

# **Trait Mindfulness and Psychological Distress Among University Students: The Mediating Role of Rumination**

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## **Abstract**

Trait mindfulness has been consistently associated with lower psychological distress, yet the mechanisms underlying this relationship require continued examination. This study examined the relationships among trait mindfulness, rumination, and psychological distress in a sample of university students, and tested whether rumination mediates the relationship between mindfulness and distress. A cross-sectional correlational design was employed, and data were collected from 160 university students aged 18–25 years using the Five Facet Mindfulness Questionnaire (FFMQ), the Ruminative Responses Scale (RRS), and the Depression Anxiety Stress Scales (DASS-21). Data were analysed using Pearson correlation and mediation analysis. Results indicated that trait mindfulness was significantly and negatively correlated with both rumination ( $r = -.49, p < .001$ ) and psychological distress ( $r = -.54, p < .001$ ), and that rumination was strongly and positively correlated with distress ( $r = .61, p < .001$ ). Mediation analysis indicated that rumination significantly mediated the relationship between mindfulness and distress, with the direct effect of mindfulness on distress substantially reduced when rumination was included, consistent with partial mediation. These findings suggest that trait mindfulness is associated with lower psychological distress partly through reduced rumination. The study contributes to the understanding of the mechanisms linking mindfulness to mental health and discusses implications for mindfulness-based interventions and student wellbeing.

**Keywords:-** Trait Mindfulness, Rumination, Psychological Distress, Depression, Anxiety, University Students, Mediation, Emotion Regulation, Mental Health, Correlational Study.

## **I. INTRODUCTION**

Psychological distress, encompassing symptoms of depression, anxiety, and stress, is prevalent among university students, for whom the academic and developmental demands of higher education frequently coincide with a period of heightened vulnerability to mental health difficulties. Identifying the dispositional characteristics and psychological processes that protect against, or contribute to, such distress is therefore of considerable importance for both theory and practice. Among the protective characteristics that have attracted sustained attention is mindfulness, the quality of attending to present-moment experience with openness and non-judgement (Kabat-Zinn, 2003; Bishop et al., 2004).

A substantial body of research has established that trait mindfulness, the general tendency to be mindful in daily life, is associated with a range of favourable mental health outcomes, including lower levels of depression, anxiety, and stress, and greater psychological wellbeing (Brown & Ryan, 2003; Keng et al., 2011). These associations are robust and have been observed across diverse populations and measures (Baer et al., 2006). Yet establishing that mindfulness relates to distress is only a first step; understanding the mechanisms through which it exerts its influence is essential both for theory and for the refinement of mindfulness-based interventions (Gu et al., 2015).

One process that has been prominently implicated is rumination, the tendency to engage in repetitive, passive, and self-focused thinking about one's distress and its causes and consequences (Nolen-Hoeksema, 1991; Nolen-Hoeksema et al., 2008). Rumination is a well-established transdiagnostic risk factor that prolongs and intensifies negative affect and predicts the onset and maintenance of depression and anxiety (Watkins, 2008). Because mindfulness involves a non-elaborative, present-focused

mode of attention that is conceptually opposed to ruminative processing, mindfulness may reduce distress in part by diminishing rumination (Chambers et al., 2009; Raes & Williams, 2010).

Although this proposition is theoretically compelling and has received some empirical support, evidence testing rumination as a mediator of the mindfulness-distress relationship, particularly among university students and in the Indian context, remains relatively limited. Clarifying this pathway would enrich understanding of how mindfulness supports mental health and would inform the design and targeting of interventions. Against this background, the present study examined the relationships among trait mindfulness, rumination, and psychological distress in a sample of university students, and tested whether rumination mediates the relationship between mindfulness and distress. It was hypothesised that trait mindfulness would be negatively related to both rumination and distress, that rumination would be positively related to distress, and that rumination would mediate the mindfulness-distress relationship.

## II. LITERATURE REVIEW

### 2.1. Trait Mindfulness and Psychological Distress

Mindfulness has been operationalised as a multifaceted construct encompassing the capacity to observe and describe present experience, to act with awareness, and to adopt a non-judgemental and non-reactive stance toward inner experience (Baer et al., 2006; Bishop et al., 2004). Trait mindfulness, understood as individual differences in the propensity to be mindful, is reliably associated with lower depression, anxiety, and stress and with greater wellbeing (Brown & Ryan, 2003). Reviews of the empirical literature conclude that these associations are consistent and that mindfulness confers benefits for psychological health across correlational, experimental, and intervention designs (Keng et al., 2011). Particular facets of mindfulness, notably acting with awareness and non-judging of inner experience, appear especially relevant to symptoms of anxiety and depression (Desrosiers et al., 2013).

### 2.2. Rumination as a Risk Process

Rumination has been conceptualised, within response styles theory, as a maladaptive response to distress characterised by repetitive focus on symptoms and their meaning (Nolen-Hoeksema, 1991). It is associated with the onset, severity, and duration of depressive episodes and with anxiety, and is now regarded as a transdiagnostic process implicated across a range of disorders (Nolen-Hoeksema et al., 2008), (Watkins, 2008). Psychometric analyses have distinguished components of rumination, including a more maladaptive brooding component and a more reflective component, with brooding most strongly linked to distress (Treynor et al., 2003). Because rumination amplifies and prolongs negative affect, processes that reduce it are of particular interest for mental health.

### 2.3. Mindfulness, Rumination, and the Mediation Hypothesis

Theoretical accounts propose that mindfulness and rumination are, in important respects, opposing modes of processing: whereas rumination entails elaborative, evaluative, past- and self-focused thought, mindfulness entails a present-centred, non-elaborative, and accepting awareness (Chambers et al., 2009). By cultivating this alternative stance, mindfulness may interrupt ruminative cycles and thereby reduce distress. Empirical work supports an inverse relationship between mindfulness and rumination (Raes & Williams, 2010), and mediation studies of mindfulness-based interventions indicate that reductions in rumination and related repetitive thinking help to account for their effects on mental health (Gu et al., 2015; Coffey et al., 2010). These findings motivate the examination of rumination as a mediator of the association between trait mindfulness and psychological distress, which the present study addresses.

## III. METHODS

### 3.1. Participants

A total of 160 university students (Mage = 21.1 years, SD = 2.0; 60% female, 39% male, 1% other) were recruited from a university community through campus notices and online announcements. Inclusion criteria required participants to be currently enrolled students aged 18–25 years. Participants provided informed consent, and the study protocol was approved by the institutional review committee. Participation was voluntary and anonymous, and confidentiality was assured.

### 3.2. Design and Procedure

The study employed a cross-sectional correlational design. Participants completed a self-report questionnaire battery, administered electronically, comprising measures of trait mindfulness, rumination, and psychological distress, together with demographic items. The measures were presented in a fixed order, and participants were informed that there were no right or wrong answers and that their responses would be used solely for research purposes.

### 3.3. Measures

#### 3.3.1. Five Facet Mindfulness Questionnaire (FFMQ).

Trait mindfulness was assessed using the Five Facet Mindfulness Questionnaire (Baer et al., 2006), which measures five facets of mindfulness, observing, describing, acting with awareness, non-judging of inner experience, and non-reactivity, with items rated on a five-point scale. A total mindfulness score was computed, with higher scores indicating greater trait mindfulness. The measure demonstrated good internal consistency in the current sample (Cronbach's  $\alpha = .88$ ).

#### 3.3.2. Ruminative Responses Scale (RRS).

Rumination was assessed using the Ruminative Responses Scale (Treynor et al., 2003), a self-report measure of the tendency to respond to distress with ruminative thinking, with items rated on a four-point scale. Higher scores indicate greater rumination. The scale demonstrated good internal consistency in the current sample ( $\alpha = .89$ ).

### 3.3.3. Depression Anxiety Stress Scales (DASS-21).

Psychological distress was assessed using the 21-item Depression Anxiety Stress Scales (Lovibond & Lovibond, 1995), which measures depression, anxiety, and stress over the preceding week, with items rated on a four-point scale. A total distress score was computed by summing the subscales, with higher scores indicating greater distress. The measure demonstrated good internal consistency in the current sample ( $\alpha = .92$ ).

### 3.4. Statistical Analysis

Data were analysed using standard statistical software. Descriptive statistics and Pearson product-moment correlations were computed for the study variables. Mediation was examined using regression-based procedures, following the causal-steps logic (Baron & Kenny, 1986) and complemented by a bootstrapping approach to test the significance of the indirect effect (Preacher & Hayes, 2008). The assumptions of the analyses were examined and found tenable, and statistical significance was evaluated at the .05 level.

## IV. RESULTS

### 4.1. Descriptive Statistics and Correlations

Means, standard deviations, and intercorrelations for the study variables are presented in Table 1. As expected, trait mindfulness was significantly and negatively correlated with both rumination and psychological distress, and rumination was strongly and positively correlated with distress.

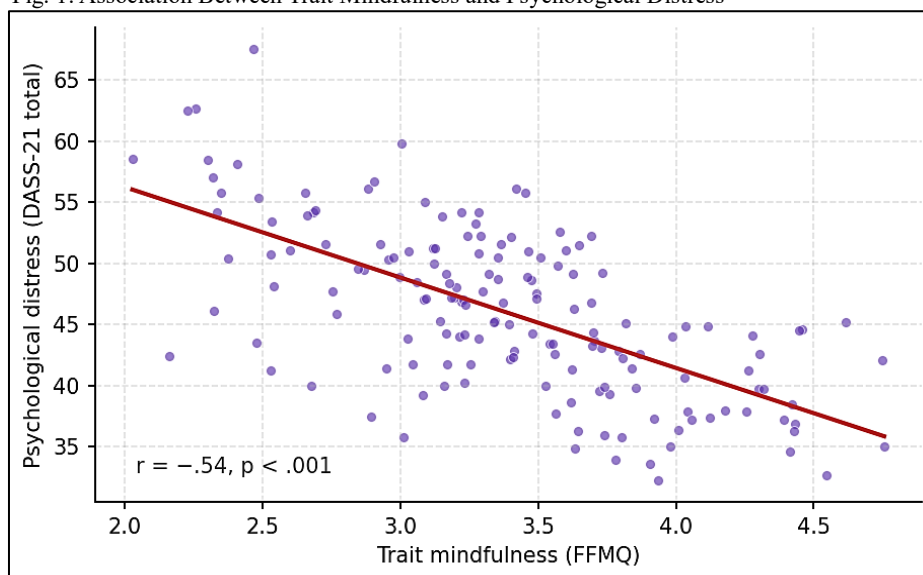
Table 1. Descriptive Statistics and Correlations among the Study Variables

| Variable                            | M    | SD   | 1      | 2     | 3 |
|-------------------------------------|------|------|--------|-------|---|
| 1. Trait mindfulness (FFMQ)         | 3.38 | 0.58 | —      |       |   |
| 2. Rumination (RRS)                 | 46.7 | 11.3 | -.49** | —     |   |
| 3. Psychological distress (DASS-21) | 38.4 | 18.6 | -.54** | .61** | — |

Note. N = 160. FFMQ = Five Facet Mindfulness Questionnaire; RRS = Ruminative Responses Scale; DASS-21 = Depression Anxiety Stress Scales. \*\* $p < .01$ .

As shown in Table 1, trait mindfulness was negatively correlated with rumination ( $r = -.49$ ,  $p < .001$ ) and with psychological distress ( $r = -.54$ ,  $p < .001$ ), while rumination was positively correlated with distress ( $r = .61$ ,  $p < .001$ ). All correlations were statistically significant and in the expected directions. The negative association between trait mindfulness and psychological distress is depicted in Fig. 1.

Fig. 1: Association Between Trait Mindfulness and Psychological Distress



Note. Higher FFMQ scores indicate greater trait mindfulness; higher DASS-21 total scores indicate greater distress. The fitted line depicts the negative association.

### 4.2. Mediation Analysis

To test whether rumination mediates the relationship between trait mindfulness and psychological distress, a series of regression analyses was conducted. Trait mindfulness significantly predicted psychological distress in the absence of the mediator ( $\beta = -.54$ ,  $p < .001$ ) and significantly predicted rumination ( $\beta = -.49$ ,  $p < .001$ ), and rumination significantly predicted distress when both were entered ( $\beta = .47$ ,  $p < .001$ ). Critically, the association between mindfulness and distress was substantially reduced when rumination was included ( $\beta = -.31$ ,  $p < .001$ ), and a bootstrapping test confirmed that the indirect effect through rumination was statistically significant (Preacher & Hayes, 2008). Because the direct effect remained significant,

the results indicate partial mediation, whereby rumination carries a substantial portion of the influence of mindfulness on distress.

### 4.3. Summary of Findings

In sum, the hypotheses were supported. Trait mindfulness was negatively associated with rumination and distress, rumination was positively associated with distress, and rumination partially mediated the relationship between mindfulness and distress, accounting for a substantial part of that relationship.

## V. DISCUSSION

This study examined the relationships among trait mindfulness, rumination, and psychological distress in university students and tested rumination as a mediator of the mindfulness-distress relationship. Consistent with a substantial literature, trait mindfulness was negatively associated with distress (Brown & Ryan, 2003; Keng et al., 2011), and the mediation analysis indicated that this association operated substantially, though not entirely, through rumination. This pattern supports the view that mindfulness protects against distress in part by reducing the repetitive, self-focused thinking that amplifies and prolongs negative affect (Chambers et al., 2009; Raes & Williams, 2010).

The findings are consistent with theoretical accounts positioning mindfulness and rumination as opposing modes of cognitive processing, and with mediation evidence from mindfulness-based interventions indicating that reductions in repetitive negative thinking help to explain their benefits (Gu et al., 2015; Coffey et al., 2010). That rumination, a well-established transdiagnostic risk process (Watkins, 2008; Nolen-Hoeksema et al., 2008), mediates the relationship suggests one concrete mechanism through which cultivating mindfulness may support mental health. The partial nature of the mediation indicates that mindfulness also relates to distress through other pathways, such as improved emotion regulation and acceptance, that were not examined here.

### 5.1. Limitations and Future Directions

Several limitations should be noted. The cross-sectional design precludes causal inference and does not establish the temporal ordering implied by the mediation model; longitudinal and experimental designs are needed to test the proposed pathway more rigorously. The reliance on self-report measures may introduce common method and response biases, and the sample of university students from a single institution limits generalisability. Future research could employ longitudinal designs, examine specific facets of mindfulness and components of rumination such as brooding and reflection (Treyner et al., 2003), and test additional mediators to build a more complete account of the mechanisms linking mindfulness to mental health.

### 5.2. Implications for Practice

The findings carry practical implications for supporting student wellbeing. Because rumination appears to be an important pathway linking mindfulness to distress, interventions that cultivate mindfulness may be particularly beneficial for students prone to ruminative thinking, and targeting rumination directly may enhance their effects. Mindfulness-based programmes, which have demonstrated benefits for psychological health (Keng et al., 2011; Gu et al., 2015), could be incorporated into campus wellbeing initiatives as accessible, preventive resources. Attention to rumination as a modifiable process may help clinicians and educators tailor such interventions to those most likely to benefit.

## VI. CONCLUSION

This study provides evidence that trait mindfulness is associated with lower psychological distress among university students, and that this association is substantially mediated by rumination. Students higher in trait mindfulness reported less ruminative thinking, which in turn was associated with lower distress. These findings contribute to the understanding of the mechanisms through which mindfulness supports mental health and highlight rumination as a promising target for intervention. Although the cross-sectional design counsels caution in drawing causal conclusions, the results support the continued development and application of mindfulness-based approaches, attentive to rumination, as a means of promoting wellbeing among university students.

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