



Adaptive and maladaptive perfectionism in depression: Preliminary evidence on the role of adaptive and maladaptive rumination

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ABSTRACT

Perfectionism is a multidimensional construct, with some dimensions being adaptive (perfectionistic strivings) and others maladaptive (perfectionistic concerns). Evidence shows that perfectionistic concerns increase risk for depression because they foster rumination. In this paper two aspects of rumination are disentangled, i.e. abstract-analytical (AA) vs. concrete-experiential (CE), to show that depressive effects of perfectionism are associated with the AA rumination, whereas CE rumination should conversely be associated to perfectionistic strivings and unrelated to depression. Questionnaires assessing rumination, perfectionism and depressive symptoms were administered to 174 non-clinical participants. Consistent with hypotheses, results showed that AA rumination fully mediates the relationship between perfectionistic concerns and depressive symptoms. However, no complementary association was found between perfectionistic strivings and CE. Theoretical implications about adaptiveness of perfectionistic strivings, as well as cognitive treatment implications, are addressed in the discussion.

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1. Theoretical background

Perfectionism is conceived as a personality trait characterized by the tendency to hold and pursue exceedingly high standards and critical evaluations of one's own behavior and performance (Flett & Hewitt, 2002; Frost, Marten, Lahart, & Rosenblate, 1990). Although this trait is associated with high achievement (Witcher, Alexander, Onwuegbuzie, Collins, & Witcher, 2007), adaptive coping (Blankstein & Dunkley, 2002) and conscientiousness (Enns & Cox, 2002), a large body of evidence also demonstrated that perfectionists show a vulnerability to various forms of psychological distress, such as anxiety, depression and sustained anger (see for a review: Hewitt & Flett, 2002). As a consequence, perfectionism is commonly considered as a multi-dimensional construct, whose dimensions are in part adaptive and in part maladaptive. In the attempt to understand what does account for this difference, numerous studies have investigated the role of mental rumination (Flett, Madorsky, Hewitt, & Heisel, 2002; Harris, Pepper, & Maack, 2008). This idea is based on the fact that perfectionism fosters an excess of evaluation and criticism, which is phenomenologically consistent with rumination.

The objective of this study is to further specify this pattern of association, distinguishing between adaptive and maladaptive components of rumination. The hypothesis is that maladaptive perfectionism increases the risk of developing depressive symptoms, as it is associated to a maladaptive type of rumination, whereas adaptive perfectionism is unrelated to depressive symptoms and it should be rather associated to an adaptive type of rumination. The following paragraphs summarize research conducted so far on this topic, for which the present study is an extension.

1.1. Adaptive and maladaptive perfectionism: Perfectionistic strivings and perfectionistic concerns

The multidimensional conception of perfectionism is reflected in current measures of this trait. In particular the Multidimensional Perfectionism Scale, by Frost and colleagues (F-MPS; Frost et al., 1990), assesses five dimensions: Concern over Mistakes (CM), Personal Standards (PS), Parental Expectations (PE), Parental Criticism (PC), and Doubts about Action (DA). Factor analytic studies showed that these dimensions loaded on two main factors: the one labelled "perfectionistic concerns" and loaded by PE, PC, CM and DA, opposed to the other, loaded by PS and labelled "perfectionistic strivings" (Dunkley, Blankstein, Masheb, & Grilo, 2006; Stöber & Otto, 2006). In other terms, maladaptive perfectionism is characterized by being overcritical of one's own behaviors, as well as by

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excessive concerns about criticism and others' expectations, whereas adaptive perfectionism is the drive towards amelioration and reaching an ideal objective. Not surprisingly, the CM and DA dimensions appear to be mainly responsible for the development of depressive symptoms (Enns, Cox, & Clara, 2005; Stöber, 1998). This was found in non-clinical student populations (Frost et al., 1990; Frost, Heimberg, Holt, Mattia, & Neubauer, 1993; Minarik & Ahrens, 1996), as well as in clinically depressed ones, where perfectionism was found to increase severity of depressive symptoms (Clara, Cox, & Enns, 2007; Enns & Cox, 1999) and risk of developing later episodes of major depression (Hewitt, Flett, & Ediger, 1996).

1.2. Adaptive and maladaptive rumination

Rumination is defined as repetitive thinking upon oneself and one's own condition when facing a problematic situation creating a negative mood (Nolen-Hoeksema, 1991). Although individuals engage in rumination in order to gain insight and solutions, so as to relieve their depressive state (Papageorgiou & Wells, 2003), numerous studies have shown that rumination rather maintains or exacerbates depressive symptoms, impairing ability to solve problems (for a review, see Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008), driving focus of attention to negative thoughts associated with emotional distress, enhancing recall of negative events, and reducing adaptive coping (Nolen-Hoeksema, 2004).

Latest contributions suggest that rumination should be better specified, as different modes of repetitive thinking may have adaptive or maladaptive properties (Thomsen, 2006; Watkins, 2008). Studies by Watkins and colleagues, in particular, suggest that maladaptive components of rumination are related to its abstract, analytical and evaluative aspects, while a more experiential-concrete and reactive form of reflection is associated with more adaptive outcomes (Moberly & Watkins, 2006; Watkins, Moberly, & Moulds, 2008; Watkins & Moulds, 2005; Watkins & Teasdale, 2001, 2004). The abstract-analytic (AA) mode is focused on evaluating higher-level causes, meanings, consequences and implications of the experience. In contrast, the concrete-experiential (CE) mode is focused on the lower-level, specific, contextual and detailed account of how the self-experience unfolds (Watkins, 2008). Experimental studies showed that AA increases emotional vulnerability to failure and poor problem solving; whereas CE generates less emotional vulnerability to stressors and better problem solving (for a review, see Watkins, 2008). Cross sectional studies obtained consistent results: a tendency to describe problems in more abstract terms was observed among depressed individuals, compared with recovered depressed and controls (Watkins & Moulds, 2007); higher risk for developing depressive symptoms among alexithymics is associated to their tendency to be A-A in rumination activity (Di Schiena, Luminet, & Philippot, 2011).

1.3. Perfectionism, rumination and depression

The precise idea that maladaptive perfectionism would increase risk for depressive symptoms via rumination was already investigated in a number of studies. Flett et al. (2002), for example, showed that the association between distress and maladaptive perfectionism is statistically fully explained by their common association with rumination. Harris and colleagues (2008) further specified these results showing that the "brooding" aspect of rumination, which is a passive, cyclical focus on negative emotions (Trenor, Gonzalez, & Nolen-Hoeksema, 2003), fully mediates the relation between perfectionism and depressive symptoms, whereas the "reflection" aspect of rumination mediates only in part. Related evidence, was found by Blankstein and Lumley (2008) and by O'Connor, O'Connor and Marshall (2007), with other measures of perfectionism than the F-MPS. More recently this

mediation model has been found also in early adolescents (Flett, Coulter, Hewitt, & Nepon, 2011).

2. Purpose

The research summarized did not disentangle so far between adaptive and maladaptive types of rumination. Therefore, the purpose of the present study was to investigate this difference. We argued that a maladaptive mode of rumination, i.e. AA, might well be associated with maladaptive components of perfectionism, i.e. mainly CM and DA; furthermore, we tested whether an adaptive mode of rumination, i.e. CE, could be associated with the adaptive component of perfectionism, i.e. PS. The first association would explain the depressive effect of maladaptive perfectionism, whereas the second one would show that the PS aspect of perfectionism is rather related to a more adaptive type of rumination. Such evidence would represent a further specification of the rumination processes involved in the depressive effect of perfectionism, in line with the latest conceptualization about differential effects of different modes of rumination (Thomsen, 2006; Watkins, 2008). With this purpose, a cross sectional study was run on a non clinical sample, based on correlations among all key variables: AA and CE rumination, all perfectionism dimensions and depressive symptoms. After all, this was in line with methodology classically adopted in the domain (Flett et al., 2002, 2011; Harris et al., 2008; Flett et al., 2011).

3. Methods

Self-report measures of depression, perfectionism and rumination were included in a larger survey and sent via mail to all Psychology students of the Université catholique de Louvain, Louvain-la-Neuve, Belgium. Among those, one hundred and 74 volunteer students (43 males and 131 females, $M_{age} = 21.40$, $SD = 3.44$) completed the survey anonymously on the web.

To measure depression we used the Zung Self-rating depression scale (Zung, Richards, & Short, 1965), a 20 items instrument, with each item corresponding to a depression symptom, such as bad mood, pessimism, asthenia, suicidal ideas, etc. The original English version was translated into French and then back-translated, in accordance with the Brislin (1970) procedure. Respondents rated frequency of each symptom on a 4-point scale, ranging from rarely (1) to always (4). As such, total scores ranged from 0 to 80, with items 2, 5, 6, 11, 12, 14, 16, 17, 18 and 20 reversed. In the present data this scale confirmed adequate internal consistency (cf. Table 1).

Perfectionism components were assessed using the French version of the 29 items Multidimensional Perfectionism Scale by

Table 1
Descriptive statistics, alpha coefficients and factor loadings for employed measures.

	Mean	SD	Alpha	Factor loading
1. Zung-SDI	40.60	(9.14)	0.86	
2. CERTs-AA	2.49	(.56)	0.74	
3. CERTs-CE	2.33	(.49)	0.71	
4. MPS PS (Adap. P.)	21.79	(5.80)	0.82	0.97 (F1)
5. MPS CM	25.62	(8.57)	0.89	0.37 (F3)
6. MPS DA	11.45	(3.57)	0.70	0.97 (F2)
7. MPS PE	13.09	(4.98)	0.84	0.89 (F1)
8. MPS PC	9.46	(4.73)	0.88	0.94 (F1)
9. MPS CM-DA (Maladap. P.)	37.08	(10.70)	0.88	

Note: Zung-SDI = Self Rating Depression scale. AA = CERTs abstract-analytic thinking sub-scale. CE = CERTs concrete-experiential thinking sub-scale. MPS = Multidimensional Perfectionism Questionnaire. MPS-PS (Adap. P.) = Personal Standard sub-scale (Adaptive Perfectionism). MPS-CM, Concerns over Mistakes sub-scale. MPS-DA = Doubts about Actions sub-scale. MPS-PE = Parental Expectation sub-scale. MPS-PC = Parental Critics sub-scale. MPS CM-DA (Maladap. P.) = sum of CM and DA (Maladaptive Perfectionism).

Frost and colleagues (Bouvard et al., 2000; original version: Frost et al., 1990). The F-MPS yields five sub-scales of perfectionism: PE (5 items), PC (4 items), CM (9 items), DA (4 items) and PS (7 items). Each item has a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Score of each scale corresponded to the sum of item-scores. Some authors suggest to sum Z-scores of CM, DA, PE, and PC in order to obtain a measure of “perfectionistic concerns” (maladaptive), to be contrasted with PS as a measure of “perfectionistic strivings” (adaptive) (Bieling, Israeli, & Antony, 2004). However, due to the instability of the association between PC, PE and negative outcomes, others suggest not to include PC and PE in the same factor as CM and DA (Stöber & Otto, 2006). Indeed, it is assumed that PC and PE scales mainly assess the parental style, as a developmental antecedent of the perfectionistic trait, rather than the individual's actual perfectionism (Enns et al., 2005). In the present paper, this last perspective was adopted. The sum of Z-scores of CM and DA (perfectionistic concerns) yielded the index of maladaptive perfectionism, whereas PC and PE were considered as developmental antecedents and PS as adaptive perfectionism (perfectionistic strivings).

To confirm the adequacy of this model, the subscales' scores of MPS were subjected to exploratory factor analysis, with varimax rotation. This suggested a three factors solution and factor loadings confirmed the proposed structure, as displayed in Table 1. Factor loading of CM was the only one below the conventional threshold of 0.4, but we still considered it as an indicator of maladaptive perfectionism given the satisfying alpha. In general all MPS sub-scales showed good internal consistencies, above the recommended threshold of .70 (Nunnally, 1978).

To measure modes of rumination, the short version of the Cambridge-Exeter Repetitive Thoughts Scale (Mini-CERTS; Original version: Barnard, Watkins, Mackintosh, & Nimmo-Smith, 2007; French version: Douilliez, Philippot, Heeren, Watkins, & Barnard, submitted for publication) was used. This is a 15 items self report measure, eight measuring concrete-experiential rumination and seven measuring abstract-analytic rumination. Participants completed the following sentence “When thoughts about myself, feelings, situations or events do come to my mind...” rating the frequency of different thinking habits, such as “I seem to be engaged in and directly in touch with what is going on around me” (for CE) or “I focus on the causes and meanings of what happened” (for AA), on 4-point Likert scales (1 = *almost never*; 4 = *always*). Item-scores were summed within each scale. In the original validation study, the two scales obtained an alpha level of .77 and .80 for CE and AA, respectively (Douilliez et al., submitted for publication). Present data confirmed adequate internal consistency (Table 1).

4. Results

Descriptive statistics for depressive symptoms, perfectionism and rumination are presented in Table 1, together with psychometric properties of employed measures. A normality check was

performed on all variables, establishing values of skewness and kurtosis between -1 and $+1$ as thresholds, and based on graphical inspection of histograms. This showed that all considered variables were approximately normal; therefore no data transformation was executed.

4.1. Correlations

Table 2 reports inter-correlations between depressive symptoms, rumination dimensions and perfectionism dimensions. In general, all estimates were done with Pearson r bivariate correlations, except from two indexes on the PS' column that are reported in *Italic*. In this case partial correlations are displayed because PS, Zung-SDI and AA are all highly correlated with Maladaptive P. To avoid that association estimates could be inflated by this commonality, the two indexes were calculated controlling for the Maladaptive P. Results confirmed in large part our expectation.

Zung-SDI appears to be positively associated with AA and negatively with CE, thus confirming the adaptive and maladaptive conception of AA and CE respectively (Watkins, 2004, 2008; Watkins & Moulds, 2005). Moreover, Zung-SDI score displays a null correlation with PS, positive correlations with CM and DA and no association with PE and PC. These results are in line with the literature and confirm that maladaptive aspects of perfectionism are mainly associated to its evaluative components, i.e. CM and DA, whereas other components are not related with depressive symptoms (Stöber & Otto, 2006).

In the following rows of the table, associations between rumination and perfectionism dimensions are displayed. In line with the hypotheses, AA was positively and significantly associated with CM and DA. No relation was found between any rumination dimensions and the two developmental components, e.g. PE and PC, nor with PS. In particular, the last null result contradicted our hypothesis of a complementary association between adaptive perfectionism and adaptive rumination.

4.2. Mediation model

A mediation model was tested to see whether “perfectionistic concerns” led to depressive symptoms via AA rumination (see Fig. 1). Following the 4 steps procedure of Baron and Kenny (1986), it was tested (1) whether maladaptive perfectionism significantly affects Zung-SDI score (2) whether maladaptive perfectionism significantly affects AA rumination and (3) whether rumination reliably affects Zung-SDI score, when controlling for perfectionism, whereas (4) the effect of perfectionism in the same equation decreases reliably, showing that it is fully explained by AA rumination. Consistent with expectations, and with patterns of associations displayed in Table 2, maladaptive perfectionism had a significant impact on Zung-SDI score, ($\beta = .30$, $p < .001$), $F(1, 165) = 16.17$, $p < .001$, and on AA rumination ($\beta = .37$, $p < .001$), $F(1, 157) = 25.57$, $p < .001$. When maladaptive perfectionism and

Table 2
Inter-correlations between depressive symptoms (Zung-SDI), dimensions of perfectionism (MPS) and dimensions of rumination (CERTS).

	1	2	3	4	5	6	7	8	9
1. Zung-SDI	1	0.44	-0.39	<i>-0.02</i>	0.25	0.28	0.10	0.10	0.30
2. CERTS-AA		1	-0.24	<i>0.07</i>	0.35	0.31	0.05	0.06	0.38
3. CERTS-CE			1	0.11	0.01	<i>-0.07</i>	0.06	0.01	<i>-0.03</i>
4. MPS PS (Adaptive P.)				1	0.52	0.30	0.26	0.03	0.48
5. MPS CM					1	0.47	0.52	0.55	0.86
6. MPS DA						1	0.26	0.32	0.86
7. MPS PE							1	0.74	0.51
8. MPS PC								1	0.45
9. MPS CM-DA (Maladaptive P.)									1

Note: Due to missing values, N ranged from 158 to 170. Significant correlations for $p < .005$ are in bold.

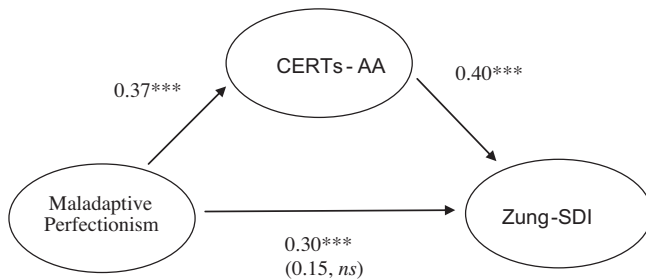


Fig. 1. Mediation model of maladaptive perfectionism increasing depressive symptoms via maladaptive rumination.

AA rumination were simultaneously entered as predictors for depression, the effect of maladaptive perfectionism was no longer significant ($\beta = .15$, *ns*), while the effect of AA rumination on Zung-SDI score remained significant ($\beta = .40$, $p < .001$), $F(2, 157) = 21.72$, $p < .001$, thereby displaying a reliable full mediation (Sobel test: $z = 3.60$, $p < .001$).

Given the cross-sectional nature of our data, to exclude alternative possible interpretation, an inverted model was tested. Since perfectionism is a relatively stable personality trait, it was still considered the antecedent independent variable of our model, whereas the causal order of depressive symptoms and AA rumination was inverted. In other words, this model tested whether depression mediated the effect of “perfectionistic concerns” on AA rumination.

Data excluded its validity; when perfectionism and depression were simultaneously entered as predictors of rumination, both perfectionism ($\beta = .27$, $p < .001$) and depression ($\beta = .37$, $p < .001$) remained positively and significantly associated with rumination, $F(2, 157) = 27.95$, $p < .001$.

5. Discussion

The relationship between perfectionism and depressive symptoms is well established, and in later years there has been a growing attention in testing the role of rumination as a mediator of this relationship (Blankstein & Lumley, 2008; Flett et al., 2002; Harris et al., 2008; O'Connor et al., 2007), since perfectionism is knowingly characterized by an excessive tendency to evaluation and critics.

Present results enlarge previous evidence providing information about which types of rumination are actually involved in this process. Recent theoretical developments disentangled two different modes of rumination: abstract-analytic (AA) and concrete-experiential (CE). Present results showed that the AA type of rumination fully mediated the link between maladaptive perfectionism and the development of depressive symptoms. More precisely, concerns over mistakes and doubts about actions increase risk for depression as long as they are associated with a tendency to being more analytical and abstract in ruminative thinking. This implies that rumination is not responsible per se for depression in perfectionistic individuals, but that the mode of rumination is important.

Although a similar issue was already addressed by Harris et al. (2008), who disentangled the effect of “brooding” and “reflection”, here the distinction being considered sheds light on adaptive rumination too, to investigate its eventual association with adaptive perfectionism. We expected that having high personal standards and ideals could be associated to a concrete type of thinking, as this could maximize the chance of attaining these standards and ideals.

However, in contrast with our expectation, results showed that adaptive perfectionism had no association with any rumination dimension. This aspect of our findings questions the conception

of PS as adaptive, in line with the latest conceptualizations. Indeed, throughout an extensive review of findings about perfectionism and distress, Stöber and Otto (2006) already put in evidence the ambiguous function of PS, suggesting to consider it as a neutral form of perfectionism, less directly related to distress but far from being adaptive or positive (Stöber & Otto, 2006). Consistently, the present data did not display any negative association between adaptive perfectionism and our index of maladaptation, i.e. the severity of depressive symptoms.

In more general terms, this attempt to extend previous findings about perfectionism shed light on which types of rumination actually explain the depressive effect of perfectionism, and also contributed to the actual debate about adaptiveness of having high personal standards.

Over and above these contributions to the theoretical debate, the present paper raises some questions that could foster further research. Above all, the correlational nature of the design does not allow any causal statement. A mediation model was anyway tested for the sole reason that the causal path leading to depression from perfectionism via rumination was already well established in previous studies (Blankstein & Lumley, 2008; Flett et al., 2002; Harris et al., 2008; O'Connor et al., 2007). Future research should therefore overcome this limitation, adopting experimental designs where variables of interest are directly manipulated. After all, experimental studies that manipulated the mode of rumination already revealed beneficial effects of concrete thinking, that in the present data are probably not appreciated enough (Watkins, Baeyens, & Read, 2009).

Future research could also expand this research including the investigation on moderators: gender and age can be key variables in the prediction of rumination or perfectionism and therefore their investigation is worth pursuing.

As regards limitations, a methodological concern should be raised about the non-clinical nature of the sample. This implies that the observed association can be generalized to clinically depressed populations with a degree of caution. If replicated on a clinical population, such findings could more effectively suggest treatment implications for perfectionists experiencing a major depressive episode. In this case, for example, psychotherapeutic interventions designed to reduce the AA type of rumination, such as concreteness training (Watkins et al., 2009) or mindfulness based ones (Segal, Teasdale, & Williams, 2002) might then be effective for perfectionist individuals and prevent the development of symptoms of depression. However, as long as no experimental and/or clinical evidence in this sense is provided, treatment implications remain speculative. Outside the clinical context, in a less speculative manner, these findings give also indications to the human resources management, for the prevention of work related distress and depression. In other words, being aware that a maladaptive form of rumination is likely in perfectionistic individuals, who are by consequence more prone to depression, might be helpful in preventing and limiting this sort of phenomenon.

6. Conclusions

Overall, based on observed associations, we might conclude that individuals high in perfectionistic concerns have a strong tendency to reflect upon general meanings and implications of events (maladaptive rumination), instead of representing the situation in concrete and sensorial details (adaptive rumination); moreover, this tendency appears to be responsible for the development of depressive symptoms. However, on the other hand, individuals high in perfectionistic strivings were not prone to exhibit an adaptive type of rumination, thereby questioning the conception of perfectionistic strivings as being an aspect that fosters adaptation at all.

Evidence provided in this paper is preliminary, because of the correlational nature of the design; further research is needed to replicate these findings with experimental designs and on clinical samples, as this would also provide useful indications for the clinical treatment of depression.

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