93)	.079	-	-	1.63 (0.93)	(-3.46, 0.93)	.079	
ES->SP->PTSD	2.15 (0.55)	(1.07, 3.23)	<.001	1.77 (0.36)	(1.12, 2.53)	4.37 (0.61)	(3.17, 5.55)	<.001	
ES->PF->PTSD				0.23 (0.22)	(-0.21, 0.69)				
ES->SS->PTSD				-0.30 (0.27)	(-0.83, 0.22)				
ES->FC->PTSD				0.13 (0.12)	(-0.06, 0.40)				
ES->SR->PTSD				-0.38 (0.24)	(-0.07, 0.89)				
<i>R</i> ² = 11%									
CR->SP	0.22 (0.05)	(0.13, 0.31)	<.001	-	-	0.22 (0.05)	(0.13, 0.31)	<.001	
CR->PF	0.20 (0.06)	(0.09, 0.31)	<.001	-	-	0.20 (0.06)	(0.09, 0.31)	<.001	
CR->SS	0.12 (0.05)	(0.03, 0.21)	.013	-	-	0.12 (0.05)	(0.03, 0.21)	.013	
CR->FC	0.14 (0.05)	(0.04, 0.23)	.004	-	-	0.14 (0.05)	(0.04, 0.23)	.004	
CR->SR	0.15 (0.04)	(0.07, 0.23)	<.001	-	-	0.15 (0.04)	(0.07, 0.23)	<.001	
CR->SP->PTSD	1.65 (0.60)	(0.47, 2.83)	.006	-1.70 (0.46)	(-2.67, -0.85)	-0.67 (0.74)	(-2.12, 0.79)	.377	
CR->PF->PTSD				-0.20 (0.18)	(-0.61, 0.11)				
CR->SS->PTSD				0.05 (0.11)	(-0.16, 0.28)				
CR->FC->PTSD				-0.11 (0.13)	(-0.40, 0.12)				
CR->SR->PTSD				-0.36 (0.21)	(-0.81, -0.03)				

Note: Bold font indicates significant effects ($p < .05$). *B* = unstandardized regression coefficients; SE = standard error; 95% CI = bootstrapped 95% confidence intervals; p = p -values. *Indirect effects were considered significant in the presence of 95% confidence intervals not including zero.

Abbreviations: CR, cognitive reappraisal; ES, expressive suppression; FC, family cohesion; PF, perception of future; SP, self-perception; SR, social resources; SS, social skills.

PTSD symptoms were significantly predicted by expressive suppression and perception of self (direct effects) but not by family cohesion, planned future, social competence, and social resources. When resilience dimensions were entered into the mediation model, the positive association between expressive suppression and PTSD symptoms remained significant, indicating a partial mediation. Examining the confidence intervals, only perception of self had a significant indirect effect. Higher levels of expressive suppression were associated with lower perception of self which, in turn, was associated with higher PTSD.

We then tested the effects of cognitive reappraisal on PTSD symptoms. Considering the direct effects, PTSD symptoms were significantly predicted by cognitive reappraisal and perception of self. Considering indirect effects, confidence intervals showed that cognitive reappraisal had a significant negative indirect effect on PTSD symptoms, due to the resilience dimensions perception of self and social resources. There was a suppression effect since the directionalities of the effects are different. High levels of cognitive reappraisal were associated with lower levels of PTSD symptoms, as a result of the perception of self and social resources.

4 | DISCUSSION

The purpose of this study was to explore the role of emotion regulation and resilience in explaining individual differences in the psychological functioning of university students. Specifically, it aimed to identify to what extent the relationship between emotion regulation strategies (expressive suppression and cognitive reappraisal) and several mental health indicators (depression, anxiety, stress, and PTSD symptoms), was mediated by resilience dimensions (perception of self, planned future, social competence, family cohesion, and social resources).

As expected, the results for expressive suppression allow us to confirm its association with poorer mental health outcomes, since higher levels of expressive suppression were associated with higher levels of depression, anxiety, stress, and PTSD symptoms, thus supporting our H1. These findings are consistent with previous studies (Eldesouky, 2015; Joormann & Gotlib, 2010; Millgram et al., 2018; Schäfer et al., 2017; Tyra et al., 2021), and confirms that inhibiting emotional expression may have an adaptation cost. It seems to be ineffective in reducing negative affect (Meyer et al., 2012), which can be associated with psychopathological symptoms. It is also not effective in reducing anxiety-related physiological arousal (Hoffmann et al., 2009).

Unexpectedly, there was also a positive association between cognitive reappraisal and mental health: high levels of depression, anxiety, stress, and PTSD symptoms were predicted by high levels of cognitive reappraisal, which did not allow confirmation of H2. Although most studies associate cognitive reappraisal with better mental health (Cludius et al., 2020; Gross & John, 2003), some authors (Aldao & Christensen, 2015; Ford & Troy, 2019) highlight the importance of a more in-depth study because sometimes people are unable to use cognitive appraisal successfully, or it does not function as it should. For example, some studies note how cognitive reappraisal can function as an escape strategy, which contributes to perpetuating the vicious circle of negative emotion (this happens, for example, in the ruminative processes typical of depression) (Dryman & Heimberg, 2018; Haines et al., 2016). Cognitive reappraisal is not always beneficial.

In this regard, several studies draw attention to the need to adopt a person-by-situation approach while evaluating the adequacy of the strategy (Ford & Troy, 2019; Troy et al., 2013), since the context influences its effects (Troy et al., 2013) as well as an individual's flexibility in the use of emotion regulation strategies (e.g., Bonanno & Burton, 2013). According to some authors, it is in stressful situations which are more controllable for the individual that cognitive reappraisal entails costs for their mental health because it can reduce the tendency to take effective action when action would be functional (Ford & Troy, 2019; Haines et al., 2016; Troy et al., 2013). In the present study, data were obtained in the context of a pandemic. Although it was a very challenging period, it is possible to assume that, after a year of the pandemic, individuals already knew what measures to take to decrease their likelihood of becoming infected with COVID-19. Also, after an initial period of adaptation to distance learning, students had by then already mastered the tools of remote learning and its requirements.

In line with previous studies (Mestre et al., 2017; Mouatsou & Koutra, 2021; Taylor et al., 2022), our findings showed that, as expected, some resilience dimensions mediated the relation between emotion regulation and depression, anxiety, stress, and PTSD symptoms, thus allowing confirmation of H3. Our study highlights the role of resilience in reducing the effect of expressive suppression and suppressing the potential negative effect of cognitive reappraisal on mental health outcomes.

The only dimension of resilience that mediated all associations, considering both expressive suppression and cognitive reappraisal, was the perception of self. This dimension refers to confidence in one's "own abilities and judgments, self-efficacy and realistic expectations" (Hjemdal et al., 2011, p. 59). Self-efficacy has been associated with mental health outcomes (Abdel-Khalek & Lester, 2017), and is also a relevant aspect associated with health-related intentions and behaviors (Sheeran et al., 2016). In a challenging context for health such as the COVID-19 pandemic, evidence shows that self-efficacy and confidence are important elements in the adaptation process. COVID-19-related studies found negative associations between self-efficacy and psychological distress (Shacham et al., 2020; Yıldırım & Güler, 2020). So, if a person suppresses the expression of emotion, this can be associated with a perception of insecurity and lower self-efficacy, which contributes to an increase in depression, anxiety, stress, and PTSD symptoms. However, if the person tries to reframe an experience to control the underlying emotion and this leads to a perception of confidence about her abilities and judgments, that is associated with a decrease in depression, anxiety, stress, and PTSD symptoms. People with high levels of self-efficacy believe and are more likely to cope with adverse situations and so tend to present fewer psychological distress symptoms.

Our findings also showed that the planned future dimension mediated the association between emotion regulation (expressive suppression and cognitive reappraisal) and depression. This resilience dimension refers to "the ability to plan, have a positive outlook, and be goal-oriented" (Hjemdal et al., 2011, p. 59). It is one of the psychological features that is impaired in cases of depression (MacLeod & Salaminiou, 2001), with the lack of positive expectations being a characteristic and specific feature of depressive future-thinking (Gamble et al., 2019; MacLeod, & O'Connor, 2018). Beck's negative triad (1979) theorizes that depressed people have negative and hopeless thoughts about themselves, the world, and the future. While expressive suppression seems to "feed" this triad, cognitive reappraisal seems more effective in diminishing it by positively reinterpreting the situation.

Emotion regulation antecedent-focused strategies that target cognition, such as cognitive reappraisal, are more effective than those that rely less on cognition and are response-focused, such as expressive suppression (Gross, 1998; Joormann & Gotlib, 2010). That seems to be the case in the present study, as expressive suppression appears to affect the capacity to plan and have a positive outlook, whereas cognitive reappraisal seems to facilitate this process, with a positive impact on mental health.

Family cohesion mediated the relation between emotion regulation and stress. While expressive suppression predicts lower levels of family cohesion, leading to an increase in poor mental health outcomes, cognitive reappraisal is positively associated with this resilience dimension and with better outcomes. Family cohesion refers to the extent to which there is agreement on values within the family, whether its members enjoy spending time together, have an optimistic vision of the future, are loyal to each other, and are mutually supportive (Hjemdal et al., 2011). It refers to the capacity of individuals to make use of the various systems in their context to cope better with adverse and stressful situations (Pereira et al., 2017).

According to Moore et al. (2008), some people who often inflexibly use expressive suppression tend to adopt an emotion-avoidant way of interacting with others and the world. This can hinder family closeness and support, and prevent the individual from turning to the family as a means of coping with stress, thus increasing its level. The COVID-19-related study by Zeng et al. (2021) confirms this association: the greater the family cohesion, the more support and help the person can obtain from their relatives, which contributes to reducing the negative effects of stress.

Cognitive reappraisal was associated with higher family cohesion and lower stress. Ye et al. (2022) reported that family communication was associated with learning to consider diverse perspectives in problem-solving, which has a positive impact on decreasing stress. Considering that the pandemic led to significant challenges for family functioning (Yun et al., 2021), it is possible to hypothesize that the resignification of experiences for emotional

purposes may have contributed to family cohesion, i.e., an appreciation of time spent with family and the support provided by family members.

Finally, social resources mediated the association of cognitive reappraisal with anxiety and PTSD by suppressing their direct positive relationship. Social resources, as a dimension of resilience, refers to the availability of social support, whether the person has a confidant outside their family, and whether they have someone outside the family to turn to if they need help (Hjemdal et al., 2011).

Cognitive reappraisal is classically associated with better interpersonal functioning (Gross & John, 2003). According to Cutuli (2014), using cognitive reappraisal allows a person to implement and produce interpersonal behavior that is appropriately focused on social interaction, and to be perceived by others as emotionally engaging and responsive. Individuals who habitually use cognitive reappraisal engage in positive prosocial behavior because they efficiently interpret the social environment (Panno et al., 2020). They will, therefore, tend to have positive social relationships, which has a positive impact on mental health outcomes.

Despite previous studies ascertaining the effectiveness of cognitive reappraisal in moderating anxiety (Campbell-Sills et al., 2006; Xu et al., 2020) and PTSD (Boden et al., 2012; Ehring & Quack, 2010), in the present study, resilience dimensions, as social resources, were necessary for that effectiveness.

4.1 | Limitations and future directions

Despite these important findings, this study presents some limitations that need to be acknowledged. In terms of methodology, the cross-sectional nature of the data does not allow causal relationships to be established between the variables. The low internal consistency of the “structured style” dimension of resilience also prevented its use. Regarding the characteristics of the sample, although they are all university students, the age range is very wide, hence it includes people at different stages of life, with different life experiences and different mental health backgrounds (which were not controlled). On the other hand, the sample is mostly women, and students with a medium or medium-high socioeconomic status. Future studies should focus on more homogeneous groups or on controlling for socio-demographic variables with a potential impact on the results, such as age, gender, or socioeconomic status.

Finally, although the data were collected in the context of a pandemic, at the time of collection, only a small proportion of the participants had been infected with COVID-19, and not severely. As such, it was not possible to determine to what extent this experience would impact their mental health. At the same time, no data concerning vaccination were gathered, which meant we were unable to ascertain the potential positive impact of this measure on levels of stress and anxiety. Future research should also study the mental health indicators of infected and noninfected people, vaccinated or not, considering the severity of the infection and the potentially protective internal resources such as emotional regulation and resilience. While the evidence demonstrates the negative psychological impact of a perceived threat, studies on the long-term impact of the 2-year limitations imposed by COVID-19 are only now beginning to be conducted.

4.2 | Implications

Our findings are of great importance in terms of the clinical and health implications. By deepening knowledge of how resilience and emotion regulation can function as protective factors against the development of psychological distress symptoms in challenging health contexts, this study provides evidence that confirms the importance of facilitating increased psychological resilience, as well as the use of contextually appropriate emotion regulation strategies. Previous COVID-19 related studies highlighted the importance of developing interventions that enhance resilience to reduce negative mental effects during pandemics (Skalski et al., 2022; Verdolini et al., 2021), with the main focus on individuals' confidence in their judgements, their self-efficacy and realistic expectations (self-perception) (Hjemdal et al., 2011;

Pereira et al., 2013). Some authors state the need to prioritize psychological resilience as a primary public health issue during stressful situations like pandemics (Ruengorn et al., 2022).

These results also point to the probable greater effectiveness of “combined” interventions (i.e., to say, intervening jointly on emotional regulation strategies and resilience), a hypothesis that needs future experimental verification of the research.

5 | CONCLUSION

This study made it possible to deepen our knowledge of how, in a challenging context like the COVID-19 pandemic, internal resources such as resilience and emotional regulation may operate in parallel as protective factors against the development of psychological distress symptoms, specifically depression, anxiety, stress, and PTSD.

In particular, the results obtained contribute to describing the role that the different dimensions of resilience may play as mediators between the emotional regulation strategies adopted and mental health outcomes. The data on expressive suppression is in line with previous COVID and non-COVID studies, confirming its positive association with lower mental health indicators (Eldesouky, 2015; Jungmann & Witthöft, 2020; Li et al., 2021; Millgram et al., 2018; Russell et al., 2022). Data on cognitive reappraisal helped elucidate the important role of resilience in the relationship between this emotion regulation strategy and mental health outcomes (Hezel et al., 2022; Killgore et al., 2020; Mosheva et al., 2020), in that it was the mediating role of resilience that allowed cognitive reappraisal to function in a protective sense, thus contributing to better mental health.

Several studies have established the protective function of resilience against the development of psychological problems. Resilient individuals are seen as flexible and cope with adverse or stressful situations because they have several individual, interpersonal and contextual protective resources (Friborg et al., 2003) and tend to adopt more positive adaptive behaviors toward negative life events (Peng et al., 2012), such as the COVID-19 pandemic.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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