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Common rather than unique aspects of repetitive negative thinking are related to depressive and anxiety disorders and symptoms

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ABSTRACT

Repetitive Negative Thinking (RNT) is assumed to be a transdiagnostic factor in depressive and anxiety disorders. We hypothesized that an underlying common dimension of RNT will be more strongly associated with each of the anxiety and depressive disorders, with comorbidity among disorders and with symptom severity than unique aspects of rumination and worry. In a cross-sectional study, 2143 adults diagnosed according to DSM-IV criteria completed questionnaires for content-independent RNT, rumination and worry. 84% of the shared variance of worry and rumination overlapped with content-independent RNT. The common dimension of RNT was significantly associated with each of the depressive and anxiety disorders, comorbidity among emotional disorders and the common core of depressive, anxiety and avoidance symptoms. The unique portion of rumination showed a significant relationship with Major Depressive Disorder and depressive comorbidity and the unique portion of worry with Generalized Anxiety Disorder. These findings are particularly relevant for clinical practice as generic interventions to reduce RNT are currently being tested.

1. Introduction

Repetitive negative thinking (RNT) is assumed to represent a common feature across depressive and anxiety disorders, suggesting that it is a transdiagnostic factor that may be involved in the onset and maintenance of these disorders (Harvey, Watkins, Mansell, & Shafran, 2004). Rumination and worry are the two most often investigated forms of RNT. Rumination has been characterized as "repetitively focusing on the fact that one is depressed; on one's symptoms of depression; and on the causes, meanings, and consequences of depressive symptoms" (Nolen-Hoeksema, 1991, p. 569). Worry has been characterized as "a chain of thoughts and images, negatively affect-laden, and relatively uncontrollable" (Borkovec, Robinson, Pruzinsky, & DePree, 1983, p. 10).

Asserting that rumination and worry are transdiagnostic constructs presupposes among others that these processes are not uniquely associated with any particular psychiatric disorder and that comorbidity among psychiatric disorders will be associated with elevated levels of rumination and worry. The results of most studies seem to indicate that in accordance with a transdiagnostic perspective, rumination and worry indeed traverse a number of different psychiatric phenomena, although rumination may be relatively more pronounced in depression and worry in generalized anxiety disorder (GAD). Regards rumination, a recent meta-analysis of 37 studies showed that persons with mood and persons with anxiety disorder reported significantly more rumination than non-clinical controls and that persons with mood disorder reported more rumination than those with anxiety disorders (Olatunji, Naragon-Gainey, & Wolitzky-Taylor, 2013). Regards worry, a recent meta-analysis of 47 studies showed that clinical groups showed more severe/frequent worry than non-clinical control groups, that anxiety disordered patients manifested more worry than people with other psychiatric disorders and that generalized anxiety disorder (GAD) was associated with more severe/frequent worry than other anxiety disorders, which generally did not differ from those with other psychiatric disorders and each other (Olatunji, Wolitzky-Taylor, Sawchuk, & Ciesielski, 2010).

Support for the transdiagnostic hypothesis that comorbidity among psychiatric disorders will be associated with elevated levels of rumination and worry is somewhat less unequivocal. Regards

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rumination, in studies with higher percentages of participants with a comorbid mood disorder greater differences in rumination between those with an anxiety disorder and controls were observed. Similarly, in studies with higher percentages of participants with a comorbid anxiety disorder greater differences in rumination between those with a mood disorder and controls were found (Olatunji et al., 2013). Regards worry, it has also been found that outpatients with any co-occurring depressive or anxiety disorder scored significantly higher on worry than those suffering from a single disorder (Starcevic et al., 2007) and that levels of worry are higher in depressed patients with comorbid anxiety disorders than in those without anxiety disorders (Gladstone et al., 2005; Hendriks et al., 2014; McEvoy, Watson, Watkins, & Nathan, 2013). However, level of worry does not seem to be elevated in outpatients with GAD and comorbid major depressive disorder (MDD) compared to patients with GAD alone (Chelminski & Zimmerman, 2003; Hendriks et al., 2014).

These findings on rumination and worry across depressive and anxiety disorders have steered some debate as to the similarities and differences between these constructs. In a comprehensive review of RNT across psychological disorders, Ehring and Watkins (2008) concluded that there are more similarities than differences across the processes of worry and rumination, including the fact that they are repetitive, difficult to control, negative in content, predominantly verbal, and relatively abstract. The only replicated diagnosis-specific differences were reported to be the thought content and temporal orientation, with depressive rumination more likely to be past-oriented and worry more likely to be future-oriented. RNT may constitute a common dimension underpinning rumination and worry (Brosschot, Gerin, & Thayer, 2006).

The study of RNT as a transdiagnostic process is complicated by the fact that practically all measures relate either to rumination or worry, the assessment of which include content-specific or disorder-specific items (McEvoy et al., 2013). Typically, rumination measures such as the Ruminative Responses Scale (RSS; Nolen-Hoeksema & Morrow, 1991) ask respondents to answer items with respect to when they feel sad, blue, or depressed, whereas worry measures such as the Penn State Worry Questionnaire (PSWQ; Meyer, Miller, Metzger, & Borkovec, 1990) include the term worry. To fill the gap of a generic or transdiagnostic measure of RNT in order to examine the relationships between content-independent RNT and a broad array of psychiatric disorders and symptoms of psychopathology, two measures have been developed and validated. The Repetitive Thinking Questionnaire (RTQ; McEvoy, Mahoney, & Moulds, 2010) was developed by combining items from commonly used measures of worry, rumination, and post-event processing after removing diagnosis-specific confounds from respondent instructions and items. The Perseverative Thinking Questionnaire (PTQ; Ehring et al., 2011) is another measure of RNT with items that also do not refer to diagnosis-specific content. Its construction is based on core characteristics of RNT rather than being derived from existing measures of RNT like the RTQ. The measure is trait-like in nature, whereas the first version of the RTQ assesses RNT in reference to a recent distressing event, while recently also a trait version of the RTQ has become available (McEvoy, Thibodeau, & Asmundson, 2014).

Cross-sectional studies with the RTQ and PTQ in non-clinical (e.g., Ehring, Raes, Weidacker, & Emmelkamp, 2012; Ehring et al., 2011; McEvoy et al., 2010) and clinical (Ehring et al., 2011; Mahoney, McEvoy, & Moulds, 2012) samples showed that content-independent measures of RNT are strongly associated with severity of depression, anxiety and general distress. In addition, Raes (2012) found in a non-clinical sample that RNT as measured by the PTQ predicted depressive symptoms at follow-up, even when taking into account baseline depressive symptoms and rumination. Using structural equation modeling only a few previous studies tried to identify shared and unique variance across measures of RNT. Segerstrom, Tsao, Alden, and Craske (2000) found in a small clinical sample that the shared variance in worry and depressive rumination scales overlapped 99% with a global rumination scale assessing both future and past-oriented thoughts as well as affectively neutral rumination. A latent factor for RNT – based on worry and global and depression-specific rumination – was associated with severity of depression and anxiety symptoms, but in addition unique or residual variance in rumination (i.e., variance not accounted for by the underlying latent factor of RNT) was specifically related to depression severity. More recently McEvoy and Brans (2012) showed that in a clinical sample of depressive and anxiety patients the shared variance between rumination dimensions (RRS) and worry (PSWQ) was associated with severity of both anxiety and depression symptoms, while in addition the residual variance of brooding as an aspect of rumination (Treynor, Gonzalez, & Nolen-Hoeksema, 2003) showed a unique relationship with both anxiety and depression symptom severity. We are not aware of any clinical studies examining content-independent RNT across psychiatric diagnoses. Further studies on the relation of common and unique variance among RNT measures with depressive and anxiety disorders and their comorbidity are needed, given the potential of the development of interventions aimed at reducing RNT.

The aim of our study was to examine the degree to which shared versus unique aspects of RNT are associated with separate depressive and anxiety disorders, with comorbidity among disorders and with symptom severity. We hypothesized that RNT as an underlying common dimension would be associated with each of these emotional disorders and that in addition the unique portion of rumination and worry would be differentially related to depression and generalized anxiety disorder respectively. We further hypothesized that in particular the common factor of RNT would be positively correlated with comorbidity of depressive and anxiety disorders and higher levels of symptom severity.

2. Methods

2.1. Design and procedure

The Netherlands Study of Depression and Anxiety (NESDA) is an on-going cohort study designed to investigate determinants, course and consequences of depressive and anxiety disorders. A sample of 2981 persons aged 18 to 65 years was included, consisting of healthy controls, persons with a prior history of depressive and/or anxiety disorders, and persons with a current depressive and/or anxiety disorder. Respondents were recruited in the general population, through a screening procedure in general practice, or when newly enrolled in specialized health care in order to represent different health care settings and different developmental stages of psychopathology. General exclusion criteria were a primary diagnosis of severe psychiatric disorders such as psychotic, obsessive compulsive, bipolar or severe addiction disorder, and not being fluent in Dutch. A detailed description of the NESDA design and sampling procedures has been given elsewhere (Penninx et al., 2008). The research protocol was approved by the Ethical Committees of the participating universities and all respondents provided written informed consent.

The baseline assessment included assessment of demographic and personal characteristics, a standardized diagnostic psychiatric interview and a medical assessment including blood sampling. After two (T2), four (T4), and six years (T6) a face-to-face follow-up assessment was conducted with a response of 87.1% ($n = 2596$) at T2, of 80.6% ($n = 2402$) at T4 and 75.7% ($n = 2256$) at T6. Perseverative negative thinking was measured for the first time at T6 with