Repetitive Negative Thinking, Rumination, Depressive Symptoms and Life Satisfaction: A cross-sectional mediation analysis

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Abstract

Depression negatively affects life satisfaction, and rumination is a major feature of depression. As a transdiagnostic process, Repetitive negative thinking (RNT) includes rumination and other repetitive and persistent thoughts. The study examines differences in rumination, RNT, and life satisfaction according to the severity of depressive symptoms and investigate the role of rumination and RNT as mediator variables in the association between depressive symptomatology and life satisfaction. An online sample of 432 participants completed a set of self-report measures. The findings suggest that rumination and RNT increase with the severity of depressive symptom. RNT was a mediator variable in the association between depressive symptomatology and life satisfaction beyond the mediating role of rumination. Overall, the current results highlight the central role of RNT in the relationship between depressive symptomatology and well-being by promoting a broader transdiagnostic process as RNT compared to rumination in depressive symptomatology.
Key words: depressive symptoms; life satisfaction; mediation; repetitive negative thinking; rumination.

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Novelty and Significance

What is already known about the topic?

- Rumination is a major dimension of depression.
- Rumination is a subtype of repetitive negative thinking.
- Depression negatively affects life satisfaction.

What this paper adds?

- Rumination and repetitive negative thinking occur more frequently as a function of depressive symptoms severity.
- Individuals with more depressive symptoms, greater rumination and repetitive negative thinking are less satisfied with their lives.
- Repetitive negative thinking, but not rumination, act as a mediator variable in the relationship between depressive symptoms and life satisfaction.

Life satisfaction is described as a cognitive dimension of subjective well-being and refers to the subjective evaluation of quality of life according to self-established criteria (Diener, Inglehart, & Tay, 2013), in which individuals evaluate their own lives against their living standards through a comparative process (Pavot & Diener, 1993) is of paramount importance to mental health. Accordingly, life satisfaction has been negatively associated with mental disorders, including depression (Busseri & Peck, 2015; Mahmoud, Staten, Hall, & Lennie, 2012; Serin, Serin, & Özbaş, 2010; Zhang, Wang, Li, & Li, 2021). Empirical research investigating the connection between life satisfaction and depressive symptoms suggested that clinically depressed individuals tend to have lower life satisfaction compared to non-clinically depressed individuals (Busseri & Peck, 2015).

Depressive disorders are common and highly prevalent (Topper, Emmelkamp, & Ehring, 2010) and are characterized by depressed mood, impairments in motivation, concentration, sleep patterns, fluctuations in eating behavior, and feelings of hopelessness about the future (APA, 2013). Increased estimated rates of depression have also been found in Portugal, negatively affecting quality of life and perceptions of life satisfaction (Antunes *et alia*, 2018; WHO, 2017). Psychotherapeutic interventions to promote life satisfaction and reduce depressive symptoms also have an effect on reducing psychological distress (Harnett, Whittingham, Puhakka *et alia,* 2010), promote disengagement from maladaptive ruminative thoughts (Feruglio, Matiz, Grecucci, Pascut, Fabbro, & Crescentini, 2021), and stimulate reductions in repetitive negative thinking patterns (Wadsworth, Forgeard, Hsu *et alia,* 2018). Thus, decreasing depressive symptoms have been associated with positive appraisals of life satisfaction, which have also been correlated with more flexible thinking patterns (Chen, Chen, & Bonanno, 2018).

Rumination is characterized by a repetitive negative thinking pattern focused on past events and has been described as a major feature of depressive disorders (Nolen-Hoeksema, 1987, 2004; Nolen-Hoeksema *et alia,* 2008). As an underlying process, rumination has been extensively linked to depressive symptomatology and its treatment (Ehring & Watkins, 2008; Topper *et alia,* 2010), with interventions targeting rumination showing a reduction in the uncontrollability of ruminative thinking style, depressive symptoms, and emotion dysregulation processes with neurological evidence (Baeken, Wu, Rogiers, Remue, Lemmens, & Raedt, 2021). Moreover, the ruminative thinking style has been associated with impaired life satisfaction (Zhang *et alia,* 2021) and appears to be a negative predictor of life satisfaction (Eldeleklioglu, 2015; Karabati, Ensari, & Fiorentino, 2019). Moreover, rumination acts as a mediation variable in the association between job satisfaction and subjective well-being (Karabi *et alia,* 2019), with life satisfaction theoretically conceptualized as the subjective dimension of well-being (Diener *et alia,* 2003; Diener *et alia,* 2013).

Although rumination is conceptualized as repetitive negative thinking (RNT), RNT theory includes three core dimensions for a thinking pattern: (i) repetitive; (ii) intrusive; and (iii) difficult to disengage from (Ehring & Watkins, 2008). Another cognitive process with core dimensions for RNT is worry, which is strongly related to anxiety disorders, with a thinking pattern style about anticipating events (McEvoy, Watson, Watkins, & Nathan, 2013; Watkins, Moudls, & Mackintosh, 2005). RNT can thus include both ruminative and worry thoughts (Ehring & Watkins, 2008; Watkins *et alia,* 2005). Extensive research has supported the idea that both rumination and worry are highly correlated and often comorbid in individuals with mental disorders (Arditte et alia, 2016; Drost et alia, 2014; Ehring & Watkins, 2008; Hur, Heller, Kern, & Berenbaum, 2017; Watkins et alia, 2005). More recently, Magson *et alia* (2019) developed a brief and easy-to-administer measurement for assessing intrusive and recurrent negative thoughts, the Persistent and Intrusive Negative Thoughts Scale (PINTS), which includes key dimensions of Repetitive Negative Thinking (RNT), i.e., recurring, intrusive thinking and difficulty disengaging from it (Ehring *et alia,* 2011). Empirical research conducted using the PINTS has shown that RNT is strongly related to depressive symptomatology and rumination and associated negatively with life satisfaction (Magson *et alia,* 2019; Peixoto & Cunha, 2021).

Previous research has studied the mediating role of rumination in the association between mental disorders and cognitive dimensions or dimensions of subjective well-being (Burnette, Davis, Green, Worthington, & Bradfield, 2009; Dempsey, O'Brien,

Tiamiyu, Elhai, 2019). Results suggest that ruminative thinking pattern style was a mediator variable in the association between social anxiety and disruptive social media usage (Dempsey *et alia*, 2019). In addition, RNT has been shown to act as a mediator in the association between depression and anxiety symptoms and problematic smartphone use (Elhai, Yang, & Montag, 2019). Studies with adolescents have also examined the mediating role of ruminative thinking patterns between perceived stress and life satisfaction (Zheng, Zhou, Liu *et alia*, 2019).

To our knowledge, although previous research has researched the mediating role of rumination or RNT in the relationship between mental disorders and cognitive dimensions or dimensions of subjective well-being, no studies have examined the cumulative mediating role of rumination and RNT in the relationship between depressive symptoms and cognitive well-being (i.e., life satisfaction). Therefore, the current study aims to investigate whether rumination plays a key role in the relationship between depression and life satisfaction or whether RNT, as a broader thinking pattern style and transdiagnostic process, is strongly related to depression and life satisfaction.

Method

Participants

For the current study, a total sample of 432 adults from Portugal accepted to participate, 219 women (50.7%). The Mage for participants was 35.66 (SD= 10.71), with age ranging from 18 to 73 years old. More detailed sociodemographic characteristics for the total sample are presented in Table 1. Using the cut-off scores for the depressive symptom's subscale from the DASS-21 (Lovibond & Lovibond, 1995), three groups were formed for depressive symptoms. Individuals who scored below 4 on the depressive symptoms subscale were assigned to a group with no depressive symptoms, individuals

Table 1. Sociodemographic Characterization of the Sample [number (%)].

		Total sample (N= 432)	Depressive symptoms		
			No symptoms (n= 303)	Low-moderate (n= 88)	Severe-extreme (n= 41)
Male		213 (49.3)	153 (50.5)	42 (47.7)	18 (43.9)
Female		219 (50.7)	150 (49.5)	46 (52.3)	23 (56.1)
Educational Level	4 years	1 (0.2)	1 (0.3)	0	0
	6 years	1 (0.2)	1 (0.3)	0	0
	9 years	128 (29.6)	88 (29)	28 (31.8)	12 (29.3)
	12 years	39 (9)	21 (6.9)	9 (10.2)	9 (22)
	13 years or more	263 (60.9)	192 (63.4)	51 (58)	20 (48.8)
Marital status	Single	222 (51.4)	134 (44.2)	62 (70.5)	26 (63.4)
	Married/in cohabitation	176 (40.7)	141 (46.5)	22 (25)	13 (31.7)
	Divorced/separated	32 (7.4)	28 (9.2)	2 (2.3)	2 (4.9)
	Widower	2 (0.5)	0	2 (2.3)	0
Clinical diagnosis	No	344 (79.6)	275 (90.8)	57 (64.8)	12 (29.3)
	Yes	88 (20.4)	28 (9.2)	31 (35.2)	29 (70.7)
Current medication	No	352 (81.5)	255 (84.2)	70 (79.5)	27 (65.9)
	Yes	80 (18.5)	48 (15.8)	18 (20.5)	14 (34.1)
Current Psychological / Psychiatric treatment	No	432 (100)	303 (100)	88 (100)	41 (100)
	Yes	0	0	0	0
Past Psychological / Psychiatric treatment	No	219 (50.7)	185 (61.1)	23 (26.1)	11 (26.8)
	Yes	213 (49.3)	118 (38.9)	65 (73.9)	30 (73.2)

who scored between five and 10 on the depressive symptoms subscale were assigned to a group with mild to moderate depressive symptomatology, and individuals who scored above 11 on the depressive symptoms subscale were assigned to a group with severe to extremely severe depressive symptoms.

Measures

Persistent and Intrusive Negative Thoughts Scale (PINTS; Magson *et alia*, 2019). The PINTS is a self-report measure that includes five statements for assessing three main features of repetitive negative thinking (Ehring *et alia*, 2011), namely: a) repetitive; b) intrusive; and c) difficult to disengage from. The PINTS is classified as a disorder-neutral measure. The five items are answered on a Likert scale from 1 (never) to 5 (almost always). According to the original version, PINTS has good to excellent psychometric properties, revealing an internal consistency of .91. The Portuguese version of PINTS also reached good to excellent psychometric properties (Peixoto & Cunha, 2021). Internal consistency was .90 for the current sample.

Ruminative Response Scale-10 (RRS-10; Treynor *et alia*, 2003). The RRS-10 encompasses 10 items that have been retrieved from the Response Styles Questionnaire (RSQ; Nolen-Hoeksema & Morrow, 1991). All 10 items are rated on a Likert scale of four-points from 1 (almost never) to 4 (almost always). Data from the original version support good to excellent psychometric properties for the RRS-10 (Treynor *et alia*, 2003), with internal consistency of .85. For the Portuguese version, good psychometric properties were also found (Dinis *et alia*, 2011). Internal consistency was .80 for the current sample.

Depression, Anxiety and Stress Scale-21 (DASS-21; Henry & Crawford, 2005). The DASS-21 consists of a 21-item self-report measure that assesses three dimensions: depression, anxiety and stress. All items are answered on a four-point Likert scale, ranging from 0 (did not apply to me at all) to 3 (applied to me very much or most of the time). The original version of the DASS-21(Henry & Crwaford, 2005) and the Portuguese version (Pais Ribeiro *et alia*, 2004) demonstrated good psychometric properties and confirmed the three-factor model. In this study only the depression scale was used, and internal consistency for the depression scale was .91 for the current sample.

Satisfaction with Life Scale (SWLS; Diener *et alia*, 1985). The SWLS is a very brief self-report measure with five statements for assessing subjective and overall life satisfaction, answered on a 7-point Likert scale [1 (strongly disagree) to 7 (strongly agree)]. The original version of the SWLS reached adequate psychometric properties (Diener et alia, 1985). Likewise, the SWLS version from Portugal also demonstrated good psychometric properties (Simões, 1992). Internal consistency was .75 for the current sample.

Procedure

This study used a nonrandom, online recruited sample. To this end, a series of self-report questions were included in the Google Forms software, and the study was promoted via social media (e.g., Instagram, Twitter, LinkedIn, Facebook) and email. Information about the voluntary and anonymous nature of the study was provided to the participants, and they were asked to sign a consent form if they agreed to participate. Participants received no compensation for their participation, and the survey took approximately 10 to 15 minutes to complete. Data were collected between September 2020 and February 2021. All ethical standards and procedures specified in the Declaration of Helsinki and Portuguese legislation were respected, and ethical agreement was obtained from the Universidade Lusíada Ethics Committee.

Data Analysis

All statistical procedures and data analyses were performed using IBM SPSS version 27.0 software. First, descriptive analyses were performed with the calculation

of mean, standard deviations, frequencies, and ranges to describe the sociodemographic characteristics of the sample. Pearson's correlation coefficients were calculated to examine the correlations between depressive symptoms, ruminative responses, RNT, and life satisfaction. A multivariate analysis of variance using corrections of Bonferroni was performed to examine differences in ruminative responses, RNT, and life satisfaction as a function of depressive symptom groups. HSD-Tukey test for post-hoc comparisons was performed to examine differences within the depressive symptom groups. Finally, a mediation analysis using Model 4 of PROCESS macro 3.5.2 for the software IBM SPSS (Hayes, 2018), with bootstrapping confidence intervals was tested to assess the effect of depressive symptoms on life satisfaction mediated by ruminative responses and RNT. Statistical assumptions and correlation coefficients between all variables were established. The mediation model relies on a variable (i.e., depressive symptoms) that is theorized to predict and influence an outcome (life satisfaction) through mediator variables (i.e., ruminative responses and RNT). Two pathways through which depressive symptoms may predict life satisfaction are defined (Hayes, 2018). To assess indirect effects, 5000 bootstrap samples were used based on 95% Bias-Corrected Bootstrap Confidence Intervals (95% BCBCI; Preacher & Hayes, 2008). Interpretation criteria for mediation effect size (small-0.01; medium-0.09; and large-0.25) were based on the work of Preacher and Kelley (2011), and the percentage of total mediation effect was calculated (Shrout & Bolger, 2002).

Results

According to the cut-off score of the DASS-21 (Lovibond & Lovibond, 1995), 303 (70.14%) subjects scored less than four points on the depressive symptoms subscale and were assigned to the group without depressive symptoms. 88 (20.37%) subjects scored between five and 10 on the depressive symptoms subscale and were assigned to the mild to moderate depressive symptoms group, while 41 (9.49%) subjects scored above 11 on the depressive symptoms subscale and were assigned to the severe to very severe depressive symptoms group.

Means, standard deviations, and ranges of depressive symptoms, ruminative responses, RNT, and life satisfaction are shown in Table 2. Pearson correlation coefficients for all variables in the study are shown in Table 3.

Table 2. M, SD, and range of depressive symptoms, ruminative responses, RNT, and life satisfaction.

Variables	M (SD)	Range
Depressive symptoms	3.93 (4.57)	0-21
Ruminative responses	21.04 (5.44)	10-36
Repetitive negative thinking	16.04 (3.89)	5-25
Life satisfaction	14.48 (3.59)	7-25

Table 3. Pearson's correlation coefficients between depressive symptoms, ruminative responses, RNT, and life satisfaction.

Variables	1.	2.	3.	4.
1. Depressive symptoms	--			
2. Ruminative responses	.57*	--		
3. Repetitive negative thinking	.44*	.51*	--	
4. Life satisfaction	-.34*	-.33*	-.54*	--

Note: * $p < .001$.

To examine differences in ruminative, RNT, and life satisfaction according to the degree of depressive symptomatology (i.e., absence, mild to moderate, and severe to extremely severe), a multivariate analysis of variance using corrections of Bonferroni was performed. Significant main effects were found for the degree of depressive symptomatology, Wilks λ= 0.11, $F_{(4,427)}$= 213.50, p <.001, partial η^2= .667.

Univariate tests revealed significant main effects for ruminative responses, $F(2,431)$= 85.81, p <.001, partial η^2= .286, for RNT, $F_{(2,431)}$= 40.00, p <.001, partial η^2= .157, and for life satisfaction, $F_{(2,431)}$= 28.36, p <.001, partial η^2= .117. Table 4 illustrates the means, standard errors, and 95% confidence intervals for ruminative responses, RNT, and life satisfaction as a function of the different levels of depressive symptoms.

Table 4. M, Standard Error, and 95% Confidence Intervals for ruminative responses, RNT, and life satisfaction according to levels of depressive symptoms.

| | Depressive symptoms M (SE) CI 95% | | |
	No	Mild to moderate	Severe to extremely severe
Ruminative responses	19.25 (0.27) 18.73–19.78	23.99 (0.49) 23.02–24.96	27.88 (0.72) 26.46–29.29
Repetitive negative thinking	15.13 (0.21) 14.73–15.53	17.36 (0.38) 16.61–18.11	19.93 (0.56) 18.83–21.03
Life satisfaction	15.24 (0.19) 14.86–15.62	13.19 (0.36) 12.49–13.90	11.66 (0.53) 10.62–12.70

Using the HSD Tukey test for post-hoc comparisons, individuals without depressive symptoms scored significantly lower on ruminative responses compared to individuals with mild to moderate depressive symptoms (p <.001) and to individuals with severe to extremely severe depressive symptoms (p <.001), and individuals with mild to moderate depressive symptoms scored significantly lower on ruminative responses compared to individuals with severe to extremely severe depressive symptoms (p= .001).

For RNT, individuals without depressive symptoms scored significantly lower on RNT than individuals with mild to moderate depressive symptoms (p <.001) and then individuals with severe to extremely severe depressive symptoms (p <.001), and individuals with mild to moderate depressive symptoms scored significantly lower on RNT than individuals with severe to extremely severe depressive symptoms (p <.001).

Finally, for life satisfaction, individuals without depressive symptoms scored significantly higher than individuals with mild to moderate depressive symptoms (p <.001) and then individuals with severe to very severe depressive symptoms (p <.001). No statistically significant differences were found in life satisfaction between persons with mild to moderate depressive symptoms and persons with severe to extremely severe depressive symptoms (p= .050).

The mediation model explained 32.0% of the variance in life satisfaction, which was significant, R^2= .320, $F(1,430)$= 202.31, p <.001. The regression of depressive symptoms on life satisfaction was statistically significant, β= -.27, SE= .04, t= -7.59, p <.001; 95% $BCBCI$ -0.34 – -0.20. Regression of depressive symptoms on ruminative responses (mediator) was statistically significant, β= .67, SE= .05, t= 14.22, p <.001; 95% $BCBCI$ 0.58–0.77. Also, regression of depressive symptoms on repetitive negative thinking (mediator) was statistically significant, β= .37, SE= .04, t= 10.06, p <.001; 95% $BCBCI$ 0.30–0.44. The regression of ruminative responses (mediator) on life satisfaction was not statistically significant, β= -.02., SE= .03, t= -0.40, p= .692; 95% BCBCI -0.08 – 0.05. But the regression of RNT (mediator) on life satisfaction was statistically

significant, $\beta= -.44.$, $SE= .04$, $t= -9.92$, $p <.001$; 95% *BCBCI* -0.53 – -0.35. Finally, the regression of depressive symptoms on life satisfaction was significant after controlling for RNT (mediator), $\beta= -.10$; $SE= .04$, $t= -2.49$, $p= .013$; 95% *BCBCI* -0.18 – -0.02 (Figure 1). The mediation effect size for RNT was .21. Regarding the percentage of mediation, 60.3% of the total effect of depressive symptoms on life satisfaction was mediated by RNT.
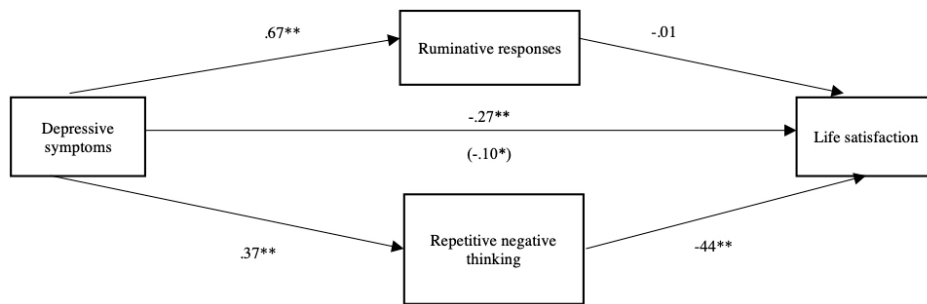

Figure 1. Mediation model of ruminative responses and RNT in the relationship between depressive symptoms and life satisfaction (Notes: *= $p <.05$; **= $p <.001$).

DISCUSSION

Life satisfaction as a dimension of cognitive well-being (Diener et alia, 2013; Diener *et alia,* 2003) is considered an important indicator of mental health and has been negatively associated with psychopathology (Busseri & Peck, 2015; Mahmoud *et alia,* 2012; Serin *et alia,* 2010; Zhang *et alia,*, 2021). The aim of the current study was to examine the mediating role of rumination and RNT on the relationship between depressive symptoms and life satisfaction. Overall, RNT emerged as a mediator variable for the relationship between depressive symptoms and life satisfaction, reinforcing the role of a broader transdiagnostic process in the relationship between depressive symptoms and life satisfaction, to the detriment of a specific transdiagnostic dimension such as rumination.

Regarding the severity of depressive symptoms, about 30% of respondents in the current sample reported depressive symptoms, with almost 10% reporting severe to extremely severe depressive symptoms, consistent with previous studies in European countries (Pinto-Meza, Moneta, Alonso *et alia,* 2013) and in Portugal (WHO, 2017). As expected, life satisfaction was negatively correlated with depressive symptoms, rumination, and RNT. Previous research has highlighted the negative correlation between life satisfaction and depressive symptomatology (Busseri & Peck, 2015; Mahmoud *et alia,* 2012; Serin *et alia,* 2010; Zhang *et alia,* 2021), supporting the negative burden of depression on well-being. In addition, empirical data have also found a negative correlation between life satisfaction and rumination (Eldeleklioglu, 2015; Karabati *et alia*, 2019; Zhang *et alia,* 2021) and between life satisfaction and RNT (Magson *et alia,* 2019; Peixoto & Cunha, 2021). Moreover, depressive symptoms, rumination, and RNT were positively correlated, which is also consistent with previous research (Ehring & Watkins, 2008; Magson *et alia,* 2019; Peixoto & Cunha, 2021; Topper *et alia,* 2010) and highlights the role of transdiagnostic processes in depressive disorders. Moreover, the strongest positive correlations were found between depressive symptoms

and rumination and between rumination and RNT, which was somewhat expected, as rumination has been described as a key feature in the development and maintenance of depressive disorders (Nolen-Hoeksema, 1987, 2004; Nolen-Hoeksema *et alia,* 2008), whereas rumination and RNT are conceptualized as interchangeable dimensions (Ehring & Watkins, 2008). Interestingly, the strongest negative correlation was found between RNT and life satisfaction. This finding may suggest that a broader RNT pattern had a greater impact on well-being and perceived quality of life.

Consistent with this finding, the current study showed that different levels of depressive symptoms were associated with different levels of rumination, RNT, and life satisfaction. More specifically, the results showed that individuals without depressive symptoms had higher levels of life satisfaction and lower levels of rumination and RNT compared with individuals with depressive symptoms. Individuals with severe to extremely severe depressive symptoms also had higher levels of rumination and RNT, whereas no significant differences were found for life satisfaction. The findings for rumination and RNT, as well as differences in depressive symptom severity, are consistent with research emphasizing the relationship between transdiagnostic processes such as rumination and RNT and depression (Ehring & Watkins, 2008; Magson *et alia*, 2019; Peixoto & Cunha, 2021; Topper *et alia*, 2010). Regarding life satisfaction and depressive symptom severity, the current results suggest that life satisfaction is impaired regardless of depressive symptom severity, which is consistent with previous data (Busseri & Peck, 2015; Mahmoud *et alia*, 2012; Serin *et alia*, 2010; Zhang *et alia*, 2021). Nevertheless, there were no statistical differences in life satisfaction between individuals with mild to moderate and severe to extremely severe depressive symptoms at a threshold level. Thus, according to the current data, regardless of the severity of depressive symptoms, people felt distress and negative impairment in their life satisfaction ratings. This finding underscores the need for psychotherapeutic intervention and counseling for depressive symptoms, even mild to moderate symptoms, to promote quality of life and well-being.

Regarding the mediating role of rumination and RNT in the relationship between depressive symptoms and life satisfaction, our results showed that RNT was the only mediator between depressive symptoms and life satisfaction. Although rumination plays a key role in depression, the current results reinforced the role of RNT between psychopathology and well-being. The mediation effect was nearly large, and RNT mediated over 60% of the total effect of depressive symptoms on life satisfaction. Psychotherapeutic interventions target not only psychopathological symptoms but also the promotion of well-being and quality of life have been described in the literature (Feruglio *et alia*, 2021; Harnett *et alia*, 2010; Wadsworth *et alia*, 2018). The current findings suggest that psychotherapeutic interventions should focus on RNT as a broader thinking style to reduce depressive symptoms and improve life satisfaction.

Despite the relevance of the current results, some limitations should be acknowledged and considered. First, the current sample was a community-based sample, and no clinical diagnosis was included. Future studies should consider including clinical groups with major depressive disorder according to a clinician's diagnosis. Second, not all dimensions of cognitive well-being or even the characteristics of emotional well-being were examined. To examine the role of RNT on global well-being, which is an important indicator of mental health, more studies are needed. Third, only depression and rumination were considered in this study. Future studies should also include worry and anxiety to thoroughly investigate the role of a broader RNT pattern in emotional disorders. Forth, the current study has a cross-sectional analytical plan, which limits the cause-effect interpretation in the mediational model.

Overall, this study was a first approach to investigate the mediating role of rumination and RNT in the relationship between depressive symptoms and life satisfaction in a community-based sample. The current findings not only shed light on the rumination and RNT profile as a function of different levels of depressive symptom severity, as life satisfaction was found to be impaired regardless of depressive symptom severity. Moreover, a broader RNT pattern has a major mediating role in the association between depressive symptoms and life satisfaction beyond the mediating role of rumination. In summary, RNT appears to play a central role in depression and well-being. Psychotherapists and clinical psychologists should consider focusing more on RNT than rumination in the treatment of depressed patients to promote better life satisfaction and well-being.

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