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Psychosocial Factors of Non-suicidal Self-Injury Among Adolescents and Young Adults

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Present research examines the factors of Non-suicidal Self-Injury (NSSI) in self-injuring individuals. Sample comprised of 164 (n = 82 self-injurers, n = 82 non self-injurers) adolescents and young adults aged 16 to 24 years (M = 20.47, SD = 1.80). Family Adaptability and Cohesion Evaluation Scale-IV (Olson, 2011), Inventory of Interpersonal Problems (Horowitz, Alden, & Wiggins, 1996), Anger Self Report Questionnaire (Reynolds, Walkey, & Green, 1994), Emotional Regulation Questionnaire (Gross & John, 2003), Self-Harm Behavior Questionnaire (Osman & Guiterrez, 2001), Self-Rating Scale (Hooley, Glassman, Weierich, Deliberto, & Nock, 2002), and Demographic Information Questionnaire were used for assessment. Findings demonstrated that self-criticism, anger, emotional suppression, and interpersonal problems had significant, positive; while cognitive reappraisal, family cohesion, and communication had significant negative relationship with NSSI. Family rigidity, enmeshment, self-criticism, and anger emerged as significant positive predictors of NSSI. Cognitive reappraisal mediated the relationship between family cohesion and NSSI. Study findings enhanced the understanding of the underlying mechanisms involved in NSSI and subsequent conceptualization and treatment of adolescents and young adults with NSSI.

Keywords. Non-suicidal self-injury, family dynamics, interpersonal problems, anger, self-criticism, emotional regulation

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Non-suicidal self-injury is an increasing global concern now a days. This phenomenon is growing problem in teenagers and young adults (Gindhu & Reichl, 2005; Jacobson, Muehlenkamp, Miller, & Turner, 2008). Previously, NSSI was also termed as, self-mutilation, deliberate self-harm, self-harm, and self-destructive behavior (Lieberman, 2004). Personal characteristics like intense anger, self-criticism and most importantly emotional dysregulation can direct individuals to self-injurious behaviors (Evren & Evren, 2005). Present research addresses the issue of NSSI by examining its psychosocial factors in adolescents and young adults.

NSSI is person's involvement in purposeful self-injury to the surface of body part of a sort liable to prompt wounding or suffering, with intention that the damage will prompt just minor or moderate physical injury (i.e., without intention of suicide). The absence of suicidal thought has either communicated by the individual or can be inferred by the person's frequent involvement in self-damaging behavior, that the individual knows it is not liable to bring about death (American Psychological Association, 2013). At the point when performing self-injurious practices, the individual is in a mentally aggravated state however, not endeavoring suicide (Suyemoto, 1998). Culturally sanctioned NSSI behaviors are types of body modification that are done under cultural, ritualistic, or religious context, but are not typically included in NSSI research. Circumcision, body piercing, neck elongation, ear piercing, nose piercing, tattooing and foot wrapping are a few examples of culturally sanctioned NSSI (Christensen, 2012). In Pakistani culture, ear piercing, nose piercing, tattooing, and circumcision are among the most common forms of culturally and religiously sanctioned NSSI (Aftab, Khan, & Arain, 2011). The greater part of self-injuring individuals are unmarried, female, and normally seen and examined as youths and youthful grown-ups (Bresin & Schoenleber, 2015).

Non suicidal self-injurious behavior most commonly functions to regulate adverse emotions (Klonsky & Glenn, 2009). Negative outcomes of self-injurious behavior include several scars on one's body. Self-injuring adolescents face societal rejection because of multiple marks and individual may isolate himself or herself because of embarrassment of cutting or burning his or her skin (Gratz, 2006; Trepal, Wester, & Macdonald, 2006).

Literature suggested that unhealthy family dynamics can develop mental health problems and interpersonal difficulties in adolescents. Individuals with family problems commonly indulge in self-injurious behavior (Gilbert, 2010; Glassman et al., 2007). Halstead, Pavkov,

Hecker, and Seliner (2014) found that family dynamics were negatively related with higher scores of self-injury. Study of Adrian et al. (2011) uncovered that family social issues influence emotional dysregulation, which improves the probability of NSSI in pre-adults. Empirical evidence also highlighted that family patterns can influence individual characteristics like anger, emotional regulation and self-criticism (Borges et al., 2011). Moreover negative self-evaluations and self-critical attitude can also give rise to self-injurious behaviors (Deliberto & Nock, 2008).

Indigenous empirical evidence concluded that poor family functions, as well as family problems and social problems, were the causative agents for non-suicidal self-harm among adolescents (Husain, Waheed, & Husain, 2006; Salman et al., 2018). Khan, Laeeque, and Firdous (2017) identified affect regulation as most common reason due to which adolescents practice NSSI.

The affect regulation model (Favazza, 1992), suggests that individuals indulge in self-injurious behavior as a mean of down-regulating ongoing unpleasant emotional experiences. According to drive model of NSSI (Tangney & Dearing, 2002), it is a suicide replacement, a compromise between life and death drives it is an attempt to avoid complete destruction by channeling the destructive impulses more specifically into non suicidal self-injury.

The current United States populace of NSSI is 260 million, this implies somewhere around 36,400 and 1,560,000 individuals' engagement in damage toward oneself every year. Prevalence rates of twelve percent in adolescents and younger adults (Ayton, Rasool, & Cottrell, 2003; Barge & Williams, 2007) recommend that this populace may be at serious danger. According to World Health Organization, for every suicide there are at least 10-20 acts of self-injurious behavior. By this estimate, there may be between 130,000 to 270,000 acts of self-injury in Pakistan annually (World Health Organization, 2014). In Pakistan empirical evidence alarmingly revealed that non suicidal self-injury is a precursor to ultimate suicide attempt (Husain et al., 2014; Rao et al., 2015; Shahdid et al., 2015; Shekhani et al., 2018). In short, NSSI is damaging behavior and can be lethal for the life of adolescents and young adults. So the present research intended to examine the prevailing phenomenon of NSSI and study will eventually benefit Pakistani society, as it will uncover various psychosocial factors that promote the course of this disordered behavior.

Hypotheses

Based on literature, it is hypothesized that:

1 Self-injuring individuals are likely to express more unhealthy family dynamics, interpersonal problems, poor emotional regulation, anger, and self-criticism as compared to nonSelf-injuring individuals.

2 Unhealthy family dynamics, interpersonal difficulties, self-criticism, and anger will be positively associated with NSSI.

3 Healthy family dynamics and emotional regulation will be negatively related with NSSI.

4 Interpersonal problems, self-criticism, poor emotional regulation, and anger will positively predict NSSI.

5 Self-criticism, emotional regulation, anger and interpersonal problems will mediate the relationship between family dynamics and NSSI.

Method

Sample

The sample was comprised of *N*=164 (*n* = 82 self-injurers, *n* = 82 non-self-injurers) adolescents and young adults aged 16 to 24 years (*M* = 20.47, *SD* = 1.80). Purposive and snowball sampling strategies were used to recruit the research participants. Sample was drawn from different universities and post graduate colleges of Lahore. To minimize the confounding, two groups of research participants were matched on various demographic characteristics (such as age, gender, education, educational institution, birth order, and family system). There were (*n* = 34, 41.5%) self-injuring girls and self-injuring boys (*n* = 48, 58.5%) in the sample. Self-injuring individuals were mostly middle born (*n* = 50, 61.0%) and only few were first born (*n* = 18, 22%), last born (*n* = 13, 15.9%) and only born (*n* = 1, 1.1%). Majority of the self-injurers (*n* = 42, 51.2%) and non-self-injurers (*n* = 46, 56.1%) were undergraduate students and belonged to government institutions (*n* = 128, 78.0%). Frequently reported family system as nuclear family setup (*n* = 10, 62) from both groups. Majority of participants (both self-injurers & non-self-injurers) reported number of family members in between 1 to 7 and number of siblings between 2 to 4. Sample of non-self-injurers was collected parallel to self-injurers. Majority of self-injuring adolescents and young adults reported multiple methods of NSSI including, self-hitting, skin cutting, scratching, and punching. Inclusion criteria was

based on by including only those adolescents and young adults who had physically injured (that is, cutting, banging or hitting self, burning etc.) themselves intentionally atleast once in the last year. On the other hand, exclusion criteria was based on by excluding those adolescents and young adults who self-injured themselves with suicidal intent as well as those adolescents with socially acceptable self-injury experiences such as tattoos, circumcision, ear and nose piercing.

Measures

Family Adaptability and Cohesion Evaluation Scale (FACES-IV). This scale consisted of 62 items *(α* =.90) and has total eight subscales including two balanced subscales, four unbalanced subscales and two family subscales (Olson, 2011). Two balanced subscales, that is, Balanced Flexibility Subscale (7 items) and Balanced Cohesion Subscales (7 items). Four unbalanced subscales include Disengaged Subscale (7 items), Enmeshed Subscale (7 items), Rigid Subscale (7 items) and Chaotic Subscale (7 items). Additional two subscales measure Family Communication Subscale (10 items) and Family Satisfaction Subscale (10 items). In the present study, FACES-IV acquired alpha coefficient of .90 for the current sample.

Inventory of Interpersonal Problems (IIP-32). It comprised of 32 items validated as a measure of interpersonal problems. Respondents rate on a 0 (*not at all*) to 4 (*extremely*) response options. IIP-32 consisted of eight subscales namely, Domineering/Controlling (4 items), Vindictive/Self-centered (4 items), Cold/Distant (4 items), Socially Inhibited (4 items), Nonassertive (4 items), Overly Accommodating (4 items), Self-sacrificing (4 items), and Intrusive/Needy (4 items). Higher the score on each subscale of IIP-32 and sum of scores of all subscales correspond to greater interpersonal problems. Alpha reliability of scale was reported as .68 (Horowitz et al., 1996), whereas, alpha coefficient of .90 was attained in the present study.

Anger Self-Report Questionnaire. Anger was assessed by using the Anger Self Report Questionnaire (Reynolds et al., 1994). It consisted of 30 items with a 6-point rating scale for each statement as 1 = *strong disagreement* to 6 = *strong agreement* with high score indicating higher levels of anger. Alpha reliability of the total scale was reported as .83 (Reynolds et al., 1994); while, in present study the reliability (.73) of the Anger Self Report Questionnaire was found to be adequately satisfactory.

Emotion Regulation Questionnaire. To assess emotional regulation a 10 item Emotion Regulation Questionnaire (Gross & John, 2003) was used. The scale comprised of two subscales, that is, Cognitive Reappraisal (6 items) and Expressive Suppression (4 items). Respondents had to answer each item on a 7-point response categories ranging from 1 *strongly disagree* to 7 = *strongly agree*. The original authors (Gross & John, 2003) reported alpha reliability .79; however, in present study the reliability of .76 was achieved for Cognitive Reappraisal Subscale and .67 for Expressive Suppression Subscale.

Self-Harm Behavior Questionnaire (SHBQ). Non suicidal self-injury was assessed by using Self-Harm Behavior Questionnaire (Osman & Guiterrez, 2001). Questionnaire comprised of 5 self-report items with various response options. SHBQ explores frequency, severity, and duration of NSSI and high score indicates more frequent and intense nonsuicidal self-injury behaviors. Reliability index of .81 was reported by Osman and Guiterrez (2001); whereas Cronbach alpha of .74 was acquired for SHBQ in the present study.

Self-Rating Scale (SRS). This scale consisted of 8 items to assess self-criticism and developed by Hooley et al. (2002). Respondents were required to rate each item on 7-point rating scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*. High score on SRS indicate more tendencies of self-critical behavior. Hooley et al. (2002) declared alpha reliability of .88 for the SRS; while alpha coefficient of .83 was attained for the current sample.

Procedure

Formal permission from directors, registrars, and principals of different government and private educational institutions of Lahore was acquired for data collection. Urdu translated versions of all assessment measures were used. Researchers introduced themselves to participants and briefed them about the nature of the study and concept of NSSI. Participants were also briefed with basic necessary instructions (how to fill questionnaires & few important points of inclusion/exclusion criteria). Participants were seated separately with physical distance in order to maintain the privacy. All participants secretively expressed in writting whether they ever indulged in non-suicidal self-injury or not. In this way self-injuring and non-self-injuring adolescents were identified. After that complete set of questionnaires was distributed to both groups. Data of non-self-injuring adolescents was collected parallel to self-injurers. Subsequent to the completion of questionnaires, the participants who were

indulged in self-injurious behavior were referred for counseling to Centre of Clinical Psychology, University of Punjab, Lahore.

Results

Independent samples *t*-test is tabulated to compare two group of samples on study variables, Pearson Product Moment correlations are computed to investigate the relationship among study variables, and Binary Logistic Regression analysis is conducted to determined predictors of NSSI. In addition, mediators predicting NSSI are also examined.

Independent samples *t*-test is employed to compare self-injuring and non-self-injuring individuals in terms of family dynamics, interpersonal problems, self-criticism, emotional regulation, and anger (see Table 1).

Table 1

Differences on Family Dynamics, Interpersonal Problems, Emotional Regulation, Anger, and Self-Criticism in Self-Injurers and Non-Self-Injurers (N = 164)

Variables	Self-Injurers (*n* = 82)		Nonself-Injurers (*n* = 82)				*95% CI*		Cohen's
	M	*SD*	*M*	*SD*	*t*(162)	*p*	*LL*	*UL*	*d*
Family Dynamics									
Cohesion	21.55	5.01	23.70	3.36	3.22	.00	0.83	3.46	0.50
Flexibility	24.32	5.29	26.87	4.71	3.25	.00	1.00	4.09	0.51
Disengaged	22.30	3.66	22.81	3.98	.84	.39	-0.67	1.68	
Enmeshed	24.27	3.83	22.29	4.28	-3.11	.00	-0.72	-3.22	-0.49
Rigid	21.94	4.62	22.65	5.06	.94	.34	-0.77	2.21	
Chaotic	20.36	4.85	19.61	6.16	-.86	.38	-2.46	0.96	
FC	33.93	10.88	39.64	6.39	4.08	.00	2.94	8.45	0.64
FS	34.85	8.99	39.88	8.10	3.76	.00	2.39	7.67	.059
Interpersonal Problems									
Domineering	6.89	3.25	6.11	4.23	-1.31	.19	-1.94	0.39	
Vindictive	8.79	4.96	7.10	5.44	-2.06	.04	-3.28	-0.07	-0.32
Cold distant	8.26	4.48	7.14	5.03	-1.50	.13	-2.58	0.34	
Socially inhibited	8.23	3.93	6.80	4.89	-2.05	.04	-2.79	-0.05	-0.32
Non assertive	8.60	4.01	7.25	4.33	-2.07	.03	-2.64	-0.06	-0.33
Accommodating	9.54	3.41	7.71	3.91	-3.18	.00	-2.96	-0.69	-0.50
Self-sacrificing	9.71	3.89	10.06	3.34	.62	.53	-0.76	1.47	
Intrusive	8.34	3.15	8.03	3.60	-.58	.55	-1.35	0.73	
Anger	105.86	15.72	86.98	16.46	-7.51	.00	-23.86	-13.93	-0.89
Emotional Regulation									

CR	24.11	10.20	28.18	7.98	2.84	.01	1.24	6.89	0.45
ES	18.11	7.18	18.53	6.00	.41	.68	-1.62	2.46	
Self-Criticism	31.29	11.48	22.01	10.36	-5.43	.00	-12.65	-5.90	0.85

Note. FC = Family Communication; FS = Family Satisfaction; CR = Cognitive Reappraisal; ES = Expressive Suppression.

Results revealed that self-injurers have poor family cohesion and communication, less flexibility in their family patterns, over involvement of family members in personal matters and they are more dissatisfied with their families as compared to non-self-injurers. Results also shows that self-injurers are more self-critical, have poor cognitive reappraisal, and elevated level of anger than non-self-injurers. Significant differences in interpersonal problems suggest that self-injurers are more self-centered, nonassertive, socially inhibited, and accommodating than non-self-injurers. Nonsignificant group differences are found in terms of family dynamics (disengagement, rigidity, chaos), interpersonal problems (domineering, cold distant self-sacrificing, intrusive), and expressive suppression.

Pearson Product Moment correlation is computed to investigate the relationship among family dynamics, interpersonal problems, self-criticism, emotional regulation, anger, and NSSI in self-injuring adolescents and young adults (see Table 2).

Table 2 shows that self-criticism and anger have significant positive relationship with NSSI. This suggests that individuals with high anger and self-criticism have more severe and frequent NSSI. Significant positive relationship between expressive suppression and NSSI suggest that self-injurers who do not express their emotions are likely to indulge in self-injurious behavior more frequently. Cognitive reappraisal have significant negative relationship with NSSI which suggest that self-injurers with poor cognitive reappraisal perform more frequently NSSI. Significant positive relationship of social inhibition and non-assertiveness with NSSI indicate that self-injurers who find it difficult to socialize and unable to be assertive or confident performs self-injurious behaviors more frequently. Family cohesion and communication have significant negative relationship with NSSI indicating that individuals from less cohesive families and families with poor communication indulge more in NSSI. In addition, relationship of family dynamics and interpersonal problems with NSSI is found to be nonsignificant.

Binary Logistic Regression (Enter Method) is used to establish family dynamics, anger, emotional regulation, and self-criticism as predictors of NSSI. In binary logistic analysis, non self-injurers are taken as comparison group and coded as 0; whereas, self-injurers are coded as 1. Findings are presented in Table 3.

Table 2

Correlation Matrix for Family Dynamics, Interpersonal Problems, Personal Characteristics (*Self-Criticism, Emotional Regulation, Anger*)*, and NSSI in Adolescents and Young Adults (N = 82)*

	Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	NSSI	-	.31**	-.23*	.32*	.24*	.05	-.04	-.02	.02	.24*	.23*	-.02	-.12	.02	-.21*	-.02	-.16	.12	-.03	-.06	-.22*	.06
2	SECR		-	-.12	.16	.28*	.20	.07	.18	.16	.28**	.29**	.26*	-.19	-.13	-.26*	-.22*	-.07	-.12	-.21*	.15	-.28**	-.22*
3	CORE			-	.03	-.26*	-.01	.07	-.01	-.07	-.15	-.09	.03	.04	.07	.47**	.11	.12	.14	.16	.04	.25*	.10
4	EXSU				-	-.01	.08	-.09	.06	.01	.20	.21*	.03	-.07	-.06	.00	.05	.05	.08	.38**	.17	-.15	.04
5	ANGE					-	.24*	.21	.24*	.14	.32**	.09	.14	-.10	.12	-.24*	-.09	-.03	-.07	-.14	.12	-.22*	.05
6	INPR						-	.52**	.75**	.81**	.68**	.65**	.61**	.17	.46**	-.13	.01	.10	.14	.05	.28**	-.27*	-.11
7	DOMI							-	.32**	.33**	.15	.07	.17	.08	.46**	-.19	.00	.08	.30**	.15	.43**	-.15	.03
8	VIND								-	.71**	.54**	.43**	.26*	-.08	.16	-.13	.01	.14	.14	.07	.28**	-.24*	-.14
9	CODI									-	.56**	.53**	.42**	-.12	.22*	-.16	.03	.06	.09	.02	.13	-.30**	-.15
10	SOIN										-	.49**	.42**	-.04	.05	-.19	-.19	.00	-.02	.01	.23*	-.34**	-.17
11	NOAS											-	.59**	-.14	.05	-.16	-.08	.01	.04	.12	.12	-.24*	-.20
12	ACCO												-	-.00	.11	-.11	-.16	-.06	-.11	-.11	.14	-.19	-.31**
13	SESA													-	.25*	.19	.29**	.14	.16	.08	-.11	.22*	.36**
14	INTR														-	.18	.23*	.13	.12	.08	.10	.05	.16
15	COHE															-	.47**	.20	.15	.31**	-.13	.61**	.26*
16	FLEX																-	.36**	.61**	.47**	-.11	.49**	.64**
17	DISE																	-	.51**	.35**	.23*	.14	.09
18	EMME																		-	.49**	.21*	.20	.50**
19	RIGD																			-	.25*	.20	.37**
20	CHAO																				-	-.29**	-.14
21	FACO																					-	.53**
22	FASA																						-

Note. NSSI = Non Suicidal Self-Injury; SECR=Self-Criticism; CORE=Cognitive Reappraisal; EXSU=Expressive Suppression; ANGE=Anger; INPR=Interpersonal Problems; DOMI = Domineering; VIND = Vindictive; CODI=Cold Distant; SOIN=Socially Inhibited; NOAS=Non Assertive; ACCO=Accommodating; SESA=Self-Sacrificing; INTR=Intrusive; COHE=Cohesion; FLEX= Flexibility; DISE=Disengaged; EMME=Enmeshed; RIGD=Rigid; CHAO = Chaotic; FACO=Family Communication; FASA= Family Satisfaction.

*$p < .05$. **$p < .01$.

Table 3

Binary Logistics Regression Predicting NSSI from Family Dynamic, Interpersonal Problems, and Personal Characteristics (*Self-Criticism, Emotional Regulation, Anger*)

	Model 1				Model 2				Model 3			
Variables	*B*	*SE*	*Wald*	OR(95%*CI*)	*B*	*SE*	*Wald*	OR(95%*CI*)	*B*	*SE*	*Wald*	OR(95%*CI*)
Age	-.01	.09	.01	.98 (.81-1.19)	.02	.14	.03	1.02 (.76-1.37)	.01	.15	.01	1.01 (.75-1.37)
Gender	-.08	.37	.05	.91 (.44-1.90)	-.84	.62	1.80	.42 (.12-1.47)	-.81	.67	1.45	.44 (.12-1.65)
Financial Problem	-.52	.36	2.06	.59 (.29-1.20)	-.48	.51	.89	.61 (.22-1.68)	-.63	.56	1.24	.53 (.17-1.61)
Self-Criticism					.05*	.02	5.58	1.05 (1.00-1.10)	.05*	.02	5.25	1.05 (1.00- 1.10)
Cognitive Reappraisal					-.01	.03	.14	.98 (.93-1.04)	-.02	.03	.60	.97 (.91-1.04)
Expressive Suppression					.02	.04	.29	1.02 (.94-1.10)	.04	.04	.89	1.04 (.95-1.13)
Anger					.07**	.01	17.94	1.08 (1.04-1.12)	.08**	.02	15.50	1.09 (1.04-1.13)
Cohesion					-.08	.07	1.27	.91 (.79-1.06)	-.14	.08	2.91	.86 (.73-1.02)
Flexibility					-.05	.08	.38	.94 (.79-1.12)	-.05	.09	.41	.94 (.79-1.12)
Disengaged					.00	.09	.00	1.00 (.83-1.20)	-.03	.09	.11	.96 (.80-1.17)
Enmeshed					.19*	.08	4.72	.82 (.69-.98)	.17	.09	3.30	.83 (.69-1.01)
Rigid					.16*	.07	5.45	1.17 (1.02-1.35)	.19*	.07	6.37	1.21 (1.04-1.41)
Chaotic					-.01	.05	.06	.98 (.89-1.09)	.00	.06	.02	1.01 (.89-1.13)
Family Communication					.02	.04	.44	1.03 (.94-1.12)	.04	.04	.88	1.04 (.95-1.14)
Family Satisfaction					.00	.04	.00	1.00 (.91-1.10)	-.00	.05	.01	.99 (.90-1.10)
Domineering									-.06	.09	.53	.93 (.77-1.12)
Vindictive									.02	.08	.08	1.02 (.86-1.21)
Cold Distant									.01	.10	.01	1.01 (.82-1.24)
Socially Inhibited									-.16	.10	2.58	.84 (.68-1.03)
Non Assertive									.09	.10	.81	1.10 (.89-1.35)
Accommodating									.00	.11	.00	1.00 (.80-1.25)
Self-Sacrificing									.06	.07	.72	1.06 (.91-1.24)
Intrusive									.05	.09	.40	1.06 (.88-1.26)
-2 Log likelihood	190.48				124.58				120.18			

Note. R^2 = 8.72; Hosmer & Lemeshow = .02; Cox & Snell = .03; Nagelkerke Model 1 $\chi^2(5) = 3.47$, R^2 = 3.98; Hosmer & Lemeshow = .39; Cox & Snell = .52; Nagelkerke Model 2 $\chi^2(12) = 65.40$; R^2 = 9.07; Hosmer & Lemeshow = .41; Cox & Snell = .54; Nagelkerke Model 3 $\chi^2(12) = 73.77$.

* $p < .05$. ** $p < .01$.

Findings presented in Table 3 indicate that self-criticism, anger, family rigidity, and enmeshment emerged as significant positive causative agents of NSSI, thereby, suggesting that individuals belonging to rigid and enmeshed families and had high levels of anger and self-criticism are more likely to indulge in NSSI. Results further reveal that age, gender, and financial problems do not emerge as significant predictors of NSSI. Similarly, cohesion, flexibility, disengaged, chaotic, family communication, family satisfaction, emotional, and interpersonal problems also do not significantly predict NSSI.

Path analysis using Analysis of Moment Structure (AMOS) is employed to determine the mediating role of self-criticism, anger, emotional regulation, and interpersonal problems in the relationship between family dynamics and NSSI among self-injuring individuals. Model is tested with only those variables which fulfilled the assumptions of mediation. In the Model, family dynamics (cohesion, family communication) are added as Exogenous (independent) variables; whereas, anger self-criticism, cognitive reappraisal, non-assertiveness, and NSSI are included as endogenous variables specifying anger, self-criticism, cognitive reappraisal, and non-assertiveness as mediators and NSSI as the criterion variable. The fit indices of Model showed in Table 4.

Table 4

Fit Indices for Family Dynamics, Self-Criticism, Anger, Emotional Regulation, Interpersonal Problem, and NSSI in Self Injurers (N = 82)

Model	χ^2	*p*	*df*	*CFI*	*NFI*	*RMSEA*
Initial Model	13.52	.15	9	.94	.86	.07
Model Fit	8.6	.37	8	.99	.91	.03
$\Delta\chi^2$	4.92*					

Note: $\chi^2 > .05$; $\Delta\chi^2$ = Chi Square Change. RMSEA = Root Mean Square Error Of Approximation; CFI = Comparative Fit Index; NFI = Normed Fit Index.
*$p < .05$.

Path coefficients from cohesion to cognitive reappraisal (β = 1.01, p = .00) and path coefficients for cognitive reappraisal to NSSI (β = -.18, p = .04) declared mediating role of cognitive reappraisal between family cohesion and NSSI. Results revealed that anger, self-criticism, and non-assertiveness do not emerge as significant mediators in the relationship between family cohesion, communication, and NSSI.

Path coefficients, for cohesion to self-criticism (β = -.31, p =.29), cognitive reappraisal (β = 1.01, p = .00), anger (β = -.53, p = .21), and

non-assertiveness (β = -.23, p = .30). In addition, cohesion (β = 1.01, p = .00) emerged as significant predictor of cognitive reappraisal. Path coefficients for family communication to self-criticism (β = -.12, p =.11), cognitive reappraisal (β = -.04, p = .69), anger (β = -.17, p = .37) and non-assertiveness (β = -.09, p = .24) are deemed to be non-significant. Path coefficients, for self-criticism (β = -.09, p = .02), cognitive reappraisal (β = -.18, p = .04), anger (β = .04, p = .44) and non-assertiveness (β = -.30, p = .18) to NSSI indicating that self-criticism and cognitive reappraisal are significant predictors of NSSI; while anger and non-assertiveness are nonsignificant predictors of NASSI.

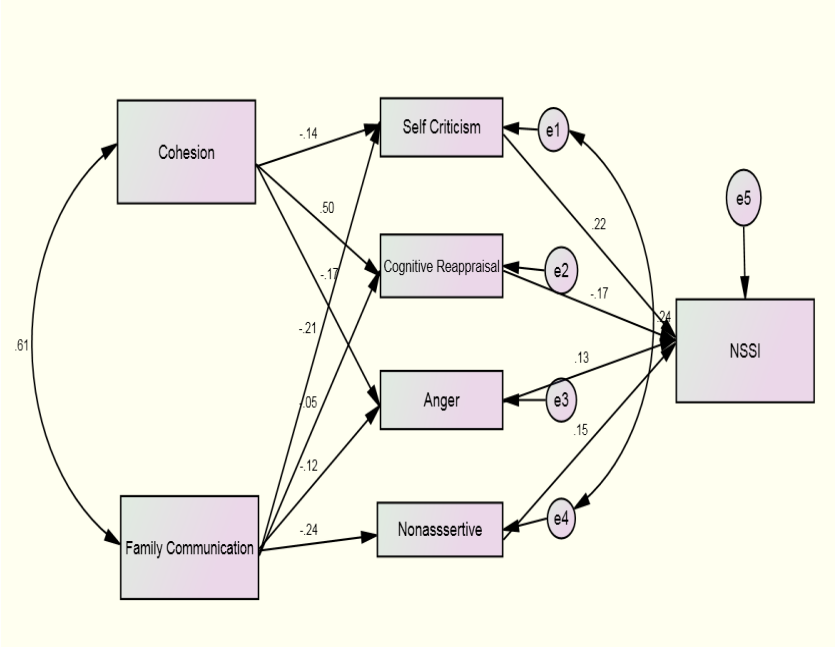

Figure 1. Multivariate Model Representing Standardized Regression Coefficients.

Discussion

The central point of present inquiry was to investigate the family dynamics, interpersonal problems, anger, emotional regulation and self-criticism as psychosocial factors of NSSI. Results indicated significant differences in family dynamics, interpersonal problems, anger, emotional regulation and self-criticism among groups of self-injurers and non-self-injurers. Significant differences suggested that self-injurers had unhealthy family dynamics and more interpersonal problems as compared to non-self-injurers. Previous studies also

concluded that groups of youth who engage in self-injurious have less cohesiveness in families more interpersonal difficulties when contrasted with groups of youth who don't self-injure (Miller & Brock, 2010; Turner, Wakefield, Gratz, & Chapman, 2017). Finding highlighted that self-injurers scored high on self-criticism, emotional dysregulation and anger than non-self-injurers. Existing studies supported that individuals with NSSI report greater levels of self-criticism, anger and emotion dysregulation that than those without an NSSI history in clinical and nonclinical samples (Bedi, Muller, & Classen, 2014; Tan, Rehfuss, Suarez, & Savage, 2014).

Results revealed significant positive relationship of self-criticism and anger with NSSI. Results shows that non-suicidal-self-injury increases with high self-criticism and anger. This result is supported by the study of Klonsky (2007) which reported that self-injurers are prone to be self-critical and experience intense anger and dislike. Another study found that NSSI in adolescents is associated with anger (Peterson, Freedenthal, Sheldonand, & Andersen, 2008). Few other studies also found that self-criticism and anger play a motivating role for self-injury (Gindhu & Reichl, 2005; Herpertz et al., 1997). Thus, characteristics like anger and self-criticism are among the factors that can lead an individual to engagement in NSSI.

Findings showed that emotional suppression had significant positive and cognitive reappraisal had significant negative relationship with NSSI. It indicates that self-injurers lack in expression and reappraisal of emotions. These findings are supported by existing empirical evidence suggesting, that self-injurers experience more frequent and intense negative emotions in their daily lives and they struggle to express regulation their emotions effectively (Andover, Pepper, Ryabchenko, Orrico, & Gibb, 2005). According to Klonsky et al. (2003) self-injurers score highly on measures of negative temperament and emotion dysregulation. So, heightened experience of emotion dysregulation may be the primary reason for self-injury.

Results revealed significant positive relationship of social inhibition and non-assertiveness with NSSI. Findings suggest that self-injurers struggle to socialize and lack self-assurance. It is supported by a research conducted by Klonsky and Muehlenkamp (2007) which found that self-injury is used to affirm the boundaries of the self, which separates individuals from the environment and other people and may help one feel more independent, autonomous, or distinct from others.

Results indicated significant negative relationship of family cohesion and communication with NSSI. Which suggests that families

of self-injuring adolescents lack cohesion and communication among family members and findings supported by the literature that adolescents who engage in self-injury typically report the family environment to be critical, emotionally stifling, alienating, and lacking support and care (Brown & Kimball, 2013; Cox et al., 2012; Kelada, Hasking, & Melvin, 2016). Few more existing researches suggesting that poor family dynamics are related to the development and maintenance of self-injury, while healthy family dynamics are related to cessation of the behavior (Baetens et al., 2015; Tatnell, Kelada, Hasking, & Martin, 2014).

Family rigidity and family enmeshment are significant positive predictors of NSSI. A study by Halstead, Pavkov, Hecker, and Seliner (2011) concluded that unhealthy family dynamics were negatively related with higher scores of self-injury. Adrian, Zeman, Erdley, Lisa, and Sim (2011) found that teenage self-injurious in patients showed more negative affect, conflict and less cohesiveness in family. Findings of these studies confirm the findings of current research. Moreover, in Pakistan, family is a very strong institution and has deep impact on individual life. It is generally observed in Pakistan that adolescents who experience restrictions from family and over involvement of family members in their life, usually get indulge is disordered behaviors like non suicidal self-injury (Aftab, Khan, & Arain, 2011). So current research findings are consistent with existing empirical evidence.

Findings showed that cognitive reappraisal significantly mediates the relationship between family cohesion and non-suicidal-self-injury. It is supported by research conducted by Adrian et al. (2011) which concluded that family problems are related to greater emotion dysregulation which, in turn, is associated with an increase in NSSI. Another study found that emotion regulation mediated the effects of negative family characteristics on NSSI behaviors (Yurkowski et al., 2015).

Limitations and Suggestions

Sample was difficult to approach, moreover the time for collection of data was limited that restricted the sample size. Furthermore phenomenon of NSSI must be explored qualitatively with in-depth interviews from self-inuring adolescents and young adults. A feasible suggestion for future studies is to include exploration of management plan for self-injuring adolescents and young adults.

Implications

The present study will provide awareness to understand the dangerous aspect of unhealthy family dynamics, anger, emotional dysregulation, and self-criticism in NSSI. Research helped to better understand the causative agents of NSSI and provided guidance, that how NSSI prevention strategies may get improved through an increased emphasis on salient factors including family dynamics, anger, emotional dysregulation, and self-criticism.

Conclusion

Unhealthy family dynamics facilitated non suicidal self-injury in self-injuring adolescents and young adults. Adolescents and young adults who do not express and reappraise their emotions effectively moreover, had elevated levels of self-criticism and anger get indulged in self-injurious behavior. Furthermore, individuals who had difficulty to socialize and to be assertive performed NSSI more frequently. So the study concludes that high rates of NSSI act found in sample of adolescents and young adults cannot be prevented without attending to its psychosocial factors explored in present study.

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