

Mediating Role of Depression in the Relationship between Brooding Rumination and Suicidal Ideation

Rabyia Kanwal, Naeem Aslam

ABSTRACT

OBJECTIVES: To investigate the relationship between the rumination patterns, depression and suicidal ideation and the mediating role of depression in the relationship between brooding rumination and suicidal ideation among adults.

STUDY DESIGN: Cross sectional study

PLACE AND DURATION OF STUDY: Rawalpindi and Islamabad sample were collected during the month of March 2014.

METHODOLOGY: Sample comprised of 200 individuals. Age ranged between 21 to 70 years ($M = 40.60$, $SD = 14.20$), with almost equal participation of both, males and females. Urdu translated versions of Siddiqui Shah Depression Scale (SSDS); Beck Scale for Suicidal Ideation (BSSI); and Rumination Response Scales (RRS) were used to measure the Depression, Suicidal Ideation and Rumination respectively.

RESULTS: Results showed that there was a significant positive relationship between depression and suicidal ideation ($r = .38$, $P < .01$), brooding rumination was significantly positively associated with depression ($r = .50$, $P < .01$) and with suicidal ideation ($r = .22$, $P < .01$) and reflective rumination was also significantly positively associated with depression ($r = .41$, $P < .01$) but not with suicidal ideation ($r = .08$, $p = ns$). Depression fully mediates the relationship between brooding rumination ($\beta = .36$, $p < .01$) and suicidal ideation.

CONCLUSION: Brooding rumination invokes the depression that subsequently leads to suicidal ideation. Quite contrary, reflective rumination buffers the effect of depression and suicidal ideation. Moreover, these results may guide appropriate psychosocial interventions.

KEY WORDS: Brooding rumination, Reflective rumination, Depression, Suicide, Adult.

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INTRODUCTION

Suicide is one of the most personal yet complex act one can perform¹. It is one of the under studied subjects in Pakistan. It is a major health problem with an estimated one million deaths every year². Three most common methods of suicide are hanging, poisoning, and self-immolation³. While, the three main reasons for attempting suicide include depression and/or mental illness, socioeconomic conditions and unemployment that accounts for 33%, 24% and 21% respectively.⁴ In Pakistan, exactly the national rates of suicides are not known, however, it may be related to high psychiatric morbidity.⁵ The predominance of suicide in Pakistani masses was accounted for approximately, 19 % and 21% with more youthful age cluster⁶. Furthermore, it has been observed that the inclination of suicide has been more common among the age group of 21 to 30 years⁷. A direct link between suicide and depression is well- documented. Depression is a spectacle known high predominance overall and is a principle source of dynamic inability¹. It is the fourth

bearing reason for worldwide ailment load⁸, disturbing 350 million individuals.

Past literature showed a close relationship between the rumination, psychological distress and suicidal ideation. For example intrusive rumination (brooding rumination) has been reliably connected with depression⁹. Intrusive thoughts and recurrent thoughts are likely to be associated with continued distress. Intrusive rumination involves a relatively passive, consideration of current conditions and tendency to dwell on the negative consequences of one's depression¹⁰. A recent comprehensive review¹¹ highlights that rumination can be characterized as constructive and productive or negative and unconstructive thoughts. Ruminative reactions have additionally been discovered to be connected with suicidal ideation¹². Taken together, the results partially support the hypothesis that rumination is involved in the maintenance of negative mood and distress¹³. As predicted, females endorsed higher levels of brooding than males, and brooding (not reflection) was uniquely related to depressive symptoms¹⁴.

However, the demographics and the estimates for suicide are higher than those officially reported. Suicide behaviors' statistics is susceptible to under estimation probably due to the religious, legal and socio-cultural barriers.¹⁵ Suicide is a sensitive and multifaceted problem that needs to be addressed in Pakistan³. The main objective of the current study is to examine the relationship between brooding, reflective rumination, depression and suicidal ideation. Moreover, it aimed to see the mediating role of depression in the relationship between brooding rumination and suicidal ideation among adults. Additionally, the role of gender on depression, brooding rumination and suicidal ideation are also explored.

To achieve these objectives following hypotheses were formulated for the study:

1. Brooding (intrusive) rumination will be positively associated with depression and suicidal ideation while reflective rumination will be negatively associated with depression and suicidal ideation among adults
2. Women would be more likely score high in brooding rumination, depression and suicidal ideation as compared to men.
3. Depression mediates the relationship between the brooding rumination and suicidal ideation.

METHOD

Sample included 200 adults. Convenient sampling method was used to gather the data. For the sample size estimation 'G*Power Calculator' was used that demonstrates that the sample is quite enough to draw the inferences. Age ranged from 21 to 70 years (M = 40.60, SD = 14.20). Educational level of the participants was from matriculation to post-graduation. Individuals with substance/drug abuse, or any diagnosed psychiatric or neurological illness were excluded from the study. Similarly those participants whom education was below matriculation or who were not able to fill the questionnaire were excluded. The research was approved by the institutional ethical review board. The measures consisted of the demographic questionnaire, Urdu translated versions of Siddiqui Shah Depression Scale¹⁶ (SSDS); Beck Scale for Suicidal Ideation¹⁷ (BSSI); and Rumination Response Scales¹⁸ (RRS) were used for data collection. The respondents were approached individually. After taking the informed consent from the participants, the purpose of the study was explained to the participants. Confidentiality of identity and data was assured to participants of the study.

Data Analyses

Alpha reliabilities of all the scales that were used in the study computed. The alpha reliability of SSDS has ($\alpha = .91$); BSSI ($\alpha = .83$); RRS ($\alpha = .90$). Alpha values

show that scales are reliable. Skeweness was computed to see the normal distribution of the data. Results showed that the data is normally distributed. The data was analyzed by using Statistical Package for Social Sciences (SPSS 18.0 for Windows). Descriptive statistics, independent sample t-test and mediation analysis were used for analyses.

RESULTS

Table I displays the correlation matrix for Depression, Suicidal Ideation, Brooding Rumination and Reflective Rumination. Results showed that Depression has positive and significant relationship with suicidal ideation ($r = .38, P < .01$), brooding rumination ($r = .50, p < .01$), and reflective rumination ($r = .41, p < .01$). Suicidal ideation has non-significant positive relationships with reflective rumination ($r = .08, p = ns$). Brooding Rumination had significant positive relationships with reflective rumination ($r = .62, P < .01$).

Table II shows differences of men and women on all study variables. Findings showed non-significant differences on Depression, Suicidal Ideation and Brooding Rumination. Results are quite contrary to our hypothetical assumptions. The reason could be that the community sample might not follow the same pattern as of the clinical sample.

Table III shows the mediating role of Depression in the relationship between Brooding Rumination and Suicidal Ideation. In the first model brooding rumination was entered in the regression model. Brooding rumination predicted the suicidal ideation significantly ($\beta = .22, p < .01$). In the second model when the Depression was entered in the second model, brooding rumination became non-significant ($\beta = .04, p = ns$). Whereas, Depression predicted the suicidal ideation ($\beta = .36, p < .01$). That shows the full mediation. This finding supports our hypothesis that depression mediates the relationship between the brooding and suicidal ideation.

TABLE I: CORRELATION BETWEEN THE STUDY VARIABLES (n=200)

Variables	1	2	3	4
Depression	-	.38**	.50**	.41**
Suicidal Ideation		-	.22**	.08
Brooding Rumination			-	.62**
Reflective Rumination				-
M	60.84	10.34	10.71	9.78
SD	14.13	5.18	3.11	2.91

Note. * $p < .05$, ** $p < .01$,

TABLE II: MEANS, STANDARD DEVIATIONS AND T-VALUES ON DEPRESSION, SUICIDAL IDEATION AND BROODING RUMINATION BETWEEN MEN AND WOMEN (n=200)

Variables	Men (n = 100)		Women (n = 100)				95 %CI	
	M	SD	M	SD	t(198)	p	LL	UL
Depression	59.82	15.34	61.86	12.81	1.02	.30	-5.98	1.90
Suicidal Ideation	10.67	5.31	10.01	5.05	.90	.36	-.78	2.10
Brooding Rumination	10.44	3.02	10.98	3.19	1.22	.22	-1.40	.32
Reflective Rumination	9.75	3.11	9.80	2.71	.12	.90	-.86	.76

Note. LL= lower limit, UL= upper limit, CI = Confidence Interval

TABLE III: MEDIATING ROLE OF DEPRESSION IN THE RELATIONSHIP BETWEEN BROODING RUMINATION AND SUICIDAL IDEATION (n = 200)

Variables	Suicidal Ideation		
	Model 1 β	Model2	95% CI
Constant	6.34	1.28	[-1.56, 4.70]
Brooding Rumination	.22*	.04	[-.17, .32]
Depression		.36**	[.07, .18]
R ²		.15	
F	10.50**	16.82**	

Note: β = standardized regression coefficient; CI= Confidence Interval; LL= Lower Limit; UL= Upper Limit; *p< .05, **p< .01

DISCUSSION

The present study aimed to investigate the relationship between the rumination patterns, depression and suicidal ideation among adults. Moreover, we investigated the mediating role of depression in the relationship between brooding rumination and suicidal ideation. Before analysis, Psychometric properties of the scales were computed. Bivariate Correlation among the studied variables shows that brooding rumination is positively associated with the depression and suicidal ideation ($r = .50$, $p < .01$) (see Table 1). The results are in line with past researches^{9, 10, 11} that showed that brooding could be related as an increase in suicidal thoughts or ideas, because brooding rumination is a sort of intrusive, recurrent, un-constructive and negativistic thought pattern that maintain the distress and subsequently leads to suicidal thoughts¹⁹.

From the findings of a meta analysis of 13 studies, it was gathered that the incidence of committed suicide ranged from 0.55 to 5.4. Moreover, the lifelong prevalence of attempted suicide, suicidal plan and thoughts were approximately 0.72-4 %, 6.2-6.7%, and 2.9-14 %,

respectively.¹⁵ whereas, thought patterns play a significant role. Currently researchers have identified two types of thought patterns including intrusive rumination and deliberate (reflective) rumination. Intrusive ruminations are invasions of the uninvited thoughts of one's cognitive world-thoughts about an experience that one does not choose to bring to mind. Intrusive thought pattern is mostly considered to be associated with the dysphoric mood and depression. Deliberate ruminations about events, however, are engaged in voluntarily and can be focused purposefully on trying to understand events and their implications. Intrusive thoughts about the event are likely to be associated with continued distress, while deliberate rumination, aimed at understanding and problem-solving²⁰.

Current cognitive models of suicide propose that recurrent thinking about suicide might enhance cognitive vulnerability to self injurious behavior by enhancing the accessibility of suicidal thoughts, lowering the threshold essential to invoke a suicidal act, and habituating the individual to the experience of self-injury.²¹ Our findings demonstrate that the reflective rumination is positively associated with depression and negatively associated with suicidal ideation. The results are consistent with past researches^{11, 12, 13}. Brooding rumination is more strongly associated with depression where as reflective rumination is moderately associated with depression. It is well-documented that reflection rumination is considered as constructive thinking style. On the other hand, brooding seems to be unconstructive repetitive thoughts that are supposed to contribute in depression and suicidal ideation²².

To see the gender differences on the variables of depression, brooding rumination and suicidal thoughts, we hypothesized that in depression; brooding rumination and suicidal ideation are more likely high in females as compared to males. Past literature also supports this hypothesis. For example studies showed that female disaster affected population showed more distress and high in brooding rumination. Contrary to hypothetical assumptions, results demonstrate that there is a non-significant difference between men and women (for

more detailed see Table 2). Past studies have gender divergence in brooding rumination, with the most possible women to respond reflective technique²³ have revealed. As research began to explore suicide in the Asian, that shows Asian women are more likely to have suicidal behavior than Asian men^{24,25}. The reason of the non significant findings could be small sample size and lack of randomization.

To see the mechanism that how brooding leads to suicidal ideation, we have done the mediation analysis. For mediation analysis we used the method that is suggested by Baron and Kenny.²⁶ In examining whether depression mediates the relationship between the brooding and suicidal ideation, we in the first model entered the brooding rumination in the regression model. Brooding rumination predicted the suicidal ideation significantly ($\beta=.22$, $p<.01$). In the second model when the Depression was entered in the second model, brooding rumination became non-significant ($\beta=.04$, $p=ns$). That showed that all the effects to the suicidal ideation from the brooding rumination was through the process of depression. Depression predicted the suicidal ideation ($\beta=.36$, $p<.01$) (see table 3). That shows the full mediation. We did not do the mediation analysis with the reflective rumination because in correlation matrix (Table 1) there was no relationship between the reflective rumination and suicidal ideation. This finding supports our hypothesis that depression mediates the relationship between the brooding and suicidal ideation. Remarkably, the possible inference is that the effect of reflective rumination on suicidal ideation is mediated by depression. There is growing evidence that rumination, perhaps specifically brooding rumination is a core feature of depression and that it contributes to the development and maintenance of the disorder and that subsequently leads to suicidal ideations.

Limitations and Suggestions

Small sample size, use of cross sectional data and convenient sampling are the limitations of the study. We only incorporated those individuals who were able to complete the questionnaire themselves. So the data of illiterate individuals was not available, thus it cannot be generalized to all the population. Comparatively large sample and random sampling, and longitudinal study design can give us more generalizable results. In order to take the developmental considerations into account to gain the most accurate assessment of rumination patterns, depression and suicidal ideation, future research should use multiple methods and multiple informants.

CONCLUSION

The current study provides novel evidence regarding the relationship between rumination, depression and suicidal ideation. Brooding rumination triggers the de-

pression that subsequently leads to suicidal ideation. Quite contrary, reflective rumination buffers the effect of depression and suicidal ideation. Hence, depression mediated the relationship between brooding and suicidal ideation but not that between reflective thinking and ideation.

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AUTHOR AFFILIATION:

Rabyia Kanwal

National Institute of Psychology
Quaid-i-Azam University, Islamabad-Pakistan.

Naeem Aslam (*Corresponding Author*)

National Institute of Psychology
Quaid-i-Azam University, Islamabad-Pakistan.
Email: naeemaslam@nip.edu.pk