



Creativity as a "vaccine" for depressed mood: coping and divergent thinking in young adults

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Título: Creatividad como "vacuna" para el estado de ánimo depresivo: afrontamiento y pensamiento divergente en jóvenes adultos.

Resumen: El estado de ánimo deprimido es cada vez más frecuente en nuestra sociedad. Es urgente no solo explorar cómo tratar este problema sino, sobre todo, cómo prevenirlo. El pensamiento divergente puede ser útil para esa prevención. La relación entre el pensamiento divergente y el estado de ánimo depresivo en adultos jóvenes podría estar mediada por las estrategias de afrontamiento. Dos podrían ser las formas más factibles de conexión: un afrontamiento activo centrado en el problema (como la resolución de problemas o estrategias de reevaluación positivas) y la erradicación de un afrontamiento centrado en las emociones (como las estrategias de afrontamiento negativas centradas en uno mismo). El objetivo de este estudio es probar un modelo teórico que establece una relación indirecta del pensamiento divergente sobre el estado de ánimo depresivo. Los participantes fueron 135 sujetos con edades comprendidas entre los 18 y los 25 años. El análisis estadístico incluyó un modelo de ecuaciones estructurales. Los índices de ajuste para este modelo fueron: CFI = .951, GFI = .960, RMSEA = .067. El modelo inicial condujo a uno final avalado por su bondad del ajuste. Este modelo confirma una relación positiva entre pensamiento divergente y reevaluación positiva y un vínculo negativo entre este tipo de pensamiento y la autofocalización negativa. Ambas estrategias de afrontamiento están relacionadas con el estado de ánimo deprimido. El pensamiento divergente puede facilitar una reevaluación positiva que ayude a ampliar el repertorio de opciones en los jóvenes. También puede reducir la probabilidad de centrarse en la expresión emocional inmediata y descontrolada, los sentimientos de impotencia y resignación. De una forma u otra, el pensamiento divergente puede promover estrategias de afrontamiento que pueden servir como profilaxis para la desesperanza en adultos jóvenes que generalmente está relacionada con el estado de ánimo depresivo.

Palabras clave: Afrontamiento. Estado de ánimo depresivo. Pensamiento Divergente. Creatividad. Adultos jóvenes.

Abstract: The depressed mood has more and more presence in our current society. It is urgent to explore ways not only to deal with depressed mood but also to prevent it. Divergent thinking could be useful in such prevention. Certain coping strategies could mediate the relationship between divergent thinking and depressed mood. Two are the most feasible ways of connection: active problem-focused coping (like problem-solving or positive reappraisal strategies) and decreasing the odds of emotion-focused coping (like negative self-focused coping strategies). The objective of this study is to test a theoretical model that establishes the indirect relationship of divergent thinking on depressed mood. Participants were 135 subjects with ages ranging between 18 and 25 years old. The statistical analysis included structural equations modeling. The initial model led to a final model endorsed by the goodness of fit. Comparative Fit Indices for this model were: CFI = .951, GFI = .960, RMSEA = .067. This model supports a positive relationship between divergent thinking and positive reappraisal and a negative link between this kind of thinking and negative self-focused coping. Both coping strategies are connected to depressed mood. Divergent thinking can facilitate a positive reappraisal that helps to widen youngsters' repertoire of options. It can also reduce the probability of focusing on immediate and uncontrolled emotional expression, feelings of helplessness, and resignation. In one form or another, divergent thinking can promote coping strategies that can serve as a prophylaxis for hopelessness in young adults that is generally related to depressed mood.

Keywords: Coping. Depressed Mood. Divergent Thinking. Creativity. Young adults.

Introduction

Psychological problems related to depressed mood are becoming more frequent in our society. It is urgent to explore ways not only to deal with depressed mood but also -and even more important-, to prevent it. Creativity, usually associated with artistic production, design, and innovation could play a relevant role in this prevention. The old idea that creativity is something exclusive of artists and that they are more creative when they are extremely unhappy has been surpassed. Creativity was democratized when authors such as Guilford (1967), Perkins (1981), or Weisberg (1986) among others, emphasized that creativity involves essentially ordinary cognitive processes yielding extraordinary results. Thus, creativity and its psychological processes are within the reach of any human being.

Divergent thinking (DT), one of the cognitive components of creativity, could be especially relevant preventing depressed mood. The objective of this study is to test a theoretical model in which a possible path between DT and depressed mood is described, through different coping strategies.

DT and convergent thinking interact during the creative process. DT is responsible for producing ideas that end up being original whereas convergent thinking is responsible for making these solutions meet the criteria established in the problem situation. DT tends to be oriented to multiple possibilities, including the ability to hold contradictory and/or complementary ideas simultaneously while incorporating and modifying new ideas (Lombard, & Müller, 2018). This way of thinking rests on conceptual disconnection and the genesis of alternative ideas (Leon et al., 2014). Some people accept as good the first solution that occurs to them while some others are able to look for multiple novel ideas through their DT (Alfonso-Benlliure et al. 2013). This type of thinking only takes place after breaking (up) with conventional responses and after freeing oneself from the dominant

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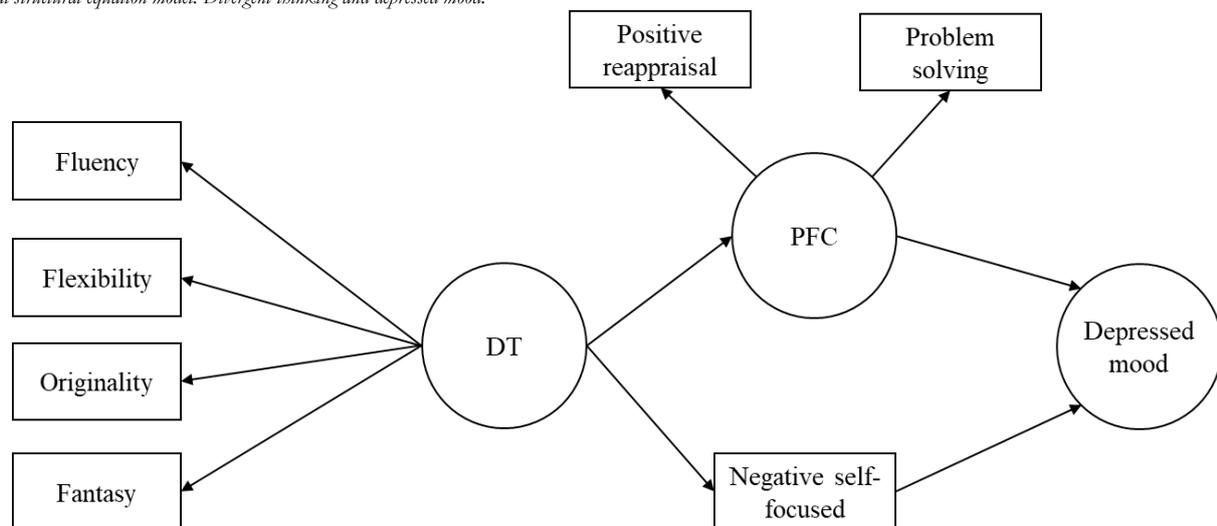
semantic representation. This allows that the associative activation process leads to the emergence of new, less prevalent, and more original ideas.

On the other hand, coping is defined as a cognitive and behavioral effort, concentrated on the resolution of conflicts associated with the awareness that personal resources have been overstretched (Coyne, et al., 1981). Two main types of strategies can be distinguished: focused on the problem and focused on the emotion (Lazarus and Folkman, 1984). Strategies focused on the problem operate on the source of tension and seem to be negatively linked to depression. For their part, strategies focused on emotion are used to mini-

mize the emotional consequences of the situation and seem to be positively linked to depression (Ricarte et al., 2016).

Depressed mood, the final component of the model (see Figure 1), is defined as a temporary emotional state of feeling unhappy or down and is considered one symptom of depression (Cicchetti & Toth, 1998). Psychological factors that are considered to be risk factors for depressed mood are negative experiences associated with stressful life events, the individual tendency to ruminate, and other cognitive vulnerability factors such as irrational beliefs, maladaptive schemas, or cognitive biases (Losiak et al., 2019).

Figure 1
Initial structural equation model: Divergent thinking and depressed mood.



Note: DT = Divergent Think; PFC = problem-focused coping.

The interest in the study on the relationship between creativity and well-being intensifies with the positive psychology movement (Compton & Hoffman, 2019). Different studies (e.g., Amabile, et al., 2005; Conner et al., 2018; Probst et al., 2019; Russ, 1999) support the idea that creativity may be an effective way to promote psychological adjustment, optimum functioning, and well-being (especially the eudemonic component). Creative thinking can help well-being because it plays an important role in self-actualization (Mohammadi & Asghari, 2020), helps to perceive the environment as less threatening due to a higher feeling of control over personal problems (Alfonso-Benlliure et al., 2021), elevate self-confidence, and prompts to set higher and meaningful goals (Holt, 2008), facilitating opportunities for personal development (Ong et al., 2006). In a recent meta-analysis, Acar et al., (2021) conclude that most of the research in the last decade supports a positive relationship between creativity and well-being (e.g., Arshad & Rafique, 2016; Bujacz et al., 2016; Hatem, 2016), rather than a negative one supported in some myths like madness, mystery or magic.

The novelty of the approach that is explored here is to consider that creative thinking -and especially divergent

thinking- can not only promote well-being but also prevent states of discomfort such as depressed mood. This perspective shares the same theoretical framework but has received much less attention.

After a review of previous research on adolescent and young adults' coping, Seiffge-Krenke (2011) suggests a three-dimensional model in considering the voluntary behavioral, emotional, and cognitive responses people use to cope with stressors including (a) active coping (b) internal coping and (c) involving withdrawal from the stressor. DT can protect from depressed mood by helping to take an active role in problem-solving, encouraging to modify not only external but internal reality (the way young adults relate to their reality), and helping to identify the part of the problem that is added by the subject himself with depressed mood. That is why a healthy inner speech (Perrone-Bertolotti, et al., 2014), reinterpreting problematic situations (Hertel & Mathew, 2011), or the feeling of self-efficacy (Turner et al., 2005) prevent depressed mood.

Specifically, the theoretical model that we are testing incorporates three coping strategies: Two focused on the problem (problem-solving coping and positive reappraisal).

The other focused on emotion (negative self-focused coping –NSFC–). The different relations in the model are described below.

DT and active problem-focused coping

Carson and Runco (1999) found that DT tasks that ask for solution accomplishment correlated positively with problem-focused coping. Runco (2010) states that DT has a positive relationship with those coping strategies that focus on the idiosyncratic characteristics of the problem situation instead of non-situational features that obstruct ideation. Two problem-focused coping strategies seem especially important: problem-solving coping and positive reappraisal.

Problem solving coping is defined as engaging in planning to solve a problem or stressful situation (Lazarus, & Folkman, 1984). Esta forma de afrontamiento supone focalizar la atención y el análisis en las causas del problema, reflexionar sobre los pasos a seguir, establecer un plan de acción, poner en práctica soluciones concretas, etc. (Tomás et al., 2013).

As creativity can be conceptualized as a type of problem solving (Gardner, 1993; Sternberg, 1999), and problems are a part of life, it seems that DT could be very helpful when young adults try to solve everyday problems. Sometimes, conventional thinking and recurrent ideas are enough. Many other times, problem solving requires creative thinking (especially DT) for their ultimate solution. DT increases the probability of solving problems proactively because the process of generating ideas provides more alternatives from which to evaluate and ultimately choose (Johnson, 2015). DT brings new, diverse, and abundant ideas to start specific actions to increase the probability of fixing a problem. Moreover, Alfonso-Benlliure et al. (2021) found that fixing problems using DT helps adults to perceive the environment as "under control", which turns on a higher feeling of control over their life circumstances. This is especially useful for depressed mood people, as they find difficulties in changing what is not going right in their lives.

In short, this form of proactive coping concentrates attention on reflection and planning of concrete actions and decisions to change the problem situation and can benefit from the fluency, flexibility, and originality that DT implies.

The other problem-focused coping strategy included in the model is positive reappraisal. It is defined as the reinterpretation of stressful events in a more positive light (Lazarus & Folkman, 1984). It involves making an active effort to focus on the positive aspects of life (not ignoring the negative ones), getting good things out of every situation (Helgeson et al., 2006), and keeping a perspective view of life and its problems (every cloud has a silver lining).

Pavani et al. (2016) state that positive reappraisal relies on cognitive abilities that can be enhanced by a broadening mechanism like DT. This type of flexible thinking increases the probability of an active reinterpretation of stressful events. DT allows ideation, the accumulation of multiple and

varied ideas that can replace or complement previous ones, examining problems from a variety of angles, and opening up a variety of new possibilities (Johnson, 2015). In essence, DT can help to evaluate situations from a new and more positive perspective (Shiota & Levenson, 2012) and reframe difficulties by giving them a different meaning.

There are other coping strategies focused on the problem (e.g., seeking social support), but their link with creativity and divergent thinking is quite remote. Therefore, they are not included in the model.

DT and emotion-focused coping

A second path from DT to depressed mood could be mediated by the way young people perceive themselves as parts of the problematic situation (Figure 1). DT could also protect from depressed mood by decreasing the probability of emotion focus coping. Kazemi (2010) found that the relationship between DT and coping strategies is negative when coping is mainly emotional and passive, for example, when the subject's behaviors are focused on immediate and uncontrolled emotional expression. This is the case of young adults with a tendency to self-blame, helplessness, resignation, or the assumption of their inability to solve their problems. This type of coping is called negative self-focused coping (NSFC). This passive coping style implies a tendency to lose control over the situation and depend on others. Also involves behaviors such as self-blame, self-block, and a maladaptive internal dialogue. In stressful situations, NSFC takes to defenceless behaviours, negative thoughts about themselves and the environment, and a high sense of guilt (Coiro et al., 2017).

Carson and Runco (1999) found that DT correlated negatively with this type of passive escape-avoidance strategy. DT makes younger adults more competent when dealing with ill-defined problems more efficient in problem-solving. In that sense, the wealth of ideas that DT brings is associated with a reduction in the use of passive and only emotional coping strategies like NSFC. This kind of thinking helps the subject to go beyond him or herself and face problems with greater flexibility.

There are other emotion-focused coping strategies (e.g., open emotional expression, avoidance) but NSFC is the one that can most clearly be linked (negatively) to DT.

Coping strategies and depressed mood

Positive psychology has found evidence that psychological investments represent opportunities to reap benefits in the form of psychological health (Lyubomirsky et al. 2005; Ong et al. 2006). Both problem-focused and emotion-focused strategies are significantly linked to depressed mood, obviously in opposite ways. Personal effort is clearly related to overcoming depressed mood. Through this effort, it is possible to enlarge personal limits. Deficiencies in coping

can contribute to an array of problems and psychological disturbances (Cowan et al., 1996).

The connection between coping style and mood is well reported in the literature (Suzuki et al., 2018). This connection seems to be positive when coping is focused on the problem and has an active and rational nature. That is the case when the subject makes conscious efforts to fix a problem or redefine it. Problem-solving coping and positive reappraisal of life circumstances are associated with a decreased risk of major depression outcomes and can prevent depressed moods (Helgeson et al., 2006). The first one can prevent feelings of helplessness and lack of resources to face multiple situations and life challenges. The second can prevent repetitive thoughts and rumination associated with depressed mood. Rumination takes to a narrowed thought-action repertoire (Hart, 2020), impairs problem-solving abilities, and promotes passivity (Lyubomirsky et al., 1999) and depressed mood. When a negative appraisal is constantly applied, ignoring different characteristics of the situation, sustained negative mood is apt to occur (Lackner et al., 2015). After their meta-analysis, Helgeson et al. (2006) concluded that positive reappraisal was related to less depression and, in the same line, Aldao and Nolen-Hoeksema (2010) found that this positive re-evaluation was negatively correlated with rumination and other symptoms of depression.

On the other hand, the third coping strategy included in the model is NSFC. When coping is primarily emotional and passive (Kazemi, 2010), as is the case, the relationship between coping style and mood appears to be negative. This relationship between NSFC and depressed mood is well established (e.g., Hwang et al., 2015; Rimes, & Watkins, 2005; Ruscio et al., 2011). NSFC is associated with an increased risk of major depression (Nieto et al., 2020; Suzuki et al., 2018). NSFC leads to biased attention to negative and disabling information (Ruscio & Borkovec, 2004). It also leads to unproductive fixation on largely unsolvable problems in ways that hamper effective coping (Nolen-Hoeksema et al., 2008), bringing undesirable consequences for mood, cognition, and physical health (Watkins, 2008).

In conclusion, it seems that problem-solving coping, positive reappraisal, and NSFC could be good predictors of depressed mood. It also seems that DT could be a good predictor of coping strategies. But the literature on the relationship between DT, coping strategies and depressed mood is not very extensive and is still inconclusive (Silvia, & Kimbrel, 2010). The objective of this study is to test a theoretical model that establishes an indirect relationship of the DT on depressed mood.

It is hypothesized that:

- (1) DT has a direct and positive connection with problem-focused coping strategies like positive reappraisal and problem-solving
- (2) Both problem-focused coping (positive reappraisal and Problem-solving coping) have a direct and negative connection with depressed mood.

- (3) DT has a direct and negative connection with self-focused coping.
- (4) Negative self-focus coping has a direct and positive connection with depressed mood.

Method

Participants

A convenience sample with voluntary and anonymous participation included 213 young adults between 18 and 25 years from the University of Valencia, whose average age was 19.34 ($SD = 1.96$), 73.6% were women, 79.4% were single and 20.6% had a partner. Regarding the type of work occupation, the majority had sporadic or part-time jobs, 45.9% were unqualified and 54.1% were qualified. None of the participants had a history of psychiatric disorders. All participants were informed of the protocols of the study and signed informed consent for the study. The study met all of the requirements set out in the Declaration of Helsinki. Data were processed in compliance with the Spanish Data Protection Law to guarantee the privacy and anonymity of participants during the whole process.

Instruments

Participants answered three psychological scales and some socio-demographic indicators. The following instruments were also applied.

Coping Strategies Questionnaire, a 42-item self-report measure aimed to evaluate seven coping styles when reacting to stress (six items per dimension). Sandín and Chorot (2003) first developed the scale in Spain and Tomás, Sancho, and Meléndez (2013) validated it. Seven first-order factors were found through exploratory factor analysis and labeled as: (1) problem-solving coping, (2) negative self-focused coping, (3) positive reappraisal, (4) overt emotional expression, (5) avoidance, (6) seeking social support, and (7) religious coping. A confirmatory factor analysis was estimated on these seven dimensions of coping to test a two-factor solution of problem- and emotional-focused coping. Problem focused coping included problem-solving coping, positive reappraisal, social support seeking. Emotion-focused coping included negative auto-focused coping, overt emotional expression, avoidance coping and religious coping, and social support seeking. The scale has acceptable psychometric properties (reliability, homogeneity of the items, differential and criterion validity). In this study three dimensions were selected: problem-solving coping, an active and rational search strategy to solve the problem; positive reappraisal, which refers to getting something positive from a situation or obtaining the positive aspects of a situation; and negative self-focused coping, which refers to assuming one's own inability to resolve the situation, self-incriminate or feel helpless. Each dimension of this scale is composed of six items, therefore, the 18 items corresponding to the three dimen-

sions selected in the study were used. In addition, in this study, the alphas were: .75 for problem-solving, .69 for positive reappraisal, and .71 for negative self-focused coping.

Centre for Epidemiologic Studies-Depression (CES-D; Radloff, 1977). It is a self-report scale created to assess depressive symptoms in the general population. The CES-D is composed of 20 items; each one scored on a scale from "0" to "3" according to the number of days on the previous days that the person felt according to the item's premise, thus the total score varies from 0 to 60; the total score was used for the analysis. The average score obtained by the participants in this study was 15.49 ($SD = 6.84$). This instrument has shown discriminant and construct validity as well as high reliability and internal consistency. Vázquez et al (2007) suggest that a cut-off point of 26 would be an acceptable score to apply in a normal population.

Test of Creative Imagination for Adults. (PIC-A; Artola et al., 2010). PIC-A is not so much an adaptation of the Torrance Test of Creative Thinking (TTCT; Torrance, 1974), but an instrument inspired by it. It is used to assess divergent thinking in subjects through their performance in three verbal exercises and a graphic one. The whole test takes about 40 minutes to be completed. The verbal exercises offer scores on fluency, fantasy, flexibility, and originality. The graphic exercise offers scores on originality, elaboration, special details, and title. Finally, the PIC provides a score for verbal DT, graphic DT, and General DT. PIC-A has a Cronbach's Alpha of .85 and a good construct and criterion validity (Artola et al., 2010).

Analyses

The statistical analyses included structural equations models (SEM) using EQS 6.1. The theoretical measurements are tested before developing the structural modeling. The

measurement model is computed assuming the existence of a significant relationship between each pair of latent constructs. It is also assumed that each observed variable significantly contributes to its respective latent variable.

Concerning the SEM, it simultaneously examines the variance among multiple dependent and independent variables and allows the analysis of observed and unobserved variables. The analyses were based on the specification of structural equation models with latent variables (SEM), to test for the relationships among constructs in a multivariate context. Structural models were estimated using maximum likelihood with Satorra-Bentler robust corrections for the standard errors and fit indices, the recommended procedure implemented in EQS 6.1 program (Bentler, 2005). Several fit indices commonly used in the CFA literature were used to evaluate the model fit (Hu & Bentler 1999; Tanaka 1993): (a) robust Chi-square statistic; (b) the comparative fit index (CFI) (c) the goodness-of-fit index (GFI) of more than .90 (and ideally greater than .95); (d) the root mean squared error of approximation (RMSEA) of .08 or less (and ideally less than .05).

Results

In order to study the relationships among the variables included in the model, a Pearson correlation analysis was carried out (see Table 1). Positive reappraisal showed significant and positive correlations with problem-solving and the following DT variables: fluency, flexibility, and originality. It also showed a significant and negative relationship with depressed mood. On the other hand, NSFC had a significant and negative relation with fluency and flexibility and a positive one with depressed mood. Finally, DT's variables showed positive and significant correlations between them.

Table 1
Pearson's correlations between DT, Coping Strategies, and Depressed Mood.

	PSC	PR	NSFC	DM	Fluency	Flexibility	Originality
PR	.389**						
NSFC	-.095	-.231**					
DM	-.133	-.190**	.390**				
Fluency	-.016	.136*	-.144**	.051			
Flexibility	-.045	.145*	-.164**	.062	.840**		
Originality	.008	.169*	-.122	.047	.752**	.753**	
Fantasy	.006	.007	-.034	.210**	.191**	.210**	.083

Note: PSC = problem solving; PR= positive reappraisal; NSFC = negative self-focused coping; DM = depressed mood. ** significant at .01; * significant at .05.

An initial model was tested in which DT was predicted by its four dimensions (fluidity, flexibility, originality, and fantasy), DT is related to two coping factors: problem-oriented coping (problem-solving and positive reappraisal) and emotional-oriented coping (negative self-focused). These two factors are directly linked to depressed mood.

Initial model was tested and it showed a correct fit (χ^2 (g.l. = 12) = 63.77; $p < .01$, χ^2 /g.l. = 5.06; CFI = .906, GFI

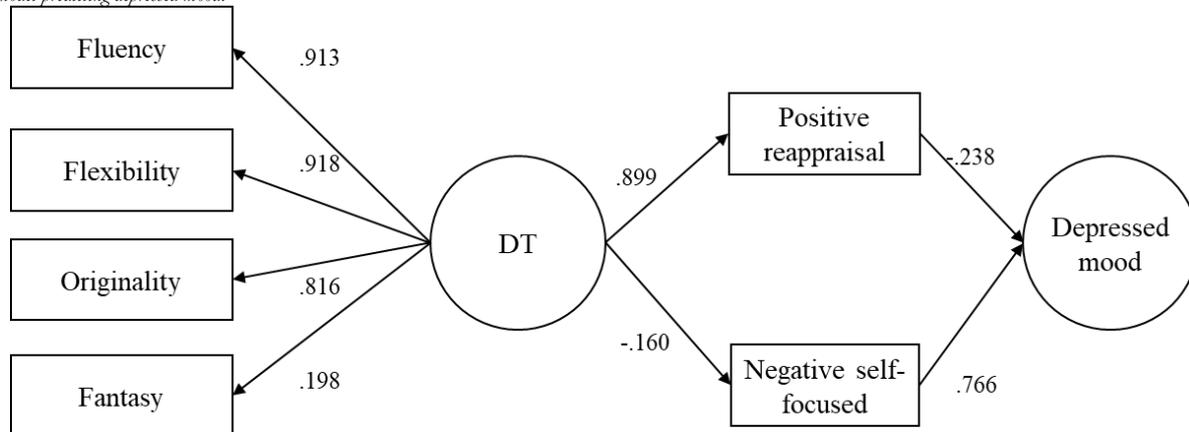
= .936, RMSEA = .143 (90% = CI = .109, .178)) but the problem-solving dimension was not significant in the model. The analysis of the results suggests making modifications. The Wald test (W) indicated to remove problem solving and its relationships with the latent factor.

The proposed modifications were made, and indexes were obtained with optimal fit χ^2 (g.l. = 6) = 31.09, $p < .01$, χ^2 /g.l. = 5.18; in addition, Comparative Fit Indices for this

model showed scores within the accepted parameters (CFI = .951, GFI = .960, RMSEA = .067 (90% = CI = .042, .088)), giving rise to the final model. As Figure 2 conveys, DT had a significant, direct positive effect on positive reappraisal ($\beta = .89$, $p < .01$) and a direct negative effect on NSFC ($\beta = -.16$, $p < .01$). At the same time, positive reappraisal had a di-

rect negative effect on depressed mood ($\beta = -.24$, $p < .01$), whereas NSFC ($\beta = .77$, $p < .01$) had a direct positive effect. On the other hand, the indirect effect of DT was significant for depressed mood ($\beta = -.10$; $p < .05$), via both positive reappraisal and NSFC, even the effect was stronger via positive reappraisal.

Figure 2
Final model predicting depressed mood.



Discussion

This study aimed to test a model on the relationship between DT and depressed mood, establishing as mediating variables those strategies based on the coping model. This model differentiates between problem and emotion focused strategies. The final model fit correctly, confirming that the relationship between DT and depressed mood is mediated by positive reappraisal and negative self-focused coping strategies.

Furthermore, a positive relationship has been found between DT and positive (problem-oriented) reappraisal and a negative one between DT and self-focused (emotion-oriented) coping strategies. Finally, the problem-oriented strategy is negatively related to depressed mood, while the emotion-oriented strategy is positively related.

Therefore, regarding DT, three of the four indicators had high loadings in their theoretical factor, with flexibility, fluency, and originality, showing the highest loads. In addition, adequate internal consistency was obtained. The hypothesis was evaluated by means of structural equations, offering information about two questions: the relationships of the indicators with their latent constructs, analyzed in the measurement model; and the structural part of the model, which deals with the relationships among the constructs.

The main contribution of this study is to confirm the indirect influence of DT on depressed mood through mediators such as positive reappraisal and negative self-focused strategies. Developing divergent thinking skills can help to prevent depressed mood in both ways: promoting a positive reappraisal and minimizing the odds of negative self-focused coping. Both paths can have a prophylactic effect. These results are consistent with the idea that DT is related to the use

of an adaptive- and approach-oriented coping strategy and that this approach is related to less depression (Bjørkløf et al., 2013).

The first and second hypotheses were partially confirmed. The path from DT to depressed mood was confirmed through positive reappraisal. In fact, there is a very intense relationship between DT and positive reappraisal this cognitive component of creative thinking can facilitate deliberate appraisal processing, in which multiple alternative appraisals or explanations are determined across situations (Dennis, & Vander Wal, 2010). DT helps vary perspective that allows capturing information that previously went unnoticed. Considering more and newer information helps to build a more complex representation of reality and therefore, to redefine it more positively.

DT can help young adults to disengage from their initial appraisal, and generate alternative considerations on which they successively focus. Young people that can do a positive reappraisal of a problem, focus primarily on the idiosyncratic characteristics of the environment, not on the external characteristics that can hamper the problem-solving process (Meléndez et al., 2018). Getting more information when assessing the stressful situation (fluency), looking at this situation from multiple perspectives (flexibility), and being aware of information that others ignore (originality) help to reinterpret information in a positive light, generating a positive thought, or finding positive meaning amid that stressful event (Troy et al., 2010).

Positive reappraisal helps to widen youngsters' repertoire of options contributing to preserving a psychological equilibrium (through hope, humor), a sense of achievement or competence, and protecting from depressed mood. Neuman

and Fawcett (2011) detail a phenomenon similar to positive reappraisal as secondary prevention, where "an individual protects himself by strengthening their internal lines of resistance" (p. 27). Active and task-oriented problem-solving coping strategies (like positive reappraisal) are the most adaptive way of dealing with stress and are more effective than avoidant and passive coping strategies (Taylor, 2006). Interpretation training, based on positive reappraisal, has been shown to be effective with depressed mood adults, as it helps them to interpret reality in a more positive way, reducing negative emotional states associated with depressed mood (Hertel & Mathews, 2011). Given the available evidence about the efficacy of cognitive intervention with depressed mood population, the current discussions tend to centre not around whether or not this intervention is suitable, but rather, to what extent its elements need to be developed (Laidlaw & McAlpine, 2008). Our results support the need to emphasize the elements of cognitive restructuring (positive reappraisal) through divergent thinking.

Nevertheless, the path from DT to depressed mood through problem-solving coping is not confirmed in the model. As said, problem-solving coping is an active way of facing stressful situations through efforts to intervene on the problem itself and not so much on its emotional effects. This strategy is positive and significantly related to all dimensions of psychological well-being and resilient coping (Tomás et al., 2013). The logic that led us to link DT with this strategy was that DT is one of the fundamental resources for both problem finding and problem solving (Runco, 1994; Runco & Acar, 2012). Divergent thinking promotes problem solving because it opens the mental spectrum, involves going beyond obvious, hackneyed, and conventional mental associations, and helps to find ideas of a more remote and unusual character. This link between DT and problem solving is widely contrasted (e.g., Huo, 2020; Runco, 2010; Saleh, 2019). Then, what is happening in our results? Why is DT not significantly linked to problem-solving coping? All of them, divergent and convergent, synthetic and analytical skills are involved in problem solving. However, when evaluating problem-solving coping strategies, fundamentally analytical and convergent skills are included (like finding the cause of the problems, planning, being methodical in following the steps of an action plan). These strategies are fundamentally convergent and do not benefit from divergent thinking. In essence, it could be concluded that DT is significantly linked to problem focused coping when it involves the implementation of synthetic and divergent skills (such as positive reappraisal) but maybe not when it involves the implementation of analytical and convergent skills. This is certainly a hypothesis that deserves further investigation in the future.

Regarding the third and fourth hypotheses, both are confirmed, endorsing the path of DT to depressed mood with NSFC as the mediating variable. At the beginning of the path, DT is significantly linked to negative self-focus. That relationship is negative. Divergent thinking provides a prolif-

eration of ideas, flexibility, and originality that reduce the chances of trying to deal with a problem by reducing perspective, closing eyes on oneself in a crippling and disabling way.

Life is full of open-ended and ill-defined problems that do not come with explicit instructions (Acar et al., 2019). Ill-defined situations make youngers feel a low sense of control. Disturbances of cognitive control have been proposed to reinforce the use of ineffective emotional regulation strategies, including NSFC (Koster et al., 2011). A lack of flexibility and control leads to focusing too much on certain repetitive ideas, often about oneself. Youngers with low DT (few, rigid, conventional, or even repetitive ideas) can display resistance to change. High DT could lead to a more open and active approach to problems, free from thoughts of helplessness, catastrophism, and hopelessness characteristic of people with negative self-focused coping (NSFC). Divergent thinking can promote a broad outlook and gaze that serves as a prophylaxis for passive resignation, guilt, and /or helplessness that are usually the prelude to depressed mood. NSFC is mainly fixated on uncontrolled emotional expression, here and now, feelings of helplessness, resignation, and passivity. These negative feelings have been associated with an increase in depressed mood and high functional impairment (Brown et al., 1989), with less vitality, social function, and poorer perception of general health (Griswold, et al., 2005).

Since young adulthood is a risk period for the emergence of depressed mood problems, these results show that training DT in young adults can be a good strategy to develop healthier coping skills. Both, from a social and economic perspective, preventive intervention programs are a good investment. Social intervention programs for the prevention of depressed mood in early adulthood help to protect from cognitive biases and irrational beliefs that precede it. Our results suggest that these programs would benefit from the inclusion of DT promotion. Playful activities (some video games, drama activities, scape rooms...) have been shown as a good way to promote DT with young adults. For example, many video games (e.g., Minecraft, Braid,) have been proved efficient to help DT given their constructive nature, openness, emphasis on collaboration, need for different tactics (Jagannath et al., 2020; Muriel, & Crawford, 2018). Theatrical and drama activities are also a plausible way to encourage DT because they teach alternative ways of viewing and dealing with reality and a way to actively focus on personal potentials, as opposed to focusing on distracting thoughts about self-limitations (Alfonso-Benlliure et al., 2021; Constantin, & Mitrofan, 2018).

Problems and challenges in emerging adulthood can be many and varied: negotiation and management of the transition to adulthood, professional development, economic independence, finding new social roles, etc. DT can facilitate not only cognitive flexibility but also cognitive control, through feelings of self-efficacy and mastery. Positive psychology has studied the possible relationships and effects of creative thinking on well-being, particularly the eudemonic

component, maybe because effort and perseverance are crucial for both. Less attention has been paid to the possible protective factor of creative thinking toward mental imbalance or illness. Promoting DT in young adults can have a real prophylactic effect by helping them to find more perspectives to understand their problems and overcome the limiting focus on themselves. In essence, face their life challenges in a healthy way, preventing depressed mood.

One limitation of this study is that measures used to evaluate the subject's strategies to face a problem were dimensions of a scale, instead of specific scales that evaluate these variables with greater precision. Also, it should be noted that the evaluation of the strategies is carried out using a self-report instrument. Narrative approaches are plausible alternatives to this type of instrument as they help to understand better why people behave as they do and their specific coping responses. In addition, the convenience sample

should be pointed out, as well as the cross-sectional design that limits the causality of the results. In any case, the approach to the study of creativity in young people is a strength given the limited research with this type of population.

As young adults with depressed mood are more likely to have a wide variety of physical and psychological problems, it is of social interest to keep researching the relationship between DT, mood, depression, and psychological well-being. Promoting DT could help to enrich their resources to deal with their development tasks, supporting their psychological health and protecting them from depressed mood.

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