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Mindfulness and Depressive Symptoms: Mediating Role of Rumination

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Abstract

This study attempts to explore mindfulness, rumination and depressive symptoms among university students. Other aim was to know how these variables are significantly correlated to each other. It was aimed to find out role of rumination as a mediator between mindfulness and depressive symptoms. The sample of the study comprises of students (N= 350) from Bahauddin Zakariya University Multan who were recruited randomly. Five Facet Mindfulness Questionnaire, Reflection Rumination Questionnaire and Symptoms checklist-90R were filled by participants. The results were analyzed using Product moment correlation, regression analysis and mediation analysis of Andrew PROCESS macro Procedure. The results revealed that the variables are significantly correlated to each other. Depressive symptoms are negatively correlated with Mindfulness, whereas positively correlated with rumination. Mediation analysis revealed that rumination only partially mediated mindfulness and depressive symptoms. In case mindfulness predicted reductions in depressive symptoms whether rumination may increase while learning to manage with depressive symptoms through mindfulness doesn't aim for an absolute absence of rumination.
Keywords: Mindfulness, Rumination, Depressive symptoms, University Students

Introduction

The present research attempts to examine relationship between mindfulness and depressive symptoms and mediating role of rumination. This investigation explored how mindfulness relates with depressive symptoms in presence of rumination. Understanding this mechanism of mindfulness with depressive symptoms and rumination for individuals' psychological well-being and avoiding psychological troubles.

The initiation of mindfulness from Buddhism that centered attention on present moment intentionally and non-judgmentally. This thought characterizes mindfulness as a person's mental state has attention on internal and external experiences in the present situation. The contemporary initiator of Mindfulness Kabat-Zinn presented a program based on mindfulness for the reduction of stress Reduction. Mindfulness is an awareness that comes by paying purposeful attention, in current situation (Kabat-Zinn, 2003). He believed that mindfulness as Willingness to be aware of one's self and focused on the present moment. The individual's natural happening ability depicts consciousness through mindfulness that represents as a distinctive protection to let the individual directly experience the real present moment in non-judgmental manner (Brown & Ryan, 2003) for enhancing psychological well-being. According to Stefan & Schmidt (2004) mindfulness acts as an intention to develop insight because inner self creates healing relation between mind and body. It also supports that state of mind which identifies negative feelings and deal with love and compassion.

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Although several researchers entirely concentrate the unknowing aspects of mindfulness and mostly comply to the Bishop and Lau et al. (2004) model in which there are two components, the first one is "*Attention on self-regulation*" which refers to the current experiences' awareness and good recognition of present moment, and the other is "*An Orientation to experience''* persist at each moment, acceptance, open to reality and interests in it (Baer et al., 2006; Brown & Ryan, 2003). It refers to an attentive mental state that experience current scenario without judgment (Brown & Ryan, 2003; Bishop et al., 2004; Williams, 2010). The mindfulness meditation practices (Tang et al., 2015) because momentary changing in brain's functioning due to mental state works on neural mechanism. It links with psychological flexibility as capacity to react in a particular situation and aware the present moment to let go of negative events rather than being trapped into ineffective behavior (Frewen et al., 2008; Hayes, Strosahl & Wilson, 2012).

The emotions of misery and sadness result in low moods (Nolen-Hoeksema, 1991) and sequential thoughts in that state result in dismal and discouraged thoughts called rumination. The theory of response style depicts rumination as sequential and lifeless thinking focused on antecedents, indications, and outcomes of depression (Nolen-Hoeksema, 1991). So, it is a continuous negative thinking of previous misfortune and disappointments (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008; Watkins, 2008).

The Cognitive Style theory (Abramson et al., 1989; Beck, 1988) depicts rumination is bound to happen depressive indications because of consistent long-lasting adverse life occasions and useless conduct and behavior. Individuals respond diversely in negative mood states because of reliably captivating in rumination as their dispositional way. The rumination has greater influence on cognition through hopelessness due to negative thinking pattern (Teasdale, 1999; Ciesla & Roberts, 2007). Somewhat, the beginning, span and

seriousness of depressive symptoms rely upon the more significant higher level of rumination (Kenny & Williams, 2007; Watkins, 2008).

Although, depression is a tragic mood state about considering previous adverse occasions as misfortune and repetitive thinking cause a lot of stress among depressives. Sometimes, people experience indications of depression brought about by hereditary or genetics, environmental and psychological factors. It isn't compulsory that all depressives come up with each cautioning or warning signs. Onset of depression can occur at any stage of life and age but higher rate can be noticed among adults. Recent reports highlighted its prevalence in children as well as in adolescents. Rumination (maladaptive pattern of thinking) is a risk factor of depressive symptoms and tendency of negative thoughts patterns result into transformation of low mood and end up with depression (Barnhofer & Chittka, 2010).

Research shows mindfulness has negative correlation with depressive symptoms (Brown & Ryan, 2003; Cash & Whittingham, 2010), cognitive reactivity (Raes, Dewulf, Van Heeringen, & Williams, 2009), rumination (Raes & Williams, 2010) and social anxiety (Brown & Ryan, 2003; Dekeyser et al., 2008; Rasmussen & Pidgeon, 2011).

Mindfulness has developing interest to decrease rumination and psychopathological indications, for example, negative mood debilitation, memory, problem solving challenges, and poor motivation and inspiration (Deyo et al., 2009). The Mindfulness-Based Cognitive Therapy (MBCT) is useful in the treatment of depression and prevent from relapse of depression (Williams & Kuyken, 2012). Reduction in the risk of relapse for people who experience recurrent depressive symptoms, and significantly diminishes the danger of negative encounters and depression compared with the treatment of antidepressant medication. It supports the individual to get rid of their ruminative thoughts and depression related thoughts and feelings.

Rationale

The current investigation explores the relation between mindfulness and depressive symptoms along with mediating role of rumination. This investigation will bring understanding regarding the mechanism of mindfulness with depressive symptoms and rumination. Psychological difficulties have greater impact on student's mental as well as physical health. Reported investigations has concluded that mindfulness has negative relationship with depressive symptoms while rumination has positive correlation with onset, severity and duration of depressive symptoms. Rumination is a critical part of negative thinking pattern that lead to high level of depression. Some evidence support this relationship in which high level of mindfulness predicts less depressive symptoms whether mediated by rumination because Mindfulness practices decrease rumination and preventing depressive relapse. The study reveals greater mindfulness can be reduced depressive symptoms, and increase psychological well-being mediated by reductions in rumination. In an indigenous investigation, relationship between bonding with parents, symptom of depression and self-criticism among teenagers was explored. Another considerable purpose was to investigate mediating role of self-criticism, dependency and neediness. Significant mediating role was found in early relationships and depressive symptoms in relations with dependency and self-criticism. (Tahreem & Batool, 2017).

Objective

The aim of this study was to explore the correlation in mindfulness, rumination and depressive symptoms among students. Furthermore, it was aimed to find out mediating role of rumination in this relationship.

Hypothesis

1. Mindfulness would be significantly negatively correlated with rumination and depressive symptoms and rumination would be positively correlated with depressive symptoms.
2. The higher the mindfulness, the lower the depressive symptoms would be.
3. The higher the rumination, the more depressive symptoms would be.
4. There would be a mediating role of rumination in relationship between mindfulness and depression.

Method

Sample

The participants of this research was consisted of 350 students of Bahauddin Zakariya University Multan. Participants were with the age range of 19-24. The number of female participants were 219 and 131 male participants.

Instruments

Following scales were used to asses study variables.

1. ***Five Facet Mindfulness Questionnaire by Baer et al. (2006):*** A Self-reported measure of mindfulness has 39 items. It is a five point-Likert scale (1: never true to 5: always true) and has five subscales i.e. non-judging experience, observing, acting with awareness, describing, and non-reactivity to the inner experience. The scale has very good construct validity and reliable as alpha value of this scale is .80. The scoring of this scale is divided in five subscale items, lower values indicate lower skills of mindfulness.
2. ***Rumination Reflection Questionnaire by Campbell (1999)*** Five point-Likert scale (1 strongly disagree to 5 strongly agree) has 12 items. The rumination subscale reflects satisfactory reliability as alpha value is .71. Some of the Items i.e. six nine and ten are reversely scored and then add the values for all 12 items.
3. ***Symptom checklist revised (SCL-90R) by Derogatis, Lipman, & Covi (1973)*** A Self-report checklist SCL-90-R measures mental complexity and has 90 items. This scale has eight subscales. Subscale of depressive symptoms has 13 items, it is five point-Likert scale (0: not at all to 4: very much). Reliability of the scale is .89. The scoring can be done by sum of scores and then divide it by the numbers of items.

Procedure

The investigation was carried out on university students after approval from institutional authorities and written informed consent from all the participants. Then, the booklet was given to participants randomly. The measures were regulated by the bilingual students who easily understand the questionnaire both in English and Urdu languages. All incomplete questionnaires were excluded. Statistical package for Social Sciences (version 22) was used for analyzing the data.

RESULTS

Statistical Analysis

Table 1

Correlation matrix (N=350)

Variables	1	2	3	M	SD
Mindfulness(FFMQ)	1	-.15*	-.24**	3.00	.47
Rumination(RRQ)		1	.34**	3.26	.56
Depressive Symptoms (SCL-90R)			1	3.13	.84

*Note: ** p < 0.01 and *p < 0.05,*

Table 1 indicates correlation among variables of Mindfulness, Rumination, and depressive symptoms, there is a negative correlation among mindfulness, depressive symptoms and Rumination and positive correlation between rumination and depressive symptoms.

Table 2

Regression Analysis (N=350).

Predictors	B	SE	B	T	P
Constant	37.14	3.483		10.666	.001***
Mindfulness	-.134	.029	-.242	-4.65	.001***

Note. Adjusted R^2= 5. 6 %, F (2, 347) = 21 . 6 3 0, *p < 0.05, ***p < 0.001

Above table shows results for regression analysis, which reveals that depressive symptoms act as a dependent variable and coefficient of multiple determination R^2 *(.059)* and adjusted R^2 *(.056)* determines the mindfulness is the reason for almost 5.6% variance in depressive symptoms as***$p<0.001$. It means high mindfulness has low depressive symptoms with negative coefficient (β= *-.242, ***p<0.001).*

Table 3

Regression Analysis (N=350).

Predictors	B	SE	B	T	P
(Constant)	-.138	.244		-.563	.001***
Rumination	.563	.074	.34	7.635	.001***

Note. Adjusted R^2=14 %, F (2, 347) = 5 8. 289., *p < 0.05, ***p < 0.001

This table shows that coefficient of multiple determination R^2 *(0. 1 4 3)* and Ad.R^2 *(0. 1 4 1)* determines rumination is the reason for almost 14% variance in depressive symptoms *as* **$p < 0.001$. SO, the positive coefficient (β= .34, **$p<0.001$) indicates high rumination has high depressive symptoms.

Table 4

Mediation Analysis of Rumination (N=350)

Mediation Hypothesis	B	SD	T	P-value	Results
M↔R↔D	-.024**	.010	-2.39	.001	Partially Mediated

Note. -.024, **$p<.001$

Table 4 indicates mediating role of rumination on the linkage between mindfulness and depressive symptoms. The results revealed that the total effect of IV on DV is significant (β=*-.13, t=-4.65*) but it is reduced than direct effect. With inclusion of the mediating variable (MV), the impact of IV on DV became significant (β=*-.11, t=-3.97)* and more impact than total effect. The indirect effect of IV on DV through MV is found significant (β=-.024.*t=-2.39*). This shows that the relationship between IV and DV is partially mediated by MV.

So, the mediation analysis is to provide evidence for the hypothesis that rumination mediates the relation between mindfulness and depressive symptoms.

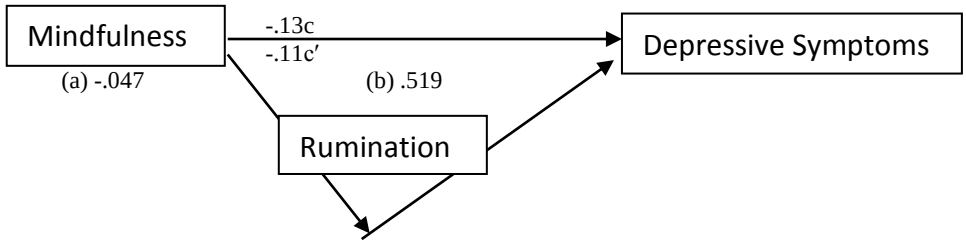

Figure 1
Note. *-0.24, **p<0.001*

Table 4 Mediation analysis of Rumination between mindfulness and depressive symptoms and figure 1 display indirect path via rumination is significant *(β=-.024, T =-2.39, **P<0.001)*. Therefore, the rumination has a partial role between both constructs.

Discussion

This study was aimed to find the relationship among depressive symptoms, rumination and mindfulness in university students. It was also aimed to explore the rumination as a mediator in this relationship.

It was assumed that mindfulness, depressive symptoms and rumination will have substantial relationship with each other. Results in table1 indicated correlation matrix and showed significant negative correlation among mindfulness, depressive symptoms and rumination. Rumination has significant positive correlation with depressive symptoms. The assumption was accepted, and it is in line with previous literature that mindfulness has positive correlation to psychological health and life satisfaction (Brown et al., 2007). It prevents people from involuntary adverse and differentiated thought patterns and enhances self-expression of reality. Furthermore, it has a negative association with anxiety and depression (Carlson & Brown, 2003) by the reduction of maladaptive cognition. Another research supports the findings that with high level of trait-dispositional mindfulness comes fewer negative thoughts and symptoms of psychopathology. It also increases well-being (Frewen et al., 2008).

Second assumption of this study was that mindfulness will be a predictor of depressive symptoms. And as shown in the table, results indicated mindfulness is a significant predictor. Results in table 2 indicates high mindfulness predicts fewer depressive symptoms means the higher the mindfulness, the lower the symptoms of depressive symptoms.

Third assumption was about rumination, it will predicts high depressive symptoms. Findings (see table 3) revealed both variables are positively correlated to each other. Those who have high level of rumination also have higher level of depression and anxiety at stressful situations (Nolen-Hoeksema et al. 1994). Last assumption of this study was that rumination will work as mediator between the relationship of mindfulness and depressive symptoms.

The results found partial mediation. The hypothesis is supported by the analysis that rumination partially mediated in relation between mindfulness and depressive symptoms. Rumination is likely to increase depressive symptoms and proves to be a mediating variable between mindfulness and depressive symptoms.

Although, we see that rumination is one of an important ingredient to increase depressive symptoms. The research findings suggest that rumination work as mediator in relationship of mindfulness and depressive symptoms (Desrosiers, Vine, Klemanski, &Nolen Hoeksema, 2013; Deyo et al., 2009; Labelle et al., 2010).

Limitations & Implications

The current research is limited in educational setting at appropriate group of population. Different populations and large samples should be used for future researches to enhance the generalizability of results. Future studies may get more beneficial results by using objective behavioral measures (Sbarra, Smith, & Mehl, 2012) and by conducting in other settings. These results can be implied for person's psychological betterment and mental growth. Mindfulness practices should be used in educational institutes for nurturing student's mental growth, psychological health, so that depression and other mental disturbances can be reduced in everyday experiences. Different other variables should be explored as mediator with these variables to see more beneficial findings for student's mental health.

Conclusion

The current research shows a substantial relationship among mindfulness, rumination, and depressive symptoms. It also represents that rumination works as mediator and explains the relationship of mindfulness with depressive symptoms. As a outcome, the mediation has been identified. This study increases the understanding of variables and works in advancing mental health. Besides, it is broadly expected that mindfulness practices help in reducing depression and enhancing psychological well-being.

Reference

Abramson, L. Y., Metalsky, G. I., & Alloy, L. B. (1989). Hopelessness depression: A theory-based subtype of depression. *Psychological review*, *96*(2), 358–372.

Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment*, *13*(1), 27-45.

Barnhofer, T., & Chittka, T. (2010). Cognitive reactivity mediates the relationship between neuroticism and depression. *Behaviour Research and Therapy*, *48*(4), 275-281.

Beck, A. T., Steer, R. A., & Carbin, M. G. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical psychology review*, *8*(1), 77-100.

Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., & Devins, G. (2004). Mindfulness: A

proposed operational definition. *Clinical psychology: Science and practice*, *11*(3), 230-241.

Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: mindfulness and its role in psychological well-being. *Journal of personality and social psychology*, *84*(4), 822-848.

Carlson, L. E., Speca, M., Patel, K. D., & Goodey, E. (2003). Mindfulness-based stress reduction in relation to quality of life, mood, symptoms of stress, and immune parameters in breast and prostate cancer outpatients. *Psychosomatic medicine*, *65*(4), 571-581.

Cash, M., & Whittingham, K. (2010). What facets of mindfulness contribute to psychological well-being and depressive, anxious, and stress-related symptomatology?. *Mindfulness*, *1*(3), 177-182.

Ciesla, J. A., & Roberts, J. E. (2007). Rumination, negative cognition, and their interactive effects on depressed mood. *Emotion*, *7*(3), 555–565.

Derrogatis, L., Lipman, R., & Covi, I. (1973). The SCL-90: An outpatient psychiatric rating scale. *Psychopharmacology Bulletin*, *9*(1), 13-28.

Desroriers, A.,Klemanski, D.H., & Nolen-Hoeksema, S. (2013) Mapping Mindfulness Facets Onto Dimension of Anxiety and Depression. Behavior Therapy, *44*, *373*-384.

Deyo, M., Wilson, K. A., Ong, J., & Koopman, C. (2009). Mindfulness and rumination: does mindfulness training lead to reductions in the ruminative thinking associated with depression. *Explore*, *5*(5), 265-271.

Frewen, P. A., Evans, E. M., Maraj, N., Dozois, D. J., & Partridge, K. (2008). Letting go: Mindfulness and negative automatic thinking. *Cognitive therapy and research*, *32*(6), 758-774.

Kabat-Zinn, J. (2003). Mindfulness-based interventions in context: past, present, and future. *Clinical psychology: Science and practice*, *10*(2), 144-156.

Kenny, M. A., & Williams, J. M. G. (2007). Treatment-resistant depressed patients show a good response to mindfulness-based cognitive therapy. *Behaviour research and therapy*, *45*(3), 617-625.

Lincoln, K. D., Chatters, L. M., & Taylor, R. J. (2003). Psychological distress among Black and White Americans: Differential effects of social support, negative interaction and personal control. *Journal of health and social behavior*, *44*(3), 390-407.

Nolen-Hoeksema, S., & Morrow, J. (1991). A prospective study of depression and posttraumatic stress symptoms after a natural disaster: the 1989 Loma Prieta Earthquake. *Journal of personality and social psychology*, *61*(1), 115-121.

Nolen-Hoeksema, S., Parker, L. E., & Larson, J. (1994). Ruminative coping with depressed mood following loss. *Journal of personality and social psychology*, *67*(1), 92-104.

Raes, F., & Williams, J. M. G. (2010). The relationship between mindfulness and uncontrollability of ruminative thinking. *Mindfulness*, *1*(4), 199-203.

Raes, F., Dewulf, D., Van Heeringen, C., & Williams, J. M. G. (2009). Mindfulness and reduced cognitive reactivity to sad mood: Evidence from a co relational study and a non-randomized waiting list controlled study. *Behaviour research and therapy*, *47*(7), 623-627.

Sbarra, D. A., Smith, H. L., & Mehl, M. R. (2012). When leaving your ex, love yourself: Observational ratings of self-compassion predict the course of emotional recovery following marital separation. *Psychological science*, *23*(3), 261-269.

Schmidt, S. (2004). Mindfulness and healing intention: concepts, practice, and research evaluation. *Journal of Alternative & Complementary Medicine*, *10*(Supplement 1), S-7.

Szanton, S. L., Thorpe, R. J., & Whitfield, K. (2010). Life-course financial strain and health in African–Americans. *Social Science & Medicine*, *71*(2), 259-265.

Tang, Y. Y., Hölzel, B. K., & Posner, M. I. (2015). The neuroscience of mindfulness meditation. *Nature Reviews Neuroscience*, *16*(4), 213-225.

Tahreem, A and Batool.I (2017). Perceptions of early relationships and Depressive symptoms across developmental Stage: Self Criticism and Dependency as Mediator. (*Unpublished Dissertation)*.

Teasdale, J. D. (1999). Emotional processing, three modes of mind and the prevention of relapse in depression. Behaviour Research and Therapy, 37(Supple 1), S53–S77.

Trapnell, P. D., & Campbell, J. D. (1999). Private self-consciousness and the five-factor model of personality: distinguishing rumination from reflection. *Journal of personality and social psychology*, *76*(2), 284–304.

Williams, J. M. G., & Kuyken, W. (2012). Mindfulness-based cognitive therapy: a promising new approach to preventing depressive relapse. *The British Journal of Psychiatry*, *200*(5), 359-360.

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