Ansiedad y Estrés

Original

Emotional regulation, depressive symptoms, and anhedonia: The specific role of adaptive and maladaptive strategies

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A R T I C L E   I N F O

A B S T R A C T

Emotional regulation strategies have been shown to have either positive or negative relations with depression. However, very few of the studies that have analyzed this issue have taken into account the role of anhedonia in depression. This is the first study to jointly examine the specific contributions of both adaptive and maladaptive emotional regulation strategies to depression and anhedonia. The study uses a community sample (*N* = 427). The analyses indicated a positive, medium-sized relationship between adaptive strategies and (the lack of) anhedonia, as well as a negative relationship between these strategies and depressive symptoms. The study also found a strong, positive association between maladaptive strategies and depressive symptoms, as well as a medium-sized, negative relationship between maladaptive strategies and (the lack of) anhedonia. Structural equation modelling analysis confirmed the specific contribution of adaptive and maladaptive regulation strategies to both affective dimensions. These findings underscore the important roles that both kinds of emotional regulations strategies can play in understanding depression and, therefore, in informing treatment of depressive disorders and anhedonia.

Regulación emocional, síntomas depresivos y anhedonia: El papel específico de las estrategias adaptativas y desadaptativas

R E S U M E N

Las estrategias de regulación emocional se han asociado a la depresión, tanto de forma positiva como negativa. Sin embargo, muy pocos estudios han analizado esta relación teniendo en cuenta el componente anhedónico del trastorno. Este trabajo es el primero en examinar la contribución específica de las estrategias de regulación emocional adaptativas y desadaptativas en su relación con el estado de ánimo deprimido y la anhedonia de forma conjunta. En una muestra de población comunitaria (*N* = 427), los análisis revelaron una asociación positiva y de magnitud moderada entre las estrategias adaptativas con la ausencia de anhedonia, y negativa con los síntomas depresivos. Las estrategias desadaptativas se asociaron de forma positiva, con una elevada magnitud, con los síntomas depresivos, y de forma negativa y moderada con la ausencia de anhedonia. Los análisis de modelos de ecuaciones estructurales confirmaron el efecto específico de las estrategias de regulación adaptativas y desadaptativas sobre los síntomas de depresión y la ausencia de anhedonia. Estos hallazgos ponen de manifiesto la relevancia de ambas estrategias de regulación emocional en la conceptualización de la depresión y, en consecuencia, en el tratamiento del estado de ánimo deprimido y de la anhedonia.

Introduction

Depression is among the most prevalent psychological disorders. It affects over 320 million people worldwide and it ranks as the third illness among those with the highest burden of years living with disability (James et al., 2018). This mood disorder, as defined by the Diagnostic and Statistical Manual of Mental Disorders DSM-5 (American Psychiatric Association, APA, 2014), is marked by two main affective dimensions, namely, a depressed mood (feelings of sadness, emptiness, guilt or hopelessness) and a loss of interest in activities accompanied by anhedonia (an inability or reduced ability to experience pleasure). Prior research on depression has tended to focus on the mood aspect of the disorder (Raes et al., 2014; Werner-Seidler et al., 2013), but less is known about the mechanisms that underlie anhedonia (Werner-Seidler et al., 2013). This lack of scholarly interest persists despite the fact that anhedonia has been linked to the evolution of depressive symptomology (Riskind et al., 2013), and in spite of indications that this aspect of depression has often proved difficult to treat, whether pharmacologically or psychologically (Dunn, 2012; Treadway & Zald, 2011). Therefore, studying the factors associated with depressive symptoms and anhedonia in combination has the potential to shed new light on depression. This study analyzed the role played by emotional regulation in depressive symptoms and anhedonia.

Emotional regulation

Individual differences in emotional regulation have been shown to play a key role in the functioning of depression. The term emotional regulation refers to the processes through which people influence their own emotions, helping to shape the emotions we experience, when and how we experience them, and how we express them (Gross, 1999).

According to Gross's Process Model of Emotion Regulation (1998, 2015), people employ and activate a range of different emotional regulation strategies throughout the process of forming emotions. The first strategy involves selecting a situation from among several possibilities and/or modifying a situation to change its emotional impact. The second consists of focusing one's attention on certain aspects of a situation instead of other aspects. The third is the effort to make a cognitive change by choosing the emotional meaning that one attributes to the situation. The fourth involves modulating one's emotional response once a certain emotion has been generated. In other words, people can use a wide variety of emotional regulation strategies, but there are individual differences in our tendency to choose one of these strategies or another (Gross, 1998).

While it is true that the consequences of using one set of strategies or another depend on a number of factors (such as the intensity of the emotion, the individual's objectives and the broader context) (Gross & Jazaieri, 2014; Plate et al., 2016; Sheppes et al., 2015), research has linked the frequent use of certain strategies to different life outcomes in areas such as mental health. Certain strategies have been labeled maladaptive. These strategies, which include rumination, avoidance and suppressing one's emotions, have been tied to psychopathology and emotional distress. Meanwhile, the list of strategies that are considered adaptive, including reappraisal, acceptance and problem solving, have been linked to more positive outcomes such as greater overall wellbeing and satisfaction with life (Aldao & Nolen-Hoeksema, 2012; Aldao et al., 2010). Indeed, some of the research into the connections between emotional regulation and depression has sought to discover what regulation strategies are most common among people with this mood disorder, and to identify the role these strategies might play in depression's etiology and evolution, and in the specific symptoms that emerge.

Emotional regulation strategies and depressive symptoms

Maladaptive emotional regulation strategies have been shown to play a key role in the development of depressive symptomology. In a meta-analysis of 114 studies on the topic of these strategies, Aldao et al. (2010) found a strong (rumination: $r = .55$; avoidance: $r = .48$) to moderate (emotional suppression: $r = .36$) association with depressive symptoms. Among all the maladaptive strategies, rumination seems to play the most central role (Everaert et al., 2017; Ly et al., 2017) and it is considered a risk factor contributing to the severity of depressive episodes and the tendency toward relapse (Lam et al., 2003). Rumination has also been identified as an obstacle to the effectiveness of psychological treatment (Watkins & Roberts, 2020). However, other maladaptive strategies such as catastrophizing and blaming others or oneself have also been tied to the presence of depressive symptoms (Garnefski & Kraaij, 2006b).

Conversely, adaptive emotional regulation strategies have been shown to have a negative relationship with depressive symptomology. In the meta-analysis by Aldao et al. (2010), problem solving ($r = -.33$), acceptance ($r = -.20$), and cognitive reappraisal ($r = -.17$) were negatively associated with the symptoms of depression. However, unlike the strong to moderate effect sizes found in the case of maladaptive strategies in the same study, the effect sizes found for these adaptive emotional regulation strategies on depressive symptoms were in the small to moderate range. These results have been replicated in subsequent studies. For example, a study by Van Beveren et al. (2018), using a sample of 1646 adolescents, found a moderate association ($r = -.37$) between these strategies and the symptoms of depression. In fact, the associations between depression and all of the strategies assessed in the study (positive refocusing: $r = -.35$; problem solving: $r = -.34$; acceptance: $r = -.28$; cognitive reappraisal: $r = -.22$) were found to be statistically significant. Elsewhere, a systematic review and meta-analysis of 104 studies by Dryman and Heimberg (2018) found that more infrequent use of cognitive reappraisal was associated with a greater presence of symptoms of depression, calculating a moderate to large effect size ($d = 0.28–1.19$).

Emotional regulation strategies and anhedonia

There has been little research to date focusing specifically on the associations between the various emotional regulation strategies and anhedonia (Raes, 2014). One recent study by Young et al. (2022) that did look at this topic found that the habitual use of cognitive reappraisal strategy was significantly associated with lower rates of anhedonia over a period of three years in a sample of adolescents. Meanwhile, greater levels of anhedonia have been tied to less frequent use of strategies aimed at regulating and promoting the appearance of positive emotions (Nelis et al., 2015; Werner-Seidler et al., 2013).

While it is true that there is a relative lack of research into anhedonia, there are some studies in the literature on the role of emotional regulation in positive emotions and wellbeing. Van Beveren et al. (2018) found a moderate, positive association ($r = .41$) between adaptive strategies and positive affect; and, more recently, a study by Kobylińska et al. (2020) found that cognitive reappraisal predicts higher scores for positive emotions. In a similar vein, a meta-analysis of 35 studies with clinical samples carried out by Kraiss et al. (2020), explored the relationships between various emotional regulation

strategies and several indicators of wellbeing (life satisfaction, positive emotions, happiness and the feeling of purpose in life). The results showed that both adaptive and maladaptive strategies had small but significant relationships (r =.25 y r = -.21, respectively) with the level of wellbeing.

Our study: Emotional regulation, depressive symptoms, and anhedonia

Prior research into emotional regulation has shown that the use of adaptive and maladaptive emotional regulation strategies is closely linked to depressive mood symptoms, and there is also some evidence for links with anhedonia. Nonetheless, the few studies that have addressed this question have tended to treat anhedonia on its own rather than considering the specific contributions of the two kinds of strategies on these two affective dimensions of depression jointly in a single study.

The objective of this research is to address these limitations by examining the specific contributions of adaptive and maladaptive emotional regulation strategies with the two affective dimensions of depression (depressive symptoms and anhedonia), considered together.

Firstly, we will analyze the associations between adaptive and maladaptive regulation strategies, on the one hand, with depressive symptoms and anhedonia on the other. Based on previous studies, we expect to find: a) that adaptive strategies have a low to moderate correlation with depressive symptoms and anhedonia, b) and that maladaptive strategies have a high degree of correlation with depressive symptoms and a low to moderate degree of correlation with anhedonia.

Secondly, using structural equation modeling (SEM), we will analyze the specific, individual contributions that the two kinds of emotional regulation strategies make to depression symptoms and anhedonia. Our hypothesis is that both adaptive and maladaptive strategies will make specific contributions to the two affective dimensions of depression. This would suggest that, in order to understand depression, it might be relevant to consider the whole range of adaptive and maladaptive strategies that people employ. This, in turn, could help point the way forward toward new strategies to treat this disorder.

Method

Participants and procedure

The sample in this study was made up of 427 participants (78.44% university students and 21.56% non-students from the general population). They ranged from 18 to 70 years of age (M = 25.51, SD = 12.23). Women made up 74.9% of the sample, while 24.4% were men and 0.7% identified as nonbinary.

The sample was recruited as part of a larger project on emotional regulation and depression (see Cano-López et al., 2021). During their classes, student participants received information and an invitation to participate in a study on emotional regulation and emotional distress. The questionnaires were administered electronically and completed individually, thus ensuring the anonymity of answers. Students who participated in the study were rewarded with university credit hours. The non-students were recruited via a snowball sampling technique and received no compensation. Participation was fully voluntary and anonymous. This study was approved by the ethics committee of the Universidad Complutense de Madrid (Ref.: 2017/18–021).

Instruments

Cognitive Emotion Regulation Questionnaire (CERQ; Garnefski & Kraaij, 2006a), short-form, Spanish adaptation by Holgado-Tello et al. (2018). The CERQ-18 is an 18-item self-report measure that assesses cognitive aspects of emotional regulation through nine subscales, each of which measures a different adaptive or maladaptive strategy. The list of adaptive strategies includes positive refocusing ("I think about pleasant things that have nothing to do with this."), planning ("I think about how to change the situation."), positive reappraisal ("I think about how I can become a stronger person as a result of what I have experienced."), acceptance ("I think I have to accept the situation.") and putting into perspective ("I tell myself that there are worse things in life."). The maladaptive strategies are self-blame ("I feel I am responsible for what has happened"), rumination ("I am worried about what I think and feel about what happened."), catastrophizing ("I can't stop thinking about how terrible what I experienced was.") and other-blame ("I feel that others are responsible for what happened."). Each subscale is made up of two Likert-type items that are answered on a five-point scale ranging from 1 ("hardly ever") to 5 ("almost always"). The test yields a total score that can range from 5 to 25 for the adaptive strategies and from 4 to 20 for the maladaptive strategies. Both the original version of the CERQ (Garnefski & Kraaij, 2006a) and its Spanish adaptation have been found to have acceptable psychometric properties (Domínguez-Sánchez et al., 2013; Holgado-Tello et al., 2018). In the present study, adaptive (α = .81) and maladaptive strategies (α = .78) have shown good and acceptable internal consistency reliability, respectively.

Patient Reported Outcomes Measurement Information System (PROMIS; Cella et al., 2007) assess, through different measures, the physical, mental and social health state in adults and infants, as well as in the general population and people with chronic diseases. In this study, we used specifically the PROMIS depression domain (PROMIS-Depression [PROMIS-D], Cella et al., 2015), shortened 8-item version and Spanish adaptation by Vilagut et al. (2015). PROMIS-D bank items allows to assess the presence of a depressive emotional state among the participants over the seven days prior to the measurement ("I felt worthless", "I felt hopeless"). The items are in a Likert-type format, where 1 means "never" and 5 means "always." Total scores can range from 8 to 40, with higher scores indicating a greater presence of depressive symptomology. Both the original PROMIS questionnaire and the Spanish adaptation, and both the original 28-item version and the shortened 8-item version, have been shown to have very good psychometric properties (Vilagut et al., 2015). In this study, PROMIS-D has reached an excellent internal consistency reliability (α = .94).

Patient Health Questionnaire, the 9-item abridged version (PHQ-9; Kroenke et al., 2001), Spanish version by Diez-Quevedo et al. (2001). This is a self-administered version of the PRIME-MD questionnaire (which makes it possible to detect symptoms of depression over the previous two weeks and to assess their seriousness). The test incorporates the diagnostic criteria for depression from the DSM-IV (American Psychiatric Association, APA, 2002), (for example, "lack of interest or pleasure while doing things," "has felt sad, depressed or hopeless"). The instrument consists of nine items that are answered on a Likert scale ranging from 0 to 3, where 0 is "never" and 3 is "almost every day." Additionally, the scale includes a question that measures the severity of symptomology: "How difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?" Scores can range from 0 to 27. The original version of the PHQ has been shown to have good psychometric properties (Kroenke et al., 2001). The Spanish adaptation of the PHQ-9 has been found to have a similar degree of validity to that of the

original (Diez-Quevedo et al., 2001). In this study sample, Cronbach's alpha of the PHQ-9 has reached a value of .86.

Snaith-Hamilton Pleasure Scale (SHAPS, Snaith et al., 1995) Spanish version by Fresán & Berlanga (2013). This is a self-report instrument that assesses the experience of pleasure or the anticipation of a potentially pleasant experience. It consists of 14 Likert-type items, answered on a scale from 1, "completely agree," to 5, "completely disagree." Lower scores indicate a greater presence of anhedonia. The items on the Spanish version of the SHAPS (Fresán & Berlanga, 2013) measure the following five different dimensions of pleasurable experiences, mostly coinciding with the dimensions in the original scale: interests/hobbies ("I enjoy my hobbies."), social interaction ("I enjoy being with my family and friends."), sensorial experience ("I enjoy looking at a landscape or a beautiful view."), and satisfaction with food and drink ("It is pleasant for me to have a cup of coffee, tea or my favourite drink."). Both the original version of SHAPS (Nakonezny et al., 2010) and the Spanish adaptation have displayed good psychometric properties. In the present study, SHAPS has been found to have an acceptable internal consistency reliability (α = .73).

Statistical analyses

This is a cross-sectional study. The software program IBM SPSS Statistics version 22 was used to analyze the descriptive statistics and to calculate reliability and Pearson correlation coefficients. For the Structural Equation Modeling (SEM), the software program JASP0.16.2 was used. The analysis did not take into account the items on the PROMIS depression subscale and the PHQ-9 that refer to symptoms of anhedonia (PROMIS-D: item 7 ["I felt I had nothing to look forward to."] and item 8 ["I felt that nothing could cheer me up."]; PHQ-9: item 1 [Little interest or pleasure in doing things."]). This resulted in a measurement of depressive symptomology with a greater emphasis on negative affect. We used SEM analysis with latent variables to analyze the specific association between adaptive and maladaptive strategies on the one hand and depressive symptoms and lack of anhedonia on the other. This type of analysis makes it possible to control for measurement error. The SEM analysis was done using the robust method, which is recommended for samples that do not meet the assumptions of normality. The following four latent variables were created: a factor representing adaptive strategies, made up of the scores on the subscales measuring positive refocusing, planning, positive reappraisal, acceptance and putting in perspective; a factor representing maladaptive strategies, made up of the scores on the subscales measuring self-blame, rumination, catastrophizing and other-blame; a factor representing depressive symptoms, which was calculated by four parcel of items (two from the PHQ-9 and two from the PROMIS-D); and, finally, a factor representing the lack of anhedonia, made up of the scores on the SHAPS subscales measuring interests/hobbies, social interaction, sensorial experience and satisfaction with food and drink.

In accordance with Schweizer's (2010) recommendations, the following measurements of goodness of fit were used: a) root mean square error of approximation by degrees of freedom (RMSEA); b) Bentler's comparative fit index (CFI); and c) standardized root mean square residual (SRMR). For the CFI, values over .90 indicate an acceptable goodness of fit. RMSEA values under .08 are acceptable, while values under .05 indicate a good level of fit. Finally, SRMR values are expected to be under .10 (Schweizer, 2010). The sample size in this study was calculated to be large enough for the use of SEM analysis, according to the recommendation made by Kline (2011).

Results

Descriptive analyses, correlations and reliability

Table 1 shows the sociodemographic characteristics of the sample. Descriptive statistics, reliability and correlations are shown in Table 2. All the scales used had an acceptable level of internal consistency, with Cronbach's alpha scores ranging from 73 to .94.

Table 1
Sociodemographic characteristics of the sample.

	n	%
Relationship status		
Married	44	9,8
Never married	142	31,6
Divorced or separated	14	3,1
In a relationship	159	35,3
Single	82	18,2
Other	9	2
Education level		
Primary education	13	2,9
Secondary education	325	72,2
Vocational training	7	1,6
Advanced vocational training	32	7,1
University degree	58	12,9
Postgraduate degree	12	2,7
Occupation		
Full time student	317	70,4
Half/part time student	14	3,1
Full time employee	54	12
Half/part time employee	11	2,4
Self-employment	9	2
Student and employee	23	5,1
Unemployed	13	2,9
Retired	9	2
Annual income (euros)		
< 12.000	74	16,4
12.001-24.000	177	39,3
24.001-36.000	107	23,8
36.001-60.000	64	14,2
60.001-72.000	16	3,6
> 72.000	12	2,7

There was a negative association between adaptive emotional regulation strategies and depressive symptomology. The effect size was small but significant in the case of the PROMIS-D, but it did not reach the level of significance in the case of the PHQ-9. There was also a significant association between the scores for adaptive strategies and the lack of anhedonia. In this case, the association was positive and medium-sized, indicating that participants who more frequently used adaptive regulation strategies experienced lower levels of anhedonia. Meanwhile, maladaptive strategies displayed a large and positive correlation with symptoms of depression as assessed by both the PROMIS-D and the PHQ-9. This was the strongest correlation found in the study. There was also a medium-sized, negative correlation between maladaptive strategies and the absence of anhedonia. Finally, depressive symptoms and the lack of anhedonia displayed a significant, negative correlation.

Structural equation modeling (SEM)

The SEM results indicated a good fit: $\chi2$ = 387.51, *df* = 113, p <0.01, RMSEA = 0.07; CFI = .90; SRMR = 0.07. As Figure 1 shows,

both adaptive and maladaptive strategies were found to have specific associations with depressive symptoms and with the absence of anhedonia. Specifically, adaptive strategies had a medium-sized, positive association with the lack of anhedonia, as well as a negative association with depressive symptoms. In contrast, maladaptive strategies had a strong, positive association with the symptoms of depression and a moderate, negative association with the absence of anhedonia.

Table 2
Means, standard deviations, internal consistency reliabilities and intercorrelations among measures.

	1	2	3	4	5
1. PROMIS-D	--				
2. PHQ-9	.80**	--			
3. SHAPS	-.44**	-.45**	--		
4. CERQ-18 Adaptive	-.14**	-.07	.24**	--	
5. CERQ-18 Maladaptive	.60**	.60**	-.25**	.15**	--
M	12.27	6.99	12.74	16.35	9.93
SD	5.89	5.38	1.87	3.48	2.74
α	.94	.86	.73	.81	.78

PROMIS-D = Patient Reported Outcomes Measurement Information System-Depression. PHQ-9 = Patient Health Questionnaire. SHAPS = Snaith-Hamilton Pleasure Scale. CERQ-18 = Cognitive Emotion Regulation Questionnaire – Short version.
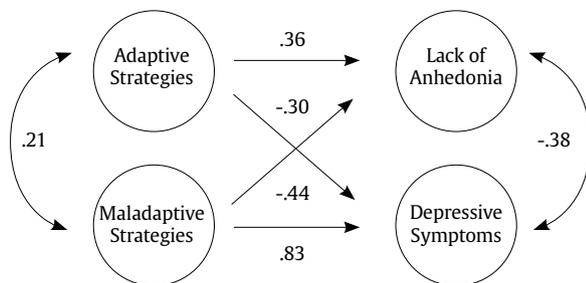** Significance level $p < 0.01$.

Figure 1
Structural equation model (SEM) of specific associations between emotion regulation strategies, lack of anhedonia and depressive symptoms.

Discussion

Both adaptive and maladaptive emotional regulation strategies had previously been associated to depressive symptoms (Aldao et al, 2010; Van Beveren et al., 2018). However, there was a dearth of research into emotional regulation and anhedonia, and no prior study had analyzed the specific contributions that the two kinds of strategies make to the two affective dimensions of depression, namely, depressive symptomology and anhedonia.

Firstly, the results of the correlation analyses confirm part of our hypothesis, as they show that there was a weak, negative association between adaptive emotional regulation strategies and depressive symptoms, while the association between maladaptive strategies and these symptoms was strong and positive. These results echo some of the findings in the literature (Aldao et al., 2010; González et al., 2004) and suggest that maladaptive strategies play a greater role than positive strategies in explaining depressive symptoms. In other words, recurring to strategies such as rumination, catastrophizing, or blaming oneself or others seems to be linked to a greater tendency toward the negative affect that

is characteristic of depression. At the same time, both adaptive and maladaptive strategies displayed similar levels of associations with the absence of anhedonia. These findings are aligned with the results of earlier research on anhedonia (Nelis et al., 2015; Werner-Seidler et al., 2013; Young et al., 2022), and they are in agreement with other studies that have more broadly analyzed the relationship between emotional regulation and wellbeing (Kraiss et al., 2020). Anhedonia is one of the defining elements of depression, and it has been tied to worse prognoses for the disorder (Riskind et al., 2013). Nonetheless, there is not much empirical data on the mechanisms that underlie anhedonia (Werner-Seidler et al., 2013). Our results suggest that we might come to a better understanding of why people find it difficult to enjoy activities and their everyday lives if we more closely examined the ways in which they regulate their emotions. Indeed, the strategies that we use to change our own emotional states seem to be associated not only with the presence of depressive symptoms, but also with the absence of pleasure and with an inability to enjoy oneself.

Secondly, the results of the SEM analyses indicated that adaptive and maladaptive strategies both made specific contributions to each of the affective dimensions that are characteristic of depression. The research published to date that had analyzed the associations between regulation strategies, depressive symptoms and anhedonia had always treated these variables in separate studies. Therefore, prior to the current study it remained unclear whether the association between the different types of strategies and the different elements of depression acted independently of one another. Our data suggest that this is in fact the case. Adaptive strategies are associated with depression, not only through their relationship with the absence of anhedonia, but also through their direct, negative relationship with depressive symptoms. Similarly, maladaptive strategies have a direct effect on the absence of anhedonia, independent of their relationship with depressive symptoms.

Taken as a whole, our study suggests that, in order to better understand depression in a broad sense that takes into account the affective dimensions of depressed moods and anhedonia, it is important to consider the role of both adaptive and maladaptive emotional regulation strategies. However, the differing effect sizes indicate that the role of maladaptive strategies in depressive symptoms is especially important, while both types of strategies seem to exert similar degrees of influence on anhedonia.

These results have clinical implications. Both pharmacological and psychological treatments have proven especially effective at treating depressive symptoms, but they have faced more difficulties when it comes to reducing the levels of anhedonia (Dunn, 2012; Treadway & Zald, 2011). In fact, anhedonia tends to be the last symptom to show improvement (Rubin, 2012). Our findings suggest that treatments aimed at reducing the use of maladaptive strategies (such as rumination) and at encouraging more adaptive strategies (such as cognitive reappraisal and planning) might help improve the overall affective state of people with depression, contributing to a reduction in both their depressive symptomology (negative affect) and their experience of anhedonia.

Our study has some limitations. Firstly, although the methodology used made it possible to assess the effects of each of the variables and to reduce measurement error, this remains a cross-sectional study. This means that it is not possible to draw conclusions as to causality with regard to the associations found here. Therefore, it is necessary to attempt to replicate these results using experimental or prospective study designs, which would bring us closer to establishing causality. Secondly, the use of a community sample means that the results cannot be generalized to a clinical population. Thus, it would be desirable to explore whether similar results would be found among participants with a clinical

diagnosis of depression. Thirdly, although this study has analyzed the overall effects of different adaptive and maladaptive strategies, we did not consider other strategies focused on positive affect that may play an important role in anhedonia. Future studies would do well to attempt to gain a broader view of the emotional regulation strategies that either increase or decrease the likelihood of positive emotional experiences. For example, adaptive strategies such as dampening and savoring are worth of attention.

Despite these limitations, this study is the first to provide evidence of the specific contributions of adaptive and maladaptive strategies to depression while taking into account the two affective dimensions of depressed mood and anhedonia. The findings show that both kinds of regulation strategies play roles in shaping depression. Consequently, they should be considered in interventions aimed at treating depressed moods and anhedonia.

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