



Psychometric analysis of Depression, Anxiety and Stress among Women of Wazirabad City

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In this paper psychometric analysis of Depression, Anxiety and Stress among Women living in Wazirabad City has been explored. Cluster sampling technique was used to collect a sample of size 334. For this purpose Urdu version of Depression, Anxiety and Stress (DASS-21) questionnaire was administered along with 10 demographic. DASS-21 data has been analyzed to study the relationship between “depression”, “anxiety” and “stress” across various demographic characteristics. DASS-21 shown good internal consistency (Cronbach’s alpha 0.86) and Confirmatory Factor Analysis showed consistency with previously found factor structures. Strong relationship of “anxiety” and “stress” has been observed with age; while no association was observed with “income”. “Education” has mild effect with the items of “depression”, “anxiety” and “stress”. “Illness” and “occupation” found to be strong factors of “depression”, “anxiety” and “stress”. Another major factor of “stress” found to be “family living system” while “marital status” also affects some of items.

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1. Introduction

Depression is a serious medical condition that affects thoughts, feelings and ability to function in everyday life. Depression is a “whole body” illness. It affects the way you eat and sleep, the way you feel about yourself, and about things. Types of Depression are Major Depression, Dysthymia, Bipolar Disorder and Unipolar, Seasonal Depression, Psychotic Depression, Post-partum Depression, Double Depression, Endogenous Depression and Agitated Depression. Negative feelings, Irritability, Loss of interesting daily activities, Concentration problems, unexplained pains and aches, Hunger or weight changes, Loss of energy, Sleep changes, are common signs and symptoms of Depression. Loneliness, Lack of social support, Family history of Depression, Marital or relationship problems, early childhood shock, and Unemployment are causes and Risk factors of Depression. Anxiety is a general term

for several disorders that causes tension, fear, hesitation, and worrying. These disorders affect how we feel and act and they can visible real physical symptoms. Panic Attacks, Generalized Anxiety Disorder, Obsessive-compulsive Disorder and Social Anxiety Disorders are major Anxiety Disorders. Trembling or shaking, aches or pains, feeling faint, muscle pains, and feelings of fear are common signs and symptoms of these disorders. Stress is characterized by feeling of frustration, worry, sadness and extraction that commonly last from few hours to a few days. Stress is normal physical response to events that make you feel threatened or upset your balance in some way. If it is something that makes you worry, then it is stress. Post-Traumatic Stress Disorder is major stress disorder. Major life changes, work, relationship difficulties, financial problems, being too busy, inability to accept uncertainty, Negative self-talk, and

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unrealistic expectations are common external and internal causes of stress. Memory problems, Inability to concentrate, poor judgment, seeing only negative, constant worrying, moodiness, short temper, inability to relax, aches or pains, Diarrhea or constipation, chest pain, rapid heartbeat, eating more or less, sleeping too much or too little, neglecting responsibilities, using alcohol, cigarette, or drugs to relax, are cognitive, emotional, physical and behavioral symptoms of stress. Depression, Anxiety and Stress are most common in women. Biological, life cycle, hormonal and psychological factors unique to women linked to women's higher depression, anxiety and stress rate. Hormones directly affect brain chemistry that controls emotions and mood. Women are most vulnerable to depression, anxiety and stress after giving birth; some develop such a serious condition that requires active treatment and emotional support. Many women face the additional stresses of work, home responsibilities, and relationship strains, which create an atmosphere of depression, anxiety and stress. Women deal with a lot of stress in their daily lives. Too much stress can be detrimental to a women's health and her ability to function normally.

2. Literature Review

According to (Ghaderi, Kumar, & Kumar, 2009) Depression is characterized as a mood disorder. The four sets of symptoms of depression are emotional, cognitive, motivation and physical. A person has the more symptoms, has the more intense of suffering from depression. Anxiety is a subjective condition of internal discomfort, Dread and foreboding, which manifests itself in Cognitive, behavioral, and physiological symptoms. Anxiety often occurs without aware or clear motivation, which distinguishes it from panic. Stress is a consequence of or a general response to an action or situation that places special physical or psychological demands, or both, on a person.

Past Literature shows that Depression, Anxiety and Stress Scale is a reliable scale and many studies have used it. Three studies ((Brown, Chorpita, Korotitsch, & Barlow, 1997), (Henry & Crawford, 2005), (Bados López, Solanas, & Andrés, 2005)), applied Factor Analysis technique to check the factor structure of Depression, Anxiety and Stress Scale, of which two studies ((Brown, et al., 1997); (Henry & Crawford, 2005)) confirmed its model and yielded the solution that was highly consistent with factor

structure but one study (Bados López, et al., 2005) did not confirm the model.

Higher anxiety and stress scores were found among female students reported by (Bayram & Bilgel, 2008). It was also found that among housewives, the combined SES variables explain six percent of the variance in depression and among working women, these variables explain three and four percent of the variance (Kessler, 1982). A study reported by (Shehan, Burg, & Rexroat, 1986) was also found that low family income and housewives role are significantly associated with depression.

(Khanna, 1992) examined that Anxiety is significantly and negatively related to positive life change in nonworking women and Depression is significantly and positively related to positive life change in working women, and negative life change in nonworking women. And results suggest that among working women positive life changes are related to depression, whereas among nonworking women positive life changes are related to anxiety, and negative life changes to depression.

Nonworking mothers/women showed higher anxiety levels than their working counterparts with respect to the total anxiety score as well as its components, although the differences were statistically non-significant and age was not related to anxiety level (Mukhopadhyay, Dewanji, & Majumder, 1993).

Results indicated higher significant relationship between marital adjustment, depression and stress. And highly educated women are free from depression (Hashmi, Khurshid, & Hassan, 2007). Significant relationships were found between marital status and stress/stress variables (Barnes, Pase, & VanLeeuwen, 1999). It was also found poor family relations, marital relations and age were independently related to depression (Kivelä, Luukinen, Sulkava, Viramo, & Koski, 1999).

One study (Senturk, Abas, Berksun, & Stewart, 2011) revealed that depression in women living in joint family was significantly strongest as compared to nuclear family environments.

It has been found that life and work stresses were associated with illness and life stress and depression was strongest among housewives (Stewart & Salt, 1981). Another study by (Hough, Brumitt, & Templin, 1999) investigated that number of chronic illnesses had no direct effect on depression but had a direct impact on the demand of illness and increased depression.

3. Methodology

Main focus of the study was to assess the levels of Depression, Anxiety and Stress among women of Wazirabad city and the association of Depression, Anxiety and Stress with various demographic characteristics e.g., age, education, marital status, occupation, income, family system and illness. Target population was women living in Wazirabad City and for this purpose a sample of size 334 women of five Mohallahs (Allahabad, Nizamabad, Cheema Colony, Sheru Mohallah, and Bakar Gala) were sampled using Cluster sampling technique. Sampling units were houses in clusters. Urdu version of Depression, Anxiety and Stress (DASS-21) questionnaire was administered along with 10

demographic factors. Data was obtained through door to door survey method and then analyzed using SPSS.

Kendall's Tau test has been used to explore ordinal associations between DASS-21 items, Mann-Whitney U test and Kruskal Wallis H test have been used to compare the Depression, Anxiety and Stress level across demographic factors.

4. Results and Discussion

Levels of Depression, Anxiety and Stress were determined by adding up the scores on individual items. Higher scores indicated higher levels of Depression, Anxiety and Stress.

Table 1: Levels of Depression, Anxiety and Stress among respondents

Levels	Depression (%)	Anxiety (%)	Stress (%)
Normal	182(54.5)	85(25.4)	154(46.1)
Mild	44(13.2)	34(10.2)	52(15.6)
Moderate	66(19.8)	126(37.7)	69(20.7)
Severe	28(8.4)	40(12.0)	49(14.7)
Extremely Severe	14(4.2)	49(14.7)	10(3.0)

Depression level of most of the respondents 182(54.5%) were Normal. Depression level of 44(13.2%) respondents were Mild, 66(19.8%) respondents were Moderate, 28(8.4%) were Severe and 14(4.2%) were extremely severe. Most of the respondent's Anxiety level were Moderate. Anxiety level of 85(25.4%) respondents were Normal, 34(10.2%) respondents were Mild, 126(37.7%) respondents were Moderate, 40(12.0%) were Severe and 49(14.7%) were extremely severe. Stress level of most of the respondents 154(46.1%) were Normal, 52(15.6%) respondents were Mild,

69(20.7%) respondents were Moderate, 49(14.7%) were Severe and 10(3.0%) were extremely severe.

Reliability analysis was made to determine the overall and internal reliability of the items which is indication of the stability and consistency with which the instrument measures the concept. Cronbach's alpha was used to measure internal reliability and its value increases as the intercorrelation among items increases. Its value should be greater than 0.5.

Table 2: Internal and overall reliability of Depression, Anxiety and Stress variables

	Cronbach's alpha	No. of items
Depression	.744	7
Anxiety	.679	7
Stress	.700	7
All variables	.865	21

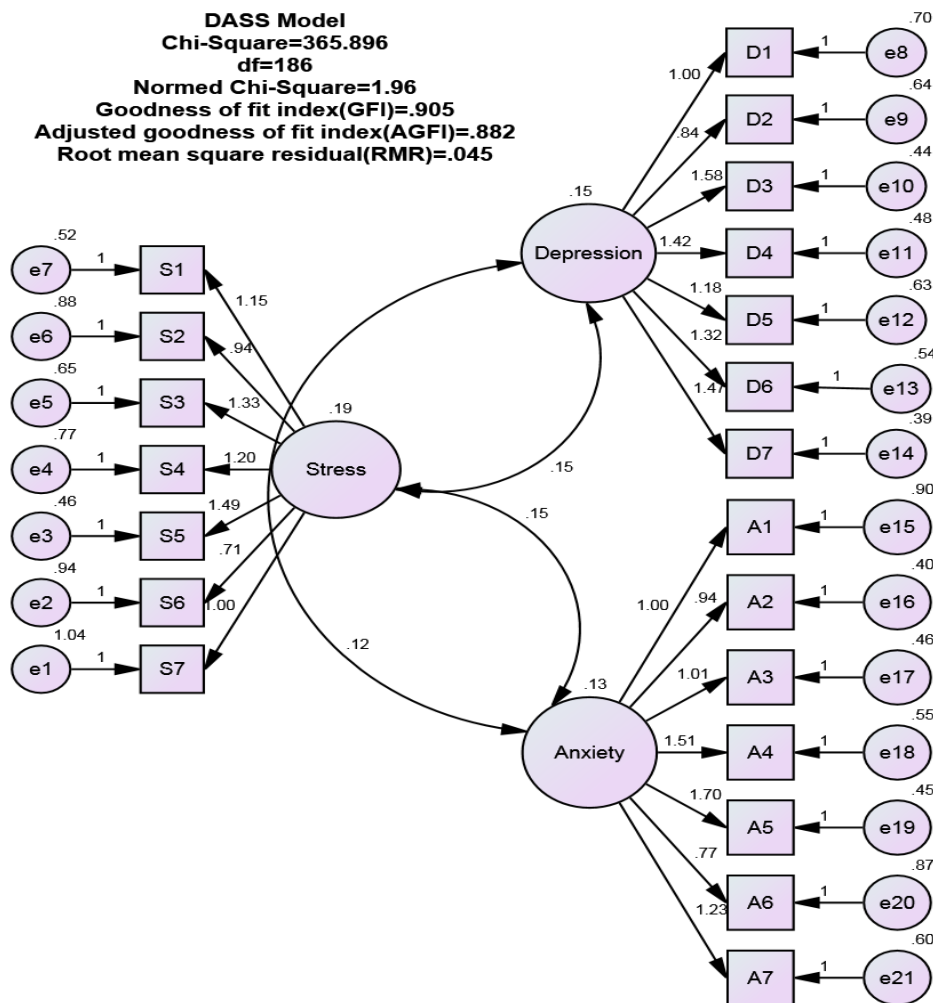


Figure 1: DASS-21 Model with path coefficients

Confirmatory Factor analysis (CFA) was used to confirm the factor structure of DASS-21 instrument. It was used to analyze interrelationships among large number of items of DASS and to explain these items in terms of their common underlying factors.

Normed-Chi-Square and measures of adequacy verified the proposed model (Normed-chi-square=1.96, GFI=0.905, AGFI=0.882 and RMR=0.045). Figure 1 describes the DASS-21 Model along with path coefficients.

Table 3: Association of Depression, Anxiety and Stress with Age, Education and Income

	Age		Education		Income	
	$\hat{\tau}$	p-value	$\hat{\tau}$	p-value	$\hat{\tau}$	p-value
Depression						
I couldn't seem to experience any positive feeling at all.	0.234	0.000*	-0.127	0.005*	0.019	0.678
I found it difficult to work up the initiative to do things.	-0.1	0.052	0.132	0.003*	-0.038	0.0425
I felt that I had nothing to look forward to.	0.029	0.561	-0.057	0.216	-0.026	0.575
I felt down-hearted and blue.	0.046	0.378	0.076	0.097	0.089	0.053
I was unable to become enthusiastic about anything.	0.079	0.1	-0.047	0.288	0.019	0.666
I felt I wasn't worth much as a person.	0.087	0.081	-0.052	0.254	-0.034	0.469

I felt that life was meaningless.	0.091	0.079	-0.029	0.53	-0.038	0.432
Anxiety						
I was aware of dryness of my mouth	0.223	0.000*	-0.025	0.56	-0.02	0.666
I experienced breathing difficulty	0.212	0.000*	-0.055	0.255	-0.006	0.897
I experienced trembling	0.09	0.084	-0.102	0.027*	-0.044	0.355
I was worried about situations in which I might panic and make a fool of myself.	0.044	0.342	-0.042	0.352	0.042	0.374
I felt I was close to panic.	0.206	0.000*	-0.099	0.027*	-0.07	0.127
I was aware of the action of my heart in the absence of physical exertion.	0.086	0.072	0.026	0.56	-0.055	0.249
I felt scared without any good reason.	-0.108	0.024*	0.08	0.075	0.025	0.585
Stress						
I found it hard to wind down.	0.068	0.157	-0.022	0.614	-0.007	0.875
I tended to over-react to situations.	0.028	0.572	0.06	0.191	0.058	0.185
I felt that I was using a lot of nervous energy.	0.338	0.000*	-0.123	0.004*	0.059	0.187
I found myself getting agitated.	0.126	0.010*	-0.101	0.028*	-0.061	0.178
I found it difficult to relax.	0.142	0.004*	-0.047	0.295	-0.007	0.881
I was intolerant of anything that kept me from getting on with what I was doing.	-0.102	0.036*	0.087	0.061	0.041	0.353
I felt that I was rather touchy.	0.074	0.118	-0.013	0.775	-0.006	0.893

* Significant at 5% level of significance

Table 4: Median differences of Depression, Anxiety and Stress by Marital status, family system and illness

	Marital status		Family System		Illness	
	<i>U</i>	p-value	<i>U</i>	p-value	<i>U</i>	p-value
Depression						
I couldn't seem to experience any positive feeling at all.	11607.5	.005*	11640	.027*	5750.5	.001*
I found it difficult to work up the initiative to do things.	11244	.001*	12755	0.403	7057	0.177
I felt that I had nothing to look forward to.	13257.5	0.404	12835.5	0.439	6584.5	.027*
I felt down-hearted and blue.	13268	0.428	12256.5	0.141	6688.5	.049*
I was unable to become enthusiastic about anything.	13439.5	0.566	12235.5	0.139	6669.5	.048*
I felt I wasn't worth much as a person.	12922.5	0.206	11961.5	0.056	6410	.012*
I felt that life was meaningless.	13177.5	0.32	13095.5	0.643	6536	.015*
Anxiety						

I was aware of dryness of my mouth	11937	.02*	12963	0.573	5613.5	.000*
I experienced breathing difficulty	11850.5	.004*	12499	0.181	5247	.000*
I experienced trembling	12922.5	0.171	13119	0.659	6135.5	.001*
I was worried about situations in which I might panic and make a fool of myself.	13861.5	0.951	10952.5	.002*	7102.5	0.207
I felt I was close to panic.	12429	0.073	11377	.012*	4905	.000*
I was aware of the action of my heart in the absence of physical exertion.	13058.5	0.297	12689	0.355	5124.5	.000*
I felt scared without any good reason.	12363.5	.042*	12144.5	0.086	7876	0.974
Stress						
I found it hard to wind down.	13007	0.273	11387	.012*	7156	0.235
I tended to over-react to situations.	13565.5	0.681	11531.5	.022*	7410.5	0.447
I felt that I was using a lot of nervous energy.	10179	.000*	11846.5	0.053	4278	.000*
I found myself getting agitated.	13147.5	0.364	11696.5	.036*	5661	.000*
I found it difficult to relax.	11772	.009*	12043	0.083	5677	.000*
I was intolerant of anything that kept me from getting on with what I was doing.	12273	0.053	13324	0.896	7086	0.204
I felt that I was rather touchy.	13113.5	0.344	12438.5	0.231	6482.5	.027*

* Significant at 5% level of significance.

There was strong association of age with 4 items of Anxiety and 4 items of Stress factor while no significant association was observed between depression and Age as only one item found to be significant. Education of respondents showed association with some items of Depression, Anxiety and Stress and no association of income were observed with Depression, Anxiety and Stress. Further “feeling scared” and “intolerant behavior”

were significantly and negatively correlated with age. Most of items of Depression, Anxiety and stress were negatively correlated with education (Higher the education level lower the Depression, Anxiety and Stress levels).

Table 3 describes the strength and significance of ordinal associations of DASS-21 items with age, education and income.

Table 5: Median differences of Depression, Anxiety and Stress by Occupation and Type of Residence

	Occupation		Type of Residence	
	Chi-square	p-value	Chi-square	p-value
Depression				
I couldn't seem to experience any positive feeling at all.	10.17	.006*	1.528	0.466
I found it difficult to work up the initiative to do things.	15.564	.000*	0.191	0.909
I felt that I had nothing to look forward to.	2.178	0.337	3.164	0.206
I felt down-hearted and blue.	3.353	0.187	1.807	0.405
I was unable to become enthusiastic about anything.	4.4	0.111	4.259	0.119
I felt I wasn't worth much as a person.	11.877	.003*	0.901	0.637
I felt that life was meaningless.	1.668	0.434	1.506	0.471

Anxiety				
I was aware of dryness of my mouth	4.803	0.091	2.622	0.27
I experienced breathing difficulty	8.571	.014*	1.291	0.525
I experienced trembling	9.33	.009*	2.431	0.297
I was worried about situations in which I might panic and make a fool of myself.	10.828	.004*	4.497	0.106
I felt I was close to panic.	7.71	.021*	5.557	0.062
I was aware of the action of my heart in the absence of physical exertion.	2.338	0.311	1.205	0.547
I felt scared without any good reason.	9.822	.007*	0.861	0.65
Stress				
I found it hard to wind down.	6.068	.048*	4.734	0.094
I tended to over-react to situations.	1.402	0.496	0.933	0.627
I felt that I was using a lot of nervous energy.	15.364	.000*	0.319	0.853
I found myself getting agitated.	7.247	.027*	4.319	0.115
I found it difficult to relax.	4.245	0.12	4.884	0.087
I was intolerant of anything that kept me from getting on with what I was doing.	6.995	.030*	0.849	0.654
I felt that I was rather touchy.	12.416	.002*	0.161	0.923

* Significant at 5% level of significance.

There was strong association of age with 4 items of Anxiety and 4 items of Stress factor while no significant association was observed between depression and Age as only one item found to be significant. Education of respondents showed association with some items of Depression, Anxiety and Stress and no association of income were observed with Depression, Anxiety and Stress. Further “feeling scared” and “intolerant behavior” were significantly and negatively correlated with age. Most of items of Depression, Anxiety and stress were negatively correlated with education (Higher the education level lower the Depression, Anxiety and Stress levels).

Table 4 describes the median difference of DASS-21 items by marital status, family system and illness.

There were significant differences in levels of depression, anxiety and stress by marital status, most of the DASS items showed higher level of depression, Anxiety and Stress for the married class. Depression feelings were not significantly influenced by family system while there significant

higher Depression, Anxiety and Stress levels were observed for ill class.

Another non-parametric Kruskal Wallis H test was used for testing the hypotheses all k ($k > 2$) independent samples came from the identical populations or at least one population differ. Differences of occupation, and Type of Residence with Depression, Anxiety and Stress were calculated by using H-test.

Type of residence of respondents showed no significant effect on Depression, Anxiety and Stress feelings while there was significant effect of “Occupation Type” of the respondents on Depression and the effect was very strong on Anxiety and Stress items. Depression, Anxiety and Stress levels were found to significantly higher in “House-Wife” class.

Depression, Anxiety and Stress (DASS-21) instrument showed validity and internal consistency in measuring Depression, Anxiety and Stress of the study population. Age, Education, marital status has significant impact on depression, anxiety and stress while income, family system and type of residence

were not significantly related with Depression, Anxiety and Stress.

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