

Impact of Anger on Suicidal Ideation: Mediating Role of Perceived Emotional Distress in Late Adolescents and Emerging Adults with Psychological Problems

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The present study addresses impact of anger on suicidal ideation with the mediating role of perceived emotional distress in 40 late adolescents and emerging adults (Girls = 24, Boys = 16) with psychological problems. Participants' aged between 18 to 25 years ($M = 21.65$, $SD = 1.84$). The sample was recruited from counseling centers of two public sector universities. Positive and Negative Suicide Ideation Inventory (Osman, Gotierrez, Kropper, Barrios, Chiros, 1998), Perceived Emotional Distress inventory (Moscoso, 2011) and Anger Self-Report (Burney, 2001) were used to assess study variables. Findings indicated that anger and emotional distress had significant positive relationship with suicidal ideation and significant negative relationship with protective thoughts and ideation. Mediation Analysis through Process Macro revealed that perceived emotional distress significantly mediates the relationship between anger and suicidal ideations. No gender differences were found between study variables. The study outcomes highlighted that future strategies for prevention of suicidal ideation must focus on managing emotional distress and anger.

Keywords. Suicidal ideation, anger, emotional distress, university

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Suicidal behavior is a leading cause of demise and injury across the globe (WHO, 2019) and an emerging issue in Pakistan. Although, incidents of completed suicides and suicidal attempts are usually reported in the media and newspapers yet the prevalence rates from national records underestimate real suicide rates. According to the World Health Organization, globally there is one completed suicide every 40 second. Estimating prevalence of suicidal behaviors in Pakistan is challenging because they are considered illegitimate, religiously forbidden and socially condemned. Suicidal thoughts are often studied as substitutes for suicide due to their strong association with suicide. Recently, researchers have started focusing on distinct factors of ideation to action phases of suicidal behavior, yet there is a clear evidence that suicides emerge from a population of suicide ideators (Cheng et al., 2010; Phillips et al., 2005; Stein, Brom, Elizur, & Witztum, 1998; Druss & Pincus, 2000; Sareen, Houlihan, Cox, & Asmundson, 2005). Considering the risk factors, adolescents and emerging adults seem extremely susceptible to suicidal ideation (Casey, Galvan, & Hare, 2005). Vulnerabilities in the social environment, psychological and behavioral factors as well high expectation from them with a weaker support system create threats to their mental health and coping ability (Cicchetti & Rogosch, 2002; Ebrahim, 2012; Reschly, Huebner, Appleton, & Antaramian, 2008). Therefore, the present research is conducted to investigate the pivotal issue of suicidal ideation and its key factors like anger and emotional distress in late adolescents and emerging adults with psychological problems.

Suicidal ideations are repetitive thoughts regarding suicide which is engaging in behavior intended to end one's life (Shneidman, 1977). Suicidal ideation has been regarded as major risk factor for ultimate suicide attempt (Gliatto, Michael, & Anil, 1999). Research evidenced that 50% of planned attempts of suicide occur within one year of suicidal ideation (Joe, Stein, Seedat, Herman, & Williams, 2008). Moreover globally, prevalence rates are approximately 9.2% for suicidal ideation and 2.7% for suicide attempt (Nock et al., 2008).

Understanding suicidal behavior is difficult because of its complex and multifaceted nature. However, a meaningful understanding of the possible risk factors of suicidal ideation can guide about preemptive strategies that can address the issue at various levels of the suicidal process (Maris, 1992).

Anger and emotional distress are considered important factors determining adolescents' vulnerability to suicidal tendencies (Chapman, & Dixon-Gordon, 2007; Fennig et al., 2005; Masood, Kamran, Qaisar, & Ashraf, 2018). Anger generally refers to an

emotional state that involves feelings, vary in intensity from mild irritation or annoyance to fury and rage (Spielberger & Butcher, 2013). Following forms of anger are the main focus of the current study: Reactive anger, instrumental anger and anger control. Direct and immediate angry response to an upsetting event is defined as reactive anger whereas instrumental anger is a delayed angry response to an event leading to a deliberate revenge. Proactive cognitive method used to respond to reactive and instrumental provocation is outlined as anger control (Burney, 2001).

Perceived emotional distress reflect mental distress, mental suffering and mental anguish. It includes all extremely unpleasant mental reactions like nervousness, anxiety, fright, grief and worry (Birley, 1989). Emotional distress is accompanied by self-destructive thoughts, unpleasant feelings or emotions that impact everyday activities and level of functioning. Psychological distress is also associated with suicidal ideation (Chamberlain, Goldney, Delfabbro, Gill, Dal Grande, 2009).

Considering the adolescents' vulnerability to suicidal tendencies area of suicidal ideation has rigorously been explored in connection to a range of psychological problems e.g., anger, aggression and distress (Bronisch, Schwender, Hofler, Wittchan, Lieb, 2005; Weissman, Klerman, Markowitz, & Ouellette, 1989; Blumenthal & Kupfer, 1990). Brent (1993), Pirkis, Burgess, and Dunt (2000) all state that past suicidal ideation is strongly associated with completed suicide among adolescents and adults with a psychiatric disorder. The link between suicidal behaviors and their emotional triggers was also well supported in literature. These triggers included dysregulated emotional states (Heffer & Willoughby, 2018; Rajappa, Gallagher, & Miranda, 2012) and intense emotional distress (Zouk, Tousignant, Seguin, Lesage, Turecki, 2006). Thompson et al. (2012) also found links in recent adverse experiences and suicidal ideation through psychological distress in youth.

An indigenous study by Masood, Kamran, Qaisar, and Ashraf (2018) considering adolescent sample found significant difference in anger of those who are high in suicide ideation, than those, who are low on suicide ideation. They further found that anger emerge as positive predictor of suicidal ideation. Another recent study by Wilks et al. (2019) presented that suicidal ideation was positively associated with anger in both Iraq/Afghanistan era veterans. Similarly, a study utilizing Chinese student sample found positive association of hostility and physical aggression with suicidal ideation (Zhang et al., 2013). Park and Shin (2010) research on suicidal ideation in adolescents concluded that suppression of anger appears to have significant

indirect effect on suicidal ideation whereas trait anger, depression, and resilience have a direct effect on suicidal ideation. Zhang, Law, and Yip (2011) found that Individuals with anxiety and lack of reasons for living were more likely to report a development of suicidal thoughts and individuals with higher level of distress and lower level of hope were at greater risk of having suicidal thoughts. As literature indicated that the vast majority of people who die by suicide (i.e., approximately 95%) suffer from mental disorders (Cavanagh, Carson, Sharpe, & Lawrie, 2003). According to a recent report by Human Rights Commission, 1338 people died in Pakistan by suicide in 2018 only as a result of depression. It further narrated mental health as one of the biggest sources of suicide (Shekhani, Perveen, Akbar, Bachani, & Khan, 2018). Past data had indicated that suicide in adolescents and young adults had been increasing in Pakistan (Khan & Hyder, 2006).

Shneidman's (1998) psychache theory explained suicide as a response to individual's subjective experience of emotional suffering and person's level of emotional agitation, as well as cognitive constriction. This theory explains the combination of psychache, press and perturbation as the contributors of suicide and termed it as cubic model of suicide. The unbearable psychological pain, guilt, hopelessness is psychache which due to a press of these thoughts can cause a narrowing of view of things. Moreover, perturbation is the phase of uneasiness in which one feels to do something to alleviate uneasiness. In this process psychache is such as corner stone that it is termed as Shneidman (1985, p. 200) "No psychache, no suicide".

In light of this theory, our study considered the role of these factors in suicidal ideation among emerging adults with psychological problems. For instance emerging adults with psychological issues feel psychache, the affective state of the process (such as anger) and a press of this negative affective state leads him towards perturbation that is much like anxiety (emotional distress). Resultantly one finds no way out of it and think to alleviate this state of uneasiness as suicide only.

Rationale of the Study

The role of adolescents and emerging adults is like building blocks of a nation and if they are overlooked, it might cause long term major problems for the country. In this time of life they confronts numerous challenges (Khan & Ali, 2017) with limited skills due to which they are likely at risk of psychological problems including depression, anger, anxiety, impulsivity (Louw & Louw, 2007). These

issues might lead them towards suicide as literature specified it as the second leading cause of demise within the age bracket of 15 to 29 years around the globe (Patton et al. 2009; Shah, 2019). Suicidal behaviors among adolescents and emerging adults lead the society towards delinquency causing immense harm to the social, economic and demographic patterns of the society. Suicide risk can only be assessed authentically for clinical management through screening of suicide ideation. For instance, suicidal ideations are precursor to ultimate suicide attempt (American Psychological Association, 2013; World Health Organization, 2014).

Increasing number of traditionally under-reported cases of suicide indicates that hidden mental health epidemic (e.g. depression, emotional distress, anxiety) remains unaddressed. As a literature review article indicated that poor global functioning, having a psychiatric disorder, being on psychiatric treatment, depression, anxiety as some of the stronger predictors of suicide (Beghi, Rosenbaum, Cerri, & Cornaggia, 2013). So, adolescents and emerging adults were considered for present research. Literature guide that anger plays an important role in adolescents' suicide and suicidal ideation (McGirr et al., 2008). Moreover, American Foundation for Suicide Prevention explained that suicide occurs when stressors and health problems converge to produce an experience of despair and hopelessness (Hassan, 2019). As both anger and emotional distress predict suicidal ideation but the mediating role of emotional distress is not well established. So the present study aimed at investigating the impact of anger on suicidal ideation with the mediating role of perceived emotional distress in late adolescents and emerging adults with psychological problems.

Objectives of the Study

1. To investigate relationship between anger, perceived emotional distress and suicidal ideation in late adolescents and emerging adults with psychological problems.
2. To explore the mediating role of perceived emotional distress in relationship between anger and suicidal ideation in late adolescents and emerging adults with psychological problems.
3. To examine gender differences in anger, perceived emotional distress and suicidal ideation in late adolescents and emerging adults with psychological problems.

Hypotheses

1. Anger and perceived emotional distress are likely to have positive relationship with suicidal ideation in late adolescents and emerging adults with psychological problems.
2. Perceived emotional distress is likely to mediate the relationship of anger and suicidal ideation in late adolescents and emerging adults with psychological problems.
3. There are likely to be gender differences in anger, perceived emotional distress and suicidal ideation in late adolescents and emerging adults with psychological problems.

Method

Sample and Sampling Strategy

For the present research, participants were recruited from counseling centers of two public sector universities using purposive sampling strategy. Only those participants were considered who were screened by clinical psychologists of concerned universities for having psychological problems (Depression $n = 14$, Obsessive-compulsive disorder $n = 7$, anxiety issue $n = 10$, Adjustment problem $n = 9$). Sample consisted of $N = 40$ late adolescents and emerging adults with the mean age of 21.65 (range = 18 to 25). Initially research participants were guided about the purpose of study and their right to withdraw. Most of the participants were girls ($n = 24$). The sample has equal representation of bachelors and masters students ($n = 20$). One third ($n = 30$) participants belongs to nuclear family system. 23 participants reported good relations with their friends and remaining reported average relation with their friends. A large proportion ($n = 32$) of participants reported previous family history of psychological problems.

Instruments

Positive and Negative Suicide Ideation Inventory (PANSI).

PANSI consists of 14 item, all items consists of 5 response categories ranging from 1 (*None Of The Time*) to 5 (*Most Of The Time*). Inventory comprises of two subscales, PANSI-negative that assess suicide ideation (items: 1, 3, 4, 5, 7, 9, 10, 11) and PANSI-positive that assess protective thoughts or ideations (item: 2, 6, 8, 12, 13, 14). Alpha reliabilities for PANSI-Negative and PANSI-positive were $\alpha = .91$ and $\alpha = .80$ respectively (Osman et al., 1998). High score on PANSI-Negative indicate severe suicidal ideation whereas high score

on PANSI-Positive indicate more protective thoughts against suicidal ideation. In present study the reliability was $\alpha = .94$ for PANSI-negative and $\alpha = .78$ for PANSI-positive.

Anger Rating Scale (ARS). Anger was assessed by using the anger rating scale (Burney, 2001) with alpha reliability of $\alpha = .91$. Scale has 41 items with a 4-point rating scale for each statement as (1) *Hardly Ever* (2) *Sometimes* (3) *Often*, and (4) *Very Often*. ARS was comprised of three sub scales, Instrumental anger (IA) 2, 4, 8, 10, 11, 12, 16, 18, 22, 24, 25, 26, 28, 31, 34, 36, 38, 39, 41, Reactive anger (RA) 1, 6, 15, 17, 19, 21, 29, 32, 35 and Anger control (AC) 3, 7, 9, 13, 14, 20, 23, 27, 30, 33, 37, 40. To calculate sum of scores the following formula was used, $IA + RA + (65 - AC) = \text{Total anger score}$ high score indicate elevated anger. In present study the reliability of scale was $\alpha = .91$. For subscales IA, RA and AC, the alpha reliability was $\alpha = .90$, $\alpha = .78$ and $\alpha = .75$ respectively.

Perceived Emotional Distress Inventory (PEDI). PEDI a 15 item measure with alpha reliability of $\alpha = .92$ was used to assess perceived emotional distress (Moscoso, 2011). Inventory comprised of four response categories ranging from 0 (*Not At All*) to 3 (*Very Much So*). Total is sum of all items. High score on inventory indicate high perceived emotional distress. In the present study scale has $\alpha = .89$ alpha reliability.

Demographic Information Sheet. Participants completed a self-developed demographic information sheet inquiring gender, age, education, family system, conduct of friends, and family history of psychological problems.

Procedure

Formal permission from authors of scales and from concerned authorities of university counselling centers was acquired for the purpose of data collection. Participants were approached through counseling centers of two public sector universities which were initially screened by clinical psychologists for having psychological problems. These participants were guided about the purpose and nature of research, their right to withdraw from study and confidentiality of provided data was also assured to them. Before the administration of assessment measures, written consent of participation was taken from each participants. Different data analytic strategies were used to analyze the data.

SPSS v23 and Process Macro (Hayes, 2012) were used as data analysis tool. Descriptives (Mean, Standard deviation, Range) and

reliability analyses were calculated to find out the psychometric properties of the study variables. Zero order correlations were used to find out relationship in study variables. To examine the direct and indirect effects of the independent variable on dependent variable, mediation analysis through Process Macro (Model-4) with percentile bootstrap based on five thousand samples and 95% confidence intervals, was used for all mediational analyses. As the current study based on small clinical sample, so percentile bootstrapping approach, a nonparametric resampling technique employed for testing mediation, as it does not impose the normality assumption of sampling distribution and can be applied to small samples ($n = 25 \geq$) with more confidence than other methods (Creedon & Hayes, 2015; Lincoln, Sundag, Schlier, & Karow, 2018; Preacher & Hayes, 2008). To investigate gender differences in study variables Independent Samples *t*-test was employed.

Results

Descriptives psychometric properties of the study variables are reported in Table 1. Relationship in study variables is presented in Table 2. Mediating role of perceived emotional distress in the relationship between anger and suicidal ideation is presented in Table 3). Gender differences in study variables are reported in Table 4.

Table 1

Psychometric Properties of the Study Variables (N=40)

Scales	<i>k</i>	α	<i>M</i>	<i>SD</i>	Range		Skewness	Kurtosis
					Potential	Actual		
Anger	41	.91	89.40	16.17	41-164	67-124	.50	-.83
Inst.al Anger	21	.90	37.82	14.93	21-84	20-70	.89	-.43
Reactive Anger	8	.78	19.30	5.29	8-32	8-22	.46	.28
Anger Control	12	.75	32.72	7.31	12-48	13-48	-.18	.83
Per. Em. Distress	15	.89	22.35	9.10	0-45	0-40	-.23	-.09
Suicidal Ideation								
PANSI-Negative	8	.94	18.07	10.08	8-40	8-38	.69	-.89
PANSI-Positive	6	.78	19.97	4.90	6-30	10-30	.09	-.52

Note. Inst.al Anger = Instrumental anger; Per. Em. Distress = perceived emotional distress.

Results revealed that anger along all of its subscales have significant positive relationship with negative subscale of PANSI

suicidal ideation as well as perceived emotional distress. It further revealed that anger along all of its subscales have significant negative association with protective thoughts and ideations (positive subscale of PANSI) with the exception of subscale of anger control that show no association. Moreover emotional distress had significant positive relationship with suicidal ideation and significant negative relationship with protective thoughts.

Table 2

Zero Order Correlation Between Anger, Perceived Emotional Distress and Suicidal Ideation in Late Adolescents and Emerging Adults with Psychological Problems (*N* = 40)

Variables	1	2	3	4	5	6	7
1 Anger	-	.94**	.41**	-.00	.49**	.64**	-.40*
2 Instrumental anger		-	.40*	.26	.48**	.63**	-.36*
3 Reactive anger			-	.63**	.69**	.61**	-.36**
4 Anger control				-	.41**	.33*	-.12
5 Perceived emotional distress					-	.62**	-.57**
6 Suicidal ideation						-	-.39*
7 Protective thoughts and ideations							-

* *p* < .05; ** *p* < .01.

To examine the mediating role of perceived emotional distress in the relationship between anger and suicidal ideation Mediation Analysis through Process Macro with bootstrapped based on 1000 samples (Model-4) was employed. Results are presented in Table 3.

Table 3

Mediating Role of Emotional Distress in Relationship Between Anger and Suicidal Ideation in Late Adolescents and Emerging Adults with Psychological Problems (*N* = 40).

Variables	Total Effects				Direct Effects				Indirect Effects			
	<i>B</i>	<i>S.E</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>S.E</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>S.E</i>	95 % Boot <i>CI</i> <i>LL</i>	<i>UL</i>
Anger	.40	.07	5.14	.00	.27	.07	3.47	.00	.12	.05	.03	.25
Instrumental Anger	.43	.08	5.12	.00	.29	.08	3.48	.00	.13	.05	.03	.26
Reactive Anger	1.16	.24	4.78	.00	.66	.32	2.05	.04	.50	.27	.00	1.08
Anger Control	.45	.21	2.15	.03	.12	.19	.65	.51	.32	.14	.01	.69

Note. * *p* < .05. ** *p* < .01.

Table 3 showed that B value for indirect effect does not include zero, so the point that the confidence interval does not comprise zero means that there is likely to be a true indirect effect. Results of Sobel z test indicated that the size of indirect effect for anger ($b = .12$, $p = .02$), instrumental anger ($b = .13$, $p = .02$), reactive anger ($b = .50$, $p = .04$) and anger control ($b = .32$, $p = .02$) is significant. So, in the relationship between anger (instrumental anger, reactive anger, anger control) and suicidal ideation, results confirmed the mediating role of Perceived emotional distress.

Table 4

Gender Differences in Anger, Perceived Emotional Distress and Suicidal Ideation in Late Adolescents and Emerging Adults with Psychological Problems (N = 40)

Variables	Boys ($n = 16$)		Girls ($n = 24$)		t	p
	M	SD	M	SD		
Anger	94.3	16.1	86.0	15.6	1.62	.11
Instrumental Anger	41.8	15.7	35.1	14.0	1.41	.16
Reactive Anger	19.1	5.94	19.3	4.94	-.10	.91
Anger Control	31.6	7.29	33.4	7.40	-.72	.47
Perceived Emotional Distress	20.4	10.6	23.6	7.89	-1.08	.28
Suicidal ideation	20.6	10.8	16.3	9.80	1.35	.18
Protective thoughts and ideations	19.7	5.17	20.1	4.83	-.23	.81

Table 4 indicated no significant gender differences in anger, perceived emotional distress, and suicidal ideation. So findings suggested that university boys and girls with psychological problems had same level of perceived emotional distress, anger and suicidal ideation.

Discussion

The present research was an attempt to explore the issues of individuals with psychological problems especially the role of their anger in suicidal ideation through the process of emotional distress. The first hypothesis was formulated to ascertain the positive associations between study variables. However, Second hypothesis was formulated to assess the direct and indirect effects of anger on suicidal ideation with mediating role of emotional distress.

The result of first hypothesis clearly indicated positive association of anger and emotional distress with suicidal ideation and

these findings are in line with the previous literature. For instance, positive association between anger and suicidal ideation among adolescents has been established in international literature (Park & Ryu, 2009; Wilks et al., 2019; Zhang et al., 2013) and researchers from Pakistan too (Masood et al., 2018; Kainat & Ijaz, 2020). Further, Zhang et al. (2012), Kausar and Javed (2014) also stated that anger is positively related to suicide plans.

Positive association between emotional distress and suicidal ideation that our research established has been found in literature (Heffer & Willoughby, 2018; Rajappa, Gallagher, & Miranda, 2012; Thompson et al., 2012). Moreover, Liu (2004) work on suicidal ideation and suicidal attempt among youth produced results that experience of emotional distress predicts subsequent suicidal ideation which supports the results of current research. A study of Garlow et al. (2008) on suicidal ideation in college students demonstrated strong association between depressive thoughts and suicidal ideation. Bryan and Rudd (2012) found that emotional distress was directly associated with suicidal intent, and explained the relationship between external events and suicidal intent.

Our research has also established the mediating role of emotional distress between anger and suicidal ideation. Though mediating role of distress and depressive symptoms in relation to anger and suicidality was explored in few previous researches (Ammerman, Kleiman, Uyeji, Knorr, & McCloskey, 2015; Hawkins et al., 2014) but there is substantial data supporting the direct impacts of anger and emotional distress on suicidal ideation. As in existing literature the prediction of suicidal ideation from anger has been well established (Jang et al., 2014; Wilks et al., 2019; Zhang et al., 2013). Whereas prediction of suicidal ideation from emotional distress has been established by some other researchers (Heffer & Willoughby, 2018; Liu, 2004; Rajappa et al., 2011). The present research findings are also in line with psychache theory of suicide (Shneidman, 1998) which establish the psychache (anger) role in leading to perturbation and ultimately lead towards suicidal ideation and suicide.

The findings of our study suggests that male and female university students with psychological problems experience the same level of anger, emotional distress and suicidal ideation. Similarly Howells and Milovchevich (2000), Halime and Unal (1999) found no gender differentiation in expression of anger and emotional distress. Piccinelli and Simon (1997) research also found no gender differences in expression of emotional distress. Current research findings are also supported by Crosby (1999) study that indicated no gender differences in rates of suicide ideation. It is also evident from indigenous literature

that male and female students in Pakistan exhibit the same of suicidal ideation (Khokher & Khan, 2005). So existing empirical evidence support the present research findings.

Conclusion

It is concluded that anger and perceived emotional distress are an important predictors of suicidal ideation. Prolonged exposure to distress and anger is significantly associated with suicidal ideation, which can be lethal for the life of an individual and this may ultimately lead to suicidal attempts. It is further concluded that antagonistically, low level of anger and perceived emotional distress can make life better by protective thoughts and ideation. Moreover, perceived emotional distress significantly mediates the relationship of anger and suicidal ideation in late adolescents and emerging adults with psychological problems

Limitations and Suggestions

Along a number of strengths, research has few limitations too that are as follows.

Sample size was small due to clinical nature of sample as most of clinical studies have been carried out with small sample size. So, an extension must be needed to generalize the results by conducting twin studies by group of researchers.

The present research explores the phenomena quantitatively while for in-depth exploration of suicidal ideation qualitative approach must be used in the future research.

Role of anger and emotional distress was explored here while there may be some other factors that contribute to suicidal ideation. As there may be some other factors that contribute to suicidal ideation (Beghi et al., 2013; Field, Diego, & Sanders, 2001; Holt et al., 2015). Therefore, the research can be further extended by investigating different other factors of Suicidal ideation in university students.

For the present research data was only taken from counseling centers of two public sector universities where students with mild issues were taken as participants but for future participants from any other forum (such as private sector universities, school level counseling centers) must be taken to get a clear picture. Lastly, based on our findings future researchers must focus to develop and apply any intervention plan to overcome the rising suicide rate in the

country. As counseling centers from which data was taken showed improvement in their students' mental health.

Implications

Present research findings indicated the need for vigilant monitoring of anger and emotional distress in late adolescents and emerging adults by parents and by teachers. Moreover, media and community can also play its role to lower the level of anger and distress as these are learned behaviors. Timely interventions could prevent suicidal ideations and attempts. Moreover findings also confirmed that targeted suicidal prevention programs must focus on controlling anger, and perceived emotional distress.

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