

# The Repetitive Thinking Questionnaire : Psychometric properties in Iranian Students , and Relationship with depression, Anxiety and Social Anxiety

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**Abstract :** Repetitive Thinking (RT) defined as the “ Process of thinkig attentively , repetitively or frequently about one’s self and one’s world “. (segerstorm et al.2003) . Various form of Repetitive Negative Thinking (RNT) such as worry , rumination and post event processing have been assessed using seprated , but RT would facilitate assesstion of RNT measures. The aims of this study : 1) The factor structure and internal reliability of Repetitive Thinking Questionnaire ( Peter M.McEvoy et.al 2010). The questionnaire completed with undergraduate and MSc. students (N=321) . Exploratory factor analysis yielded two factors labeled Repetitive Negative Thinking (RNT) and Absence of Repetitive Thinking (ART). 2)The examined Relationship between RTQ and depression, that was significantly correlated with depression.(N=114). 3) The examined Relationship between RTQ and Anxiety, that was significantly correlated with Anxiety .(N=114)

**Keyword :** repetitive thinking , depression, anxiety , worry, rumination, post event processing.

## 1)Introduction :

Repetitive , prolonged , and recurrent thought about one’s self , one’s concerns and one’s experiences is mental process commonly engaged in by all people (Harvey , Watkins , Mansell & Safaran, 2004). Watkins (2008) identified key factor that determine whether repetitive thought has adaptive or maladaptive consequences; Namely , (a) The valence of thought content , (b) The intrapersonal and situational context in which RT occurs , and (c) The level of construal adapted during RT.

Depressive rumination(Nolen-Hoeksema,1991) defied depressive rumination as behaviors and thoughts that focus one’s attention on one’s depressive symptoms and on the implication of these symptoms . Depressive rumination is a particular response style to depressed mood ,

which is causally implicated in the onset and maintenance of depression. Worry, is a form of thoughts and images , negatively effect-laden and relatively uncontrollable and as an attempt to engage in mental problem – solving on an issue whose outcome in uncertain but the possibility of one or more negative outcomes. (Brokovec, Robinson, Pruzinsky,& Depree, 1983) . Watkins (2008) in the review suggesting that RT involved in the onest and maintenance of depression, with both depressive rumination and a range of other types of RT predicting future depression in longitudinal prospective studies as well as increasing ngative affect when experimentally induced. Thus, there is convergent evidence across numerous studies utilizing different population , different measures , different study designs , and different forms of RT, all of which are consistent with the hypothesis that

RT is process underpinning the onset and development of depression.

In non-clinical sample, RT is significantly and positively correlated with increased levels of concurrent trait and state anxiety, whether assessed as worry (e.g., Davey, Hampton, Farrell, & Davidson, 1992; Mayer et al., 1990; Siddique, Lasalle-Ricci, Glass, Arnkoff, & Diaz, 2006)

RT is a key element of a number of anxiety disorders (Chelminski & Zimmerman, 2003; Harver et al., 2004): generalized anxiety disorder (PTSD) chronic worry is a central and defining characteristic of generalized anxiety disorder. (American Psychiatric Association, 1994; Hoyer, Becker, & Margraf, 2002).

## 2)Method:

### 2.1. Participants

Participants (N=321) were undergraduate and graduate students (49.8% Women) Mean age was 21.69 years (SD= 2.834)

### 2.2. Measures

#### 2.2.1.Repetitive Thinking Questionnaire

The RTQ a measure of RT that explained by Pere M.McEvoy et al (2010). The test contain 31 items, that the majority of items (n=27) reflected various aspects of repetitive negative thinking (RNT). And (n=4) items is Absence of Repetitive thinking (ART). Cronbach's alpha suggested that internal consistency was excellent for the RNT scale ( $\alpha = 0.89$ ) and was good for the ART scale ( $\alpha = 0.62$ )

#### 2.2.2. Beck Depression Inventory (BDI-II , Beck , Steer, &Brown , 1996)

The BDI-II (henceforth referred to as BDI) is a widely used 21 item measure of severity of depression symptoms experienced during the previous fortnight. The reliability and validity of the BDI has been well established, with a test – retest reliability coefficient of 0.93 and internal reliability of 0.86.

#### 2.2.3. Beck Anxiety Inventory (BAI; Beck , Epstein, Brown , & Steer , 1998)

The BAI consist of 21 items and measures the severity of anxiety symptoms over the previous week. Reliability and Validity are established; Internal consistency reliability coefficients range from 0.85, 0.94, with a test – retest reliability coefficient of 0.75.

## 2.3. Procedure

Participants were undergraduate and MSc. Students at the university of Tehran. The RTQ, BDI and BAI were administered. In the first, they were asked to complete the BDI. Then, they were asked to complete the BAI. Finally, They were asked to complete the RTQ with respect to their experiences after the target situation, along with the other theoretically related measures. (Table 1)

## 3)Results:

### 3.1. Principal Axis Factor Analysis

Common factor analysis was used to analyze the 31 items. The tests were run, and analysis, and scree plots suggested two factors. Eight factors had Eigenvalues greater than 1 (7.38, 2.32, 1.66, 1.23, 1.17, 1.08, 1.06, 1.01). The two factor model was easily interpretable with positively worded items loading on the first factor, and all negatively worded items loading on the second factor.

Table 1

Rotated factor loadings for Principal Axis Factor Analysis of the Repetitive Thinking Questionnaire.

| <b>Repetitive Thinking Questionnaire (RTQ) items</b>  | <b>Factor 1</b> | <b>Factor 2</b> |
|---|-----------------|-----------------|
| <b>Factor 1: Repetitive Negative Thinking (RNT)</b>   |                 |                 |
| Your thoughts overwhelmed you.  | .63             |                 |
| You had thoughts or images about the situation that occurred over again that resulted in your feelings getting worse and worse.                             | .62             |                 |
| You had thoughts or images about a past event that came into your head even when you did not wish to think about it again.                                  | .61             |                 |
| You had thoughts or images about the situation and wishing it had gone better.  | .59             |                 |
| You had thoughts or images like " why can't I get going?"   | .57             |                 |
| You had thoughts or images of the situation that were difficult to forget.  | .57             |                 |
| When you were under pressure, you thought a lot about the situation.  | .56             |                 |
| I was always thinking about something.  | .55             |                 |
| You went away by yourself and thought about why you felt this way .   | .54             |                 |
| The situation really made you think.  | .54             |                 |
| You had thoughts or images asking " why do I always react this way?"  | .53             |                 |
| Once I started thinking about the situation ,I couldn't stop.   | .53             |                 |
| You had thoughts or images like "why do I have problems other people don't have?"   | .53             |                 |
| You had thoughts or images about turning the clock back to do something again , bout do it better.  | .52             |                 |
| You had a lot of thoughts or images of the situation after it was over.   | .52             |                 |
| I knew I shouldn't have thought about the situation ,but I couldn't help it.  | .51             |                 |
| You had thoughts or images about all your shortcomings ,failings,faults,mistakes.   | .50             |                 |
| You had thoughts or images about how alone you felt.  | .49             |                 |
| You had thoughts or images about how angry you were with yourself.  | .49             |                 |
| You had thoughts or images that "I won't be able to do my job/work because I feel so badly".  | .48             |                 |
| You had thoughts or images about the situation that resulted in you avoiding similar situations and that reinforced a decision to avoid similar situations. | .48             |                 |
| You listened to sad music.  | .45             |                 |
| I thought about the situation all the time .  | .43             |                 |
| You had thought or images of the situation that your tried to resist thinking about.  | .41             |                 |
| I noticed that I had been thinking about the situation.   | .39             |                 |
| I thought about the situation until it was all done.  | .39             |                 |
| You went some place alone to think about your feelings.   | .33             |                 |
| <b>Factor 2: Absence of Repetitive Thinking (ART)</b>   |                 |                 |
| There was nothing more I could do about the situation , so I didn't think about it anymore.   |                 | .74             |
| I didn't have enough time to do everything ,so I didn't think about it.   |                 | .70             |
| I didn't tend to think about it ( the situation).   |                 | .65             |
| I found it easy to dismiss distressing thoughts about the situation.  |                 | .38             |

Factor1, labeled Repetitive thinking , contained the majority of items ( n=27) and reflected various aspects of repetitive negative thinking (RNT) . This factor explained 23.82% of the variance. Factor 2, contained the negatively worded items (n=4) , and was labled Absence of Repetitive Thinking (ART). This factor explained 7.48% of the variance . Cronbach's alpha sggested that internal consistency was excellent for the RNT scale (  $\alpha = 0.89$  ) and was good for the ART scale (  $\alpha = 0.62$  ) .

### 3.2. Relationships between Repetitive Thinking and BDI

We examined the relationships between the RTQ scales and BDI . In terms of depression , scores on the Repetitive Negative Thinking scale were well correlated with the scores on the BDI (  $r = 0.52$  ,  $p < 0.01$  ). In contrast , Scores on the Absence of Repetitive Thinking scale were not with the BDI (  $r = - 0.16$  ,  $p > 0.05$  ).

### 3.3. Relationships between Repetitive Thinking and BAI

We examined the relationships between the RTQ scales and BAI. In terms of Anxiety, scores on the Repetitive Negative Thinking scale were well correlated with the scores on the BAI ( $r = 0.53$ ,  $p < 0.01$ ). In contrast, Scores on the Absence of Repetitive Thinking scale were not with the BAI ( $r = -0.22$ ,  $p < 0.05$ ).

### 3.4. RNT – Short scale

In order to minimize the burden on respondents and increase the scale's utility within clinical settings, we explored the psychometrics of a 10-item version of the RNT scale. The RNT – Short scale score was calculated from the average of the 10 strongest loading items. Cronbach's alpha suggested that internal consistency was excellent for the RNT – Short scale ( $\alpha = 0.81$ , average inter – item correlation = 0.31) and it was highly correlated with full scale. The short version was internally reliable and generally demonstrated similar convergent validity to the long version.

## 4. Discussion:

The factor analysis yielded a two-factor solution. The first factor was comprised of all positively worded items ( $n=27$ ) and was labeled Repetitive Thinking (RNT). The second factor exclusively contained the negatively worded items ( $n=4$ ) which labeled Absence of Repetitive Thinking (ART). Internal reliability was excellent for the RNT factor and good for the ART factor, and the factors were fairly weakly and negatively correlated with each other. The finding that all positively worded items loaded on the same repetitive thinking factor suggests that worry and rumination may be less distinct than previous factor analysis suggest.

Nolen- Hoeksema et al. (2008) recently defined rumination as “the process of thinking perseveratively about one's feelings and problems, rather than in terms of the specific content of thoughts”, which could equally apply to other forms of repetitive negative thinking such as worry and post event processing. However, Nolen-Hoeksema and colleagues argue that there may be differences in the functions of worry and rumination, with worry being more future – focused and rumination more past- focused (Ehring & Watkins, 2008).

The finding that the negatively worded items loaded on a separate factor is consistent with previous literature (Fresco, Frankel, et al., 2002; Fresco, Heimberg, et al., 2002; Olatunji, Schottenbauer, Rodriguez, Glass, & Arnkoff, 2007) and is most likely a consequence of method variance (Brown, 2003; Hazlett-stevens, Ullman, & Craske, 2004). Previous research has also found that the Absence of Repetitive Thinking scale items tend to have less predictive validity (Olatunji et al., 2007), and the remaining positively worded item maintain a high level of internal reliability and predictive utility without the negatively worded items (Crittendon & Hopko, 2006; Fresco, Heimberg, et al., 2002). Although caution must be used when discarding reverse scored items, given that this source of method variance can be specified within structural models (Brown, 2003), the superior psychometric properties of the positively worded items and the principle of parsimony provide strong rationales for excluding them.

We examined relationship between repetitive thinking, depression and anxiety. The RNT scale was well Correlated with symptoms of depression and anxiety, as measured by the BDI and BAI, respectively.

The short version was internally reliable and generally demonstrated similar convergent validity to the long version.

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