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Mediating Role of Negative Affect in Relationship between Illness Anxiety and Alexithymia

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Objectives of this correlational research were threefold. *Firstly*, investigation of association between alexithymia and illness anxiety; s*econdly*, to look at the role of negative affect in relationship of alexithymia and illness anxiety; and *thirdly*, to identify demographic predictors in the development of illness anxiety among university students. University students (N= 400; 50% girls; M_{age}= 21.48, SD_{age}= 2.108) administered with Toronto Alexithymia Scale (Bagby, Parker, & Taylor, 1994), Whiteley Index (Pilowsky, 1967) and Positive & Negative Affect Schedule (Watson, Clark, & Tellegen, 1988) for the assessment of alexithymia, illness anxiety and negative affect respectively. Data were analyzed using ANOVA, correlation, multinomial logistic regression and mediation analysis. Results showed that alexithymia significantly positively correlates with illness anxiety and this relationship is mediated by negative affect. Two major categories of alexithymia i.e. Externally Oriented Thinking Style and Difficulty Identifying Feelings positively predicted illness anxiety. Results are discussed in cultural perspective.

Keywords: Alexithymia, Illness anxiety, negative affect, mediation analysis

The term alexithymia was coined by Sifneos (1973), while describing certain clinical characteristics with reference to psychosomatic disorders. It was not formulated until mid-1970s. Alexithymia is a complex multidimensional construct which refers to difficulty in becoming aware and putting across the feelings, difficulty in distinguishing feelings from the related somatic sensations, restricted imagination as well as limited introspective awareness (Kerr, 2012). Firstly, the founding symptoms of alexithymia were identified in people having psychosomatic etiology, while later theorists suggested alexithymia as a trait rather a state (Saarijärvi, Salminen, & Toikka, 2001). Researchers also confirmed that alexithymia could restrict or interfere with normal emotion regulation skills (Pellerone, Cascio, Costanzo, Gori, Pace & Craparo, 2017).

Alexithymia has been stressed as a personality facet which involves cognitive (i.e. difficulties in recognizing, describing, and distinguishing feelings from bodily sensations of emotional arousal) as well as affective deficits (i.e. difficulties in emotionalizing & fantasizing) (Bermond et al., 2007). The prevalence of prominent alexithymia features in the general population range between 10%–13%. Males manifest alexithymia symptoms more frequently (12.8%–17.0%) as compared to females

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2. Data collected, analyzed and interpreted.
3. Conceived and designed the idea. Data interpreted, further critically evaluated the article as well as final approval to be published.

(8.2%–10.0%) (Dalbudak, Evren, Aldemir, Coskun, Yıldırım & Ugurlu , 2013). A high proportion of alexithymia (approximately 40%260%) is reported among patients with psychosomatic disorders (Taylor, Bagby & Parker, 1997).

Illness Anxiety Disorder (IAD), previously known as hypochondriasis, which is characterized by over concern with one's health while there is no evidence of objective health condition, is included in somatic symptoms and related disorders category of DSM-V (American Psychiatric Association, 2013). Alexithymia is considered as a key component linked with psychosomatic processes (Dragoş, & Tănăsescu, 2009). People with alexithymia, being unable to experience and express emotions, are thought to pay more attention to somatic indicators of emotional arousal that result in somatosensory magnification. Neurological studies on brain reactions underlying affect dys-regulation in alexithymia have shown atypical blood-oxygenation-level dependent (BOLD) responses s in somatosensory and sensorimotor regions (Craig, 2009; Wingbermühle, Theunissen, Verhoeven, Kessels, & Egger, 2012).

The association between alexithymia and illness anxiety/hypochondriasis was confirmed through global research (Bailer, Witthöft, Erkic,& Mier, 2017; Jyväsjärvi , Joukamaa , Väisänen, Larivaara, Kivelä, & Keinänen-Kiukaanniemi, 1999). Studies have also highlighted the role of positive/negative affect in explaining pathways between alexithymia and somatization or medically unexplained symptoms (Bailey & Henry, 2007; Gucht, Fischler & Heiser, 2004). It has also been brought into consideration that alexithymia is closely allied with somatic complaints rather than emotional complaints particularly if negative affect is controlled (Lundh & Simonsson-Sarnecki, 2001). A study was done with 5129 participants (30- 97 years old) revealed association between alexithymia and somatization independently of somatic disease and other demographic confounding. The difficulty in identifying feelings was found to be strongest common denominator between alexithymia and somatization (Mattila et al., 2008). Other studies also show that alexithymia correlates highly with, negative affectivity, depression or anxiety, neuroticism and does not cause somatization independently (Sayar & Ak, 2001; Duddu, Isaac, & Chaturvedi, 2003; Gucht & Heiser, 2003; Karukivi et al., 2010). Review of literature provides evidence that the association of alexithymia and illness anxiety is effected by the presence of negative affect; higher levels of alexithymia is positively correlated with higher levels of somatic complaints. Negative affect was found to completely mediate the relationship between alexithymia and somatic complaints (Karvonen et al., 2005).

Researchers in Pakistan have focused on different dimensions of alexithymia including its prevalence (Khan, 2017), relationship with locus of control in general population (Zaidi, Mohsin & Saeed, 2013), association with childhood trauma in conversion patients (Farooq & Yousaf, 2016), personality and family factors as predictors of alexithymia (Tahir, Ghayas & Tahir, 2012) and development of indigenous assessment measures of alexithymia (Fatima, Ghayas & Khawar, 2016). So far as researches on hypochondriasis or illness anxiety are concerned, a recent study by Zahid et al., (2016) observed that prevalence of significant hypochondriacal concerns among medical students was 11.9%. Addiction to drugs proved to be a risk factor in developing significant health-related anxiety.

Excessive fear of illness along with dysregulated or negative mood and emotions may restrict students' social and academic activities (Dalbudak et al, 2013; Parker, Austin, Hogan, Wood & Bond, 2005). It is therefore important to explore alexithymia and negative affect especially with reference to health related anxiety or hypochondriacal concerns among university students. We assumed that

alexithymia will positively associate with illness anxiety and negative affect among university students. Moreover, the relationship between alexithymia and illness anxiety will likely be mediated by negative affect. Alexithymia traits are expected to differ across gender.

Method

Participants

A sample of 400 university students, both boys (*n* = 200) and girls (*n* = 200) of age range 18-25 years (*M* = 21.48, *SD* = 2.108) studying in BS honors and Masters programs were drawn from GC University Faisalabad using convenient sampling technique. This sampling technique was used because of limited time frame allotted for completion of the research. Moreover, it was easier to get permission from the chosen institute. All participants provided an informed consent before data collection.

Inclusion Criteria

Participants belonging to all socioeconomic status living in any kind of family system were included in the study. Students of BS honors, MA, MSc and MS/Mphil programs were approached.

Exclusion Criteria

Students with any kind of physical disability were not recruited in the sample. The students with any prior history of psychiatric illness were not the part of study. Students with history of any kind of severe physical disease were also not included. Students studying in distance learning programs and PhD scholars were excluded.

Measures

Toronto Alexithymia Scale (Bagby et al., 1994) is a self-report, 20 items 5-point Likert-type measure with response options ranged from 1 (strongly disagree) to 5 (strongly agree) was utilized to evaluate the presence and the level of alexithymia. . The scale items are designed to be understandable for people of age range 12 onwards. Scoring range for TAS-20 is 20 - 100, where higher scores reflect severity of alexithymia. The three main dimensions of alexithymia measured through this scale are 1) Difficulty identifying feelings - DIF: capability to recognize feelings and to differentiate between the somatization of emotional provocation and feelings, 2) Difficulty Describing Feelings - DDF: incapacity in communicating feelings with other people and 3) Externally Oriented Thinking - EOT: a cognitive approach which concentrates on the peripheral details of routine life in individuals.

Internal consistency of the scale has been reported with Cronbach's alpha coefficient 0.83 (.78 for current study sample) and coefficient for test-retest reliability is 0.87.

Whiteley Index (Pilowsky, 1967). 14 items scale with dichotomous response format measures hypochondriacal worries and beliefs and discriminate persons with severe illness anxiety from those who do not have such problem. The scale consists of three factors i.e. bodily preoccupation, conviction of the existence of disease with non-response to reassurance and disease phobia. The scale was found psychometrically sound with a Cronbach alpha value equal to .78 for the present study data. Test retest reliability from previous studies reported it .80.

Positive and Negative Affect Schedule (Watson, Clark, &Tellegen, 1988). This is a self-report 20-item instrument that helps in identifying positive (10 items) and negative (10 items) affects

among people of age range 18 years and above. Respondents have to rate the degree (on 5-point scale) to which they had experienced certain emotion within a specified time period. The ratings are: 1 'very slightly / not at all', 2 'a little', 3 'moderately', 4 'quite a bit' and 5 'very much'. The scale has already been used with a number of different time frames in different studies, but present study adopted the time frame of past one week. This widely used measure is psychometrically sound with reported high reliabilities. The Cronbach alpha is .88 for positive affectivity and .87 for negative affectivity. It has been used extensively in Pakistan (Feder et al., 2013).

Procedure

Research participants were approached at university campus after obtaining formal permission from the concerned departments including all the main faculties. Participants were given briefings about the purpose and utilization of the scale. Only those participants were included who signed the informed consent and showed their willingness to participate in the study. All the measurement scales were then administered along with detailed demographic sheet. English versions of all the measurement scales were administered individually as all of the participants had English competency ascertained through a pilot study.

Ethical Considerations. Permission was sought from the respective authors of scales. Permission was also sought from head of the institutes/departments to gather data. Consent was taken from participants of the research. Participants were given ample time to read and respond to the questionnaires. They were informed about the right to withdraw from the study at any time. Counseling services were also offered to the interested participants of the research for gaining help on experiencing negative affect.

Results

Table 1

Demographic Characteristics of the Sample (N = 400)

Variable	Total sample *n*(%)	Alexithymia (*n* = 173) *n*(%)	Possible (*n* = 83) *n*(%)	Non alexithymia (*n* = 144) *n*(%)	*p*
Age					<.001
Adolescence (12-19)	71 (18)	41 (24)	20 (24)	11 (8)	
Early adulthood (20-25)	329 (82)	133 (77)	63 (76)	133 (92)	
Gender					<.001
Male	200 (50)	108 (62)	45 (54)	47 (33)	
Female	200 (50)	65 (38)	38 (45)	97 (67)	
Birth order					=.449
1st born	93 (23)	44 (25)	19 (23)	30 (21)	
Middle born	235 (59)	103 (60)	47 (57)	85 (59)	
Last born	49 (12)	19 (11)	15 (18)	15 (10)	
Single born	23 (6)	7 (4)	2 (2)	14 (10)	
Family type					<.001
Nuclear	276 (69)	103 (60)	51 (61)	122 (85)	
Joint	124 (31)	70 (41)	32 (39)	22 (15)	
Residence					=.087
Urban	304 (76)	125 (72)	55 (66)	124 (86)	
Rural	96 (24)	48 (28)	28 (34)	20 (14)	
SES					=.910
Below average	158 (38)	64 (37)	35 (42)	54 (38)	
Average	51(13)	16 (9)	6 (7)	29 (20)	
Above average	196 (49)	93 (54)	42 (51)	61(42)	
Living with parents					=.830
Mother	39 (10)	16 (9)	13 (16)	10 (7)	
Father	34 (9)	13 (8)	11 (13)	10 (7)	
Both	327 (82)	144 (83)	59 (71)	124 (86)	

The differences in existence of alexithymia according to general characteristics of the participants are illustrated in Table 1. Mostly alexithymic individuals and those found at risk of being alexithymic belonged to early adulthood group. A significantly higher percentage of boys experienced

alexithymia as compared to the girls. Similarly, a higher percentage of alexithymic participants belonged to nuclear family system rather joint family system. A closer to significantly higher percentage of alexithymic participants belonged to urban areas.

Table 2

Correlation Matrix of Alexithymia, its Domains and Illness Anxiety (N=400)

Variables	DIF	DDF	EOT	TAS scores	+Ve affect	-Ve affect	Illness Anxiety
DIF	-	.63**	.50**	.87**	-.31**	.22**	.34**
DDF		-	.45**	.77**	-.26**	.15**	.27**
EOT			-	.75**	-.31**	.28**	.39**
TAS Scores					-.34**	.26**	.38**
+Ve affect					-	-.36**	-.27**
-Ve affect						-	.25**
Illness Anxiety							-
M	19.42	13.73	22.18	54.44	30.91	21.72	32.59
(SD)	(5.81)	(3.90)	(5.059)	(12.68)	(6.85)	(5.86)	(10.20)

***p<.001, *p<.05. DIF*

The above correlation matrix showed that Negative affect significantly positively correlated with alexithymia, illness anxiety, difficulty identifying feelings, difficulty describing feelings and externally oriented thinking style. Moreover, positive affect was set up significantly negatively correlated with alexithymia, its domains and illness anxiety. Alexithymia was also found significantly positively associated with illness anxiety. Mean scores and standard deviations are given in the table 2.

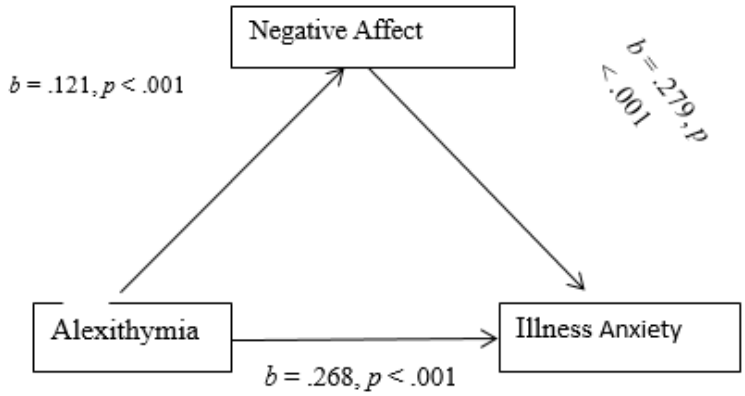
Table 3

Stepwise Regression Predicting Illness Anxiety due to Facets of Alexithymia (N = 400)

Variables	*B*	*SE*	*β*	*t*	*p*
Step 1					
(*R*=.40, R^2=.15)					
Constant	15.032	2.116		7.106	.000
EOT	.79	.09	.392	8.513	.000
Step 2					
(*R*=.42, R^2= .18)					
Constant	15.032	2.116		7.106	.000
EOT	.79	.09	.392	8.513	.000
DIF	.328	.092	.187	3.555	.000

A stepwise regression was computed to predict illness anxiety based on the cognitive and affective facets of alexithymia. Results showed that at first step, cognitive facet, i.e. externally oriented thinking style predicted illness anxiety and the model explained 15% variance in the data. At further step, one component of the affective facet i.e. difficulty identifying feelings was found stronger predictor along with the cognitive facet while difficulty describing feelings was remained an excluded variable from the model.

Figure 1
Mediation Model for the Relationship between Alexithymia and Illness Anxiety



A significant indirect effect of alexithymia was found on illness anxiety through negative affect, b = .30, BC_aCI [.013, .066]. This represents relatively small effect k^2= .044, BC_a 95% CI [.017, .087]. When negative affect is not in the model, alexithymia significantly predicts illness anxiety, *b* = .26, *t* = 8.08, *p*<.01. R^2 value tells us that the model explains 1.4 % of variance in illness anxiety. Results showed that relationship between alexithymia and illness anxiety is partially mediated by negative affect.

Multivariate analysis was run to find out gender differences among alexithymic, possibly alexithymic and non-alexithymic individuals on negative affect and illness anxiety. Results revealed a significant main effect of gender on illness anxiety, *F* (2, 393) = 20.99, *p* < .001 with boys scoring higher (*M* = 34.24, *SD* = 8.20) as compared to the girls (*M* = 21.70, *SD* = 5.70) while there was no effect on negative affect. Main effect of alexithymia levels (alexithymia, possible alexithymia and no alexithymia) was significant on negative affect, *F*(4, 788) = 17.40, *p* < .001, and illness anxiety, *F*(4, 788) = 15.24, *p* < .01. Interaction of gender and alexithymia levels was found insignificant.

Table 4.
Post Hoc Analysis for Alexithymia Status with Illness Anxiety and Negative Affect (N = 400)

Dependent Variable	(I) Alexithymia level	(J) Alexithymia level	*M.diff* (I-J)	*SE*	*p*	95% CI	
						LL	UL
-Ve Affect	Non Alexithymic	Possible	-3.69*	.777	.000	-5.56	-1.82
		Alexithymia	-3.14*	.636	.000	-4.67	-1.61
	Possible Alexithymia	Non-Alexithymic	3.69*	.777	.000	1.82	5.56
		Alexithymic	.56	.753	1.00	-1.25	2.36
	Alexithymia	Non Alexithymic	3.14*	.636	.000	1.61	4.67
		Possible	-.56	.753	1.00	-2.36	1.25
Illness Anxiety	Non Alexithymia	Possible	-6.97*	1.304	.000	-10.11	-3.84
		Alexithymic	-6.76*	1.067	.000	-9.33	-4.19
	Possible Alexithymia	Non Alexithymic	6.97*	1.304	.000	3.84	10.11
		Alexithymic	.21	1.263	1.00	-2.83	3.25
	Alexithymic	Non Alexithymic	6.76*	1.067	.000	4.19	9.33
		Possible	-.21	1.263	1.00	-3.25	2.83

Tukey's Post hoc analysis showed no significant differences between alexithymia and possible alexithymia groups on negative affect and illness anxiety. Both of these groups however, significantly differed from the group having no alexithymia (evidenced by low scores on TAS-20) on illness anxiety and negative affect.

Figure 2

Mean Scores of Alexithymic, Possibly Alexithymic and Non Alexithymic on Illness Anxiety and Negative Affect

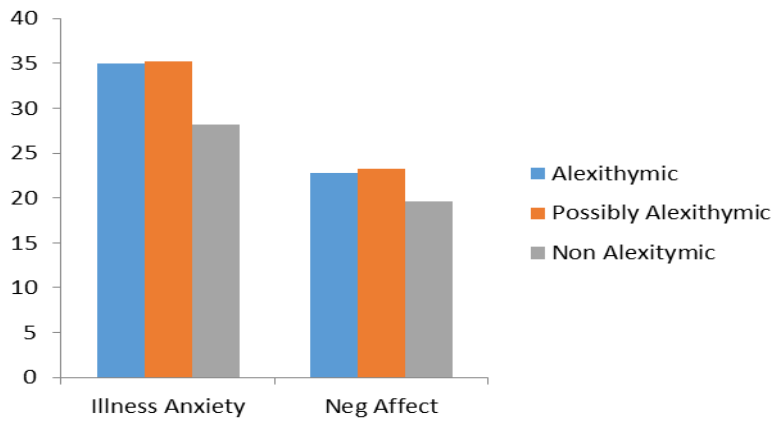
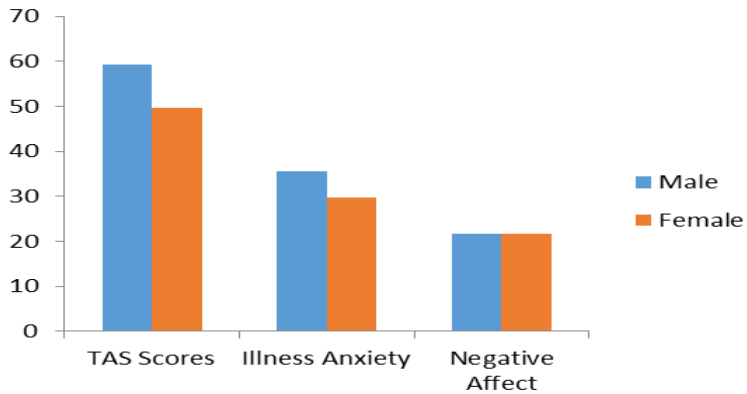


Figure 3

Mean Scores of Boys and Girls on Alexithymia, Negative Affect and Illness Anxiet



The figure revealed that boys scored higher on alexithymia scale and illness anxiety while there was non-significant difference in negative affect.

Table 5

Summary of Multinomial Logistic Regression Analysis Predicting Alexithymia

	Variable	*B*	*SE*	Wald Statistics	*OR*	95% *CI* *LL-UL*	*p*
Possible Alexithymia							
	Joint Family	-1.353	.342	15.623	.259	.132 - .506	<.001
	Male	.714	.303	5.539	2.042	1.127 - 3.700	=.019
	Living with Mother	1.322	.474	7.785	3.750	1.482 - 9.488	=.005
	Living with Father	.921	.498	3.417	2.512	.946 - 6.672	=.065
	Adolescent	1.633	.425	14.768	5.122	2.226 - 11.782	<.001
Alexithymic							
	Joint Family	-1.272	.295	18.529	.280	.157 - .500	<.001
	Male	1.140	.253	20.302	3.127	1.904 - 5.133	<.001
	Living with Mother	.580	.449	1.672	1.787	.741 - 4.307	=.196
	Living with Father	.067	.474	.020	1.070	.422 - 2.710	=.887
	Adolescent	1.591	.382	17.374	4.910	2.323 - 10.376	<.001

Note. Cl=Confidence interval for odd ration (OR)
Non-alexithymia was taken as reference category

Gender, living with joint family, living with single parent and adolescent age groups significantly predicted possible alexithymia and alexithymia. Multinomial logit for males relative to females was 0.714 units higher for having possible alexithymia and 1.140 for having alexithymia given all other predictor variables constant. Arguably, males are more likely than females to have alexithymia.

The multinomial logit estimate comparing people living in nuclear family system for having possible alexithymia relative to non-alexithymia (while the other variables were kept constant) revealed that if the possibility of living in nuclear family system is one unit increased, the chance of possible alexithymia would be expected to decrease by 1.353 and the chance of having alexithymia would decrease by 1.272. Living with single parent increased the likelihood of developing alexithymia characteristics. Moreover, younger age group was more likely than older ones to demonstrate alexithymia characteristics.

Discussion

This study brings forward a wider understanding of affect in young adult population and highlights one of the fundamental mechanisms i.e. alexithymia, which distinguishes across gender in experience and expression of emotions.

Results indicated that negative affect significantly positively correlated with all the three dimensions of alexithymia i.e. difficulty in identifying feelings, difficulty in describing feelings and externally oriented thinking approach. A significant inverse relationship between positive affect and alexithymia domains was found. These findings are in line with Shibata et al. (2014) who demonstrated that high scores of alexithymia in general population had been associated with high

risk of chronic pain and negative affect. Moreover, Waller and Scheidt (2006) revealed that negative affectivity in the form of depression and anxiety used to positively correlate with alexithymia. Suslow and Donges (2017) recently reported that not only experience of negative affect is aggravated but also the experience of positive affect is diminished in alexithymia. Hence it is imperative to note in the present study, magnitude of inverse relationship of TAS-20 with positive affect was stronger than positive correlation between TAS-20 and negative affect. A study by Lundh and Simonsson-Sarnecki (2001) also yielded similar findings as alexithymia showed positive correlations of small to moderate sizes with negative affect and negative correlations of larger effect sizes with positive affect. These findings indicate that role of affective valence must be considered while

Total scores on TAS-20 and all the three subscales demonstrated medium size correlations with illness anxiety, however stronger associations were found for externally oriented thinking followed by difficulty in identifying feeling. Alexithymia has been associated with somatization independently of somatic disorders (Joukamaa et al., 2007). Alexithymia also contributes to the emergence of somatic symptoms because participants, suffering from somatoform conditions consistently scored high on alexithymia measures, with moderate to large effect size (De Gucht & Heiser, 2003; Güleç et al., 2013).

Nature of the relationship between alexithymia and illness anxiety in the present study was further analyzed using stepwise multiple regressions. Externally oriented thinking styles (EOT) were the most significant predictor of illness anxiety. In second step, difficulty identifying feelings (DIF) also emerged as a significant predictor of illness anxiety indicating that both of these facets determine the presence of somatization among individuals. Difficulty in describing feeling was excluded from the model. This suggests that cognitive aspect is more crucial in explaining psychosomatic characteristics. Feeling component in terms of emotional awareness could be important as per finding of the present research, yet verbal expressions did not seem to play any vital role in this regard. This notion was supported by findings of Bailey and Henry's study (2007). They too found that cognitive impairment (named as Alexithymia II) could better explain somatization as compared to emotion oriented components. Yet another study found difficulty identifying feeling (DIF) as the most significant precursor of medically unexplained symptoms (De Gucht, Fischler & Heiser, 2004). The finding is somewhat contrary to the result reported by Lundh and Broman (2006). They found non significant correlations between externally oriented thinking styles and alexithymia directly.

Findings of the present study also revealed that negative affect was positively correlated with illness anxiety and it also significantly mediated the relationship between alexithymia and illness anxiety. The relationship between alexithymia and illness anxiety was reduced when negative affect was included in the model which demonstrated a significant indirect relationship of alexithymia and illness anxiety explained through the presence of negative affect. Illness anxiety was positively correlated with negative affect. Somatization is empirically proved to be a disorder of affect regulation. Inability to integrate the physiological feedback emotionally, leads to its somatic attribution (Waller & Scheidt, 2006). Empirical investigations also confirmed the contribution of negative affectivity in explaining the symptoms related to medically unexplained somatic condition (De Gucht, 2002). Schwarz, Rief, Radkovsky, Berking and Kleinstäube (2017) reported that negative affect explained the emotion regulation deficits associated with medically unexplained symptoms. Mediating role of negative mood has also been recognized by other researchers while studying the association between alexithymia and somatization. De Gucht et al., (2004) suggested alexithymia could be a possible factor that predisposes persons to experiencing negative affect or failure to

experience positive affect, which consequently may lead to greater frequency of medically unexplained symptoms.

MANOVA results indicated that boys significantly scored higher on TAS-20 as compared to girls, thus reporting greater levels of alexithymia. Mattila et al. (2007) also showed similar findings by reporting high alexithymia scores for men as compared with women. Similar findings are also reported in a study of Pakistani cohort by Khan (2017). Other demographic variables were evaluated across alexithymia groups using Multinomial logistic regression. Wald statistics demonstrated that living in joint family system, male gender, living with single parent (mother only) and younger age (adolescence) significantly differentiated between possible alexithymia and no alexithymia among youth. Living with single parent (mother or father) did not make any difference across alexithymia and non-alexithymia groups. Family composition affects patterns of interactions, especially the emotional bonding/cohesion between members (Villarreal-Zegarra & Paz-Jesus, 2017), and family cohesion has been directly linked with alexithymia (Kench & Irwin, 2000).These findings are also in accordance with the study by Barbera, Christansan and Barchard (2004), who found that alexithymia was higher in children who belonged to larger family size. Family structure in relation to alexithymia should be studied with reference to family dynamics.

Conclusions

Study findings suggest that alexithymic characteristics in youth having greater proneness to experience negative mood states are more likely to be related with higher levels of illness anxiety. Joint family system, living with single parent and younger age predicted the existence of alexithymia is university students. Moreover, boys demonstrated more alexithymia traits as compared to girls.

Limitations and Suggestions

Although the study is a significant contribution to the scientific realm and its valuable findings are worth considering, yet its generalizability is restricted due to limited sample size obtained through convenient sampling technique. Larger and diverse samples (older age groups, non-academic settings) should be obtained by researcher. It was a cross-sectional study that used correlational design. Researchers may conduct longitudinal, experimental, qualitative and preferably mixed method studies to unravel the multidimensionality of Alexithymia in relation to affective valence and psychosomatic aspects. Studying implicit and explicit facets of positive/negative affect can also be more insightful in understanding emotion regulation processes.

Implications of the Study

Alexithymia may influence somatic disease via physiological, behavioral, cognitive or social pathways (Lumley, Stettner & Wehmer, 1996). Negative Affect is on these pathways that could be recognized and addressed earlier to escape severity of symptoms. Briefly, the study emphasizes the recognition of affective problems in relation to somatic issues among university students and suggests the campus counselors to consider interventions for improving the quality of positive moods in order to avoid psychosomatic issues which could influence the academic performance of students. The study expands upon the extant literature on personality pathology and affective valence in relation to psychosomatic issues among youth.

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