



## Repetitive negative thinking mediates the association between perfectionism and psychological distress



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### ABSTRACT

Our objective was to analyze the relationships between Repetitive negative thinking (RNT), perfectionism and psychological distress. Specifically we wanted to test if RNT mediates the relationship between perfectionism and psychological distress. 788 college students completed self-report questionnaires to evaluate perfectionism trait dimensions [Evaluative concerns (EC) and Positive strivings (PS)], RNT dimensions [Repetitive thinking (RT) and Cognitive interference and unproductivity (CIU)], perceived stress, and perceived support. Psychological distress was measured with the Profile of Mood States subscales: Depression (D), Tension–anxiety (TA), Anger–hostility (AH), Fatigue–inertia (FI) and Vigor–anxiety (VA). After controlling for perceived stress and support, perfectionism dimensions and RNT (particularly CIU) remained a significant predictors of psychological distress. CIU was a partial mediator of the relationship between EC and D, TA, AH, FI and VA and a full mediator of the relationship of PS with D and FI. Whereas the effect of negative perfectionism on emotional disturbances was potentiated by RNT, PS was only associated to it when high levels of RNT were also present. Showing that Positive striving effects on psychological distress may be a function of specific mediators, these results contribute to a better understanding of the nature of positive perfectionism.

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### 1. Introduction

Ehring et al. (2011) define Repetitive negative thinking (RNT) as a style of thinking about one's problems or negative experiences that shows three key characteristics: the thinking is repetitive, it is at least partly intrusive, and it is difficult to disengage from. A number of different emotional problems have been found to be related to RNT heightened levels in the form of worry and/or rumination. Consequently, RNT has been considered a transdiagnostic process showing the same characteristics across disorders, whereby only the content is disorder-specific (McEvoy, Watson, Watkins, & Nathan, 2013).

Some authors have suggested that perfectionism encompasses both normal/positive and neurotic/negative aspects. In the majority of the studies, perfectionism dimensions found to be associated with a wide range of psychopathologic conditions were Concern over mistakes (CM), Doubts about actions (DA) and Socially

prescribed perfectionism (SPP) (Stoeber & Otto, 2006), such as disordered eating (e.g. Bento et al., 2010; Maia et al., 2009), depression (e.g. Maia et al., 2012), anxiety (Soares et al., 2013) and suicide (O'Connor, 2007). These findings about the contribution of perfectionism across multiple disorders underline its possible role as a transdiagnostic process (Egan, Wade, & Shafran, 2011).

Several dimensions of perfectionism have been associated with RNT (Macedo, Marques, & Pereira, 2014). In the Frost et al. MPS, the dimensions CM, DA, PE and PC have been associated with anxiety and worry. In which respects Hewitt and Flett MPS it has been SOP and SPP dimensions that have shown more significant correlations with worry (Macedo et al., 2014).

RNT more narrowly defined as rumination has also been associated with perfectionism. Flett, Madorsky, Hewitt, and Heisel (2002) study reported that after controlling for levels of rumination, the relationship between perfectionism (SPP and SOP) and psychological distress became non-significant, suggesting that rumination may play a mediating role. O'Connor, O'Connor, and Marshall (2007) and Short and Mazmanian (2013) confirmed the Flett et al. (2002) hypothesis that rumination partially mediated the

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effects of perfectionism in emotional distress. More recently, Perfectionistic concerns, which is a higher order dimension, has also been associated with rumination, and considered a fully mediator of the relationship between perfectionistic concerns and depressive symptoms (Di Schiena, Luminet, Philippot, & Douilliez, 2012). Furthermore, there is evidence for this relationship arising from studies using a transdiagnostic definition of RNT. Using the Portuguese versions of the Perseverative Thinking Questionnaire (Chaves et al., 2013), it was found that the most negative component of the RNT, Cognitive interference and unproductivity (CIU), partially mediated the relationship between SPP and negative affect and completely mediated the relationship between SOP and negative affect (Pereira et al., 2014).

To our knowledge, the potential mediator role of the RNT, measured using a transdiagnostic approach, between higher order dimensions of perfectionism and psychological distress (PD) was not explored yet. An additional strength of the present study is the use of a RNT assessment instrument which is content free and consequently contributes to circumvent a source of bias and causal circularity in which respects the association between perfectionism and PD.

The objective of the present work is to test if the transdiagnostic RNT dimensions mediate the relationship between positive and negative perfectionism dimensions and psychological distress, controlling for perceived stress and social support. Note that proponents of diathesis–stress have asserted that perfectionism relate more strongly to psychological distress under higher levels of stress (e.g. Hewitt, Flett, & Ediger, 1996) and lower levels of social support (Sherry, Law, Hewitt, Flett, & Besser, 2008).

## 2. Material and methods

### 2.1. Participants and procedures

This research project was approved by the Ethics Committee of the Faculty of Medicine, University of Coimbra. The Portuguese validated versions of a set of self-report questionnaires were administered to a convenience community sample of 788 college students (72.6% girls), from the first to the fifth years of various courses (Medicine, Dentistry, Psychology, Social Service and Health Technologies) from University of Coimbra and from other higher education schools in the cities of Coimbra and Oporto. The aims of the investigation were explained to the faculty professors, who agreed to participate. At the class sessions, after a description of the study aims and after ensuring confidentiality, students were invited to participate. Participation was voluntary, and participants received an increase of 0.5 points on the exam. The mean age was of 20.27 years ( $sd = 2.010$ ; range: 17–25) and did not significantly differ between genders ( $p = .788$ ). The great majority of students was single (98.9%).

### 2.2. Measures

#### 2.2.1. Perfectionism

The Portuguese versions of the Multidimensional Perfectionism Scale (MPS) from Hewitt and Flett (Macedo et al., 2007) and of the MPS from Frost et al. (Amaral et al., 2013) were both used to evaluate two composite trait perfectionism dimensions: Evaluative concerns and Positive striving. These dimensions were derived from the factor analysis of the items from both the Portuguese versions of MPS, which was performed using the sample of the present study. Evaluative concerns dimension includes items from SPP, CM, DA, PC and PE (Cronbach's alpha,  $\alpha = .89$ ); Positive Striving is composed by items belonging to the original dimensions SOP, Personal standards (PS) and Organization ( $\alpha = .89$ ) (Pereira et al., 2014).

#### 2.2.2. Repetitive negative thinking

The Perseverative Thinking Questionnaire (Chaves et al., 2013) is composed by 15 items to evaluate two dimensions: Repetitive thought (RT; represent the actual thinking process) and Cognitive interference and unproductiveness (CIU; refers to individuals' perceived dysfunctional effects). This structure does not completely overlap with the original, but it was considered meaningful, as the first factor comprises items representing the PNT actual thinking process of and the second factor items are related to its perceived dysfunctional effects (Chaves et al., 2013).

#### 2.2.3. Perceived stress and support

The Perceived Stress Scale (Amaral et al., 2014, submitted), is a 10-items scale that is the most widely used instrument for measuring the perception of stress, that is, the degree to which situations in one's life are appraised as stressful ( $\alpha = .866$ ). In the present sample the internal consistency coefficient  $\alpha$  was of .785. Using the same response scale, from "Never" (0) to "Very often" (4), we included another item to evaluate perceived social support – "Do you feel that, in general, you have had the support and help you need?" (Maia et al., 2012).

#### 2.2.4. Psychological distress

The Profile of Mood States (PoMS; Azevedo, Silva, & Dias, 1991) is a 65 adjective Likert scale that is a commonly used measure of psychological distress. Following each adjective the subject is required to respond how he/she has been feeling on a 5 point scale which varies from «not at all» to «extremely», considering the previous month. Five POMS subscales were used: Depression–dejection (D), Tension–anxiety (TA), Anger–hostility (AH), Fatigue–inertia (FI) and Vigor–activity (VA).

### 2.3. Statistical analysis

Statistical analyses were performed using SPSS, version 20.0, for Windows. A SPSS macro (developed by Preacher & Hayes, 2004) was also used to conduct bootstrapping analyses to analyze potential mediation relations between variables.

After having found significant associations (Pearson correlations) between the outcomes (D, TA, AH, FI and VA) and Perfectionism, Repetitive negative thinking, Perceived stress and Perceived social support, multiple regression analysis was used to investigate the relative contribution of each independent correlated variable. Hierarchical multiple regression was used to assess the ability of perfectionism and RNT dimensions to predict levels of the POMS sub-scales, after controlling for the influence of perceived stress and support. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity. Mediation analyses was performed using bootstrapping methodology (Preacher & Hayes, 2004), according to which the 95% CIs must not contain zero to affirm a mediation effect. The output information was also used to decided which mediation is full or partial: a variable (M) completely mediates the relationship between two other variables (IV and DV), if path  $c$  (total effect of IV on DV) is significant and path  $c'$  (effect of IV on DV controlling for M) is not significant.

## 3. Results

As significant gender differences were only found in relation to RNT variables, in which females presented higher scores than males (RT:  $14.14 \pm 4.771$  vs.  $12.284 \pm 4.909$ ;  $t = -4.572$ ,  $p < .001$ ; CIU:  $14.14 \pm 4.771$  vs.  $12.284 \pm 4.909$ ;  $t = -3.339$ ,  $p = .001$ ), the results were analyzed taking into account the entire sample.

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