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# DEPRESSION: A CAUSAL FACTOR OF DEMENTIA

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## ABSTRACT

*The present study was designed to identify the link between depression and dementia. It was hypothesized that: (1) The depressive patients are more vulnerable to dementia as compared to other mental diseases. (2) There would be a negative correlation between the long history of depression and scores on MMSE. Fifty-four dementia patients, willing to participate in the study, were selected from Khyber Teaching Hospital Peshawar. In-depth interview, DSM-IV and Mini Mental State Examination (MMSE) were used as instruments. Frequency distribution and Pearson Product Moment Coefficient of Correlation were applied. The results show that high percentage (66%) of the sample was suffering from depression. Further, inverse relationship between history of depression and the scores obtained on Mini Mental State Examination was found.*

## INTRODUCTION

Depression is a mental illness in which a person experiences a deep unshakeable sadness and diminished interest in nearly all activities. People suffering from depression often have difficulty in producing specific memories (Williams, 1996). Many older adults deal with depression in their lives. Depression is particularly common among elderly person who has recently experienced a trauma, such as loss of a spouse or close friend or the development

of a serious physical illness. Overall, 20 percent of the elderly experience some form of this disorder (Lyness, Caine, King, Cox, & Yoediono, 1999; Koenig & Blazer, 1992). Studies found relationship between brain scan abnormalities and the onset of depression in old age (Jocaby & Levy, 1980; Coffey et al., 1988; Figiel et al., 1991). Depression may be a cause of dementia also reported by the studies (Bassuk, Berkman, & Wypij, 1998; Chen et al., 1999; Yaffe et al., 1999). Memory malfunctioning has also been observed in a variety of samples exposed to trauma, such as accidents, combat and childhood abuse (Herman, Van den Bcoeck, Belis, Raes, Pieters, & Eelen, 2004; Kuyken & Brewin, 1995). Moreover, depression is also characterized by depleted cognitive resources, especially in executive functioning that "supervises" the retrieval processes (Conway, Pleydell-Pearce, & Whitecross, 2000).

Neuropsychologists have searched the brain for physical evidence of memory. A specific part of limbic system, the hippocampus, is much involved in where and when of things. Adults with hippocampus damage may be able to form new procedural memories but cannot form new episodic memories. Another study suggests that coordination of multiple cortical and sub cortical brain systems are responsible for autobiographical memory (Conway, Pleydell-Pearce, & Whitecross, 2001). In short, consequences of depression are far reaching multifarious.

Many researches have been conducted about the depressive symptoms during or after the onset of dementia. There are few researches, which do not support the relationship between depression and cognitive decline (Dufouil et al., 1996; Henderson et al., 1997), whereas, Bassuk, Berkman, and Wypij (1998), and Chen et al. (1999) have reported the existence of such relationship. On the basis of above mentioned facts it was hypothesized that

1. The depressive patients are more vulnerable to dementia as compared to other mental diseases.
2. There will be a negative correlation between the scores obtained on MMSE and duration of the depressive illness.

## METHOD

### *Sample*

Fifty-four dementia patients were selected from the Psychiatric and Neurological wards of Khyber Teaching Hospital, Peshawar through non-probability sampling technique ranging in age from 50-75 years. The formal

consent of the patients or their relatives was obtained before the commencement of the research. Patients with brain damage or injury, depression due to substance abuse were not included in the study.

***Measures***

1. In-depth interview
2. DSM-IV
3. Mini Mental State Examination

**In-depth Interview**

The need of in-depth interview in the present research is to elicit those stressful life events, which primarily makes their life awfully miserable and later on cause depression leading to dementia. Furthermore, this clinical tool was used to know the symptoms and time duration of depression.

**Mini Mental State Examination**

Mini Mental State Examination is the practical method for grading the cognitive state of patients for clinicians. Folstein has developed this test in 1975. Due to growing need of this test for cognitive assessment Dr.Waseem (Aziz, 2001) has brought few changes in accordance with our cultural requirement. This scale consists of 19 items and measures the following:

- Orientations of time and space
- Registration
- Attention and calculation
- Recall and language

***Procedure***

Quasi-experimental design was used. Mini Mental State Examination was administered on all the patients in order to diagnose and determine the severity of dementia, DSM-IV and in-depth interview were also carried out to find out the presence of concomitant features of depression. The duration and history of having depression was also ascertained through the said procedure. On the basis of the result obtained from these instruments the patients were bifurcated into two groups. Group I (N=25) consisted subjects with dementia, while group II (N=29) comprised of patients suffering from depression in addition to dementia.

*Statistical Analysis*

Frequencies, Percentages, and Pearson Product Moment Coefficient of Correlation were computed to analyze the data in statistical terminology

## RESULTS

**Table 1**
**Showing frequency distribution of accompanying symptoms with dementia**

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Depression | 29 | 53.7 | 53.7 | 53.7 |
| Manic | 2 | 3.7 | 3.7 | 57.4 |
| No other symptoms except dementia | 21 | 38.9 | 38.9 | 96.3 |
| Paranoid Schizophrenia | 2 | 3.7 | 3.7 | 100.0 |
| Total | 54 | 100.0 | 100.0 | |

**Fig. Average of psychological symptoms other than dementia**

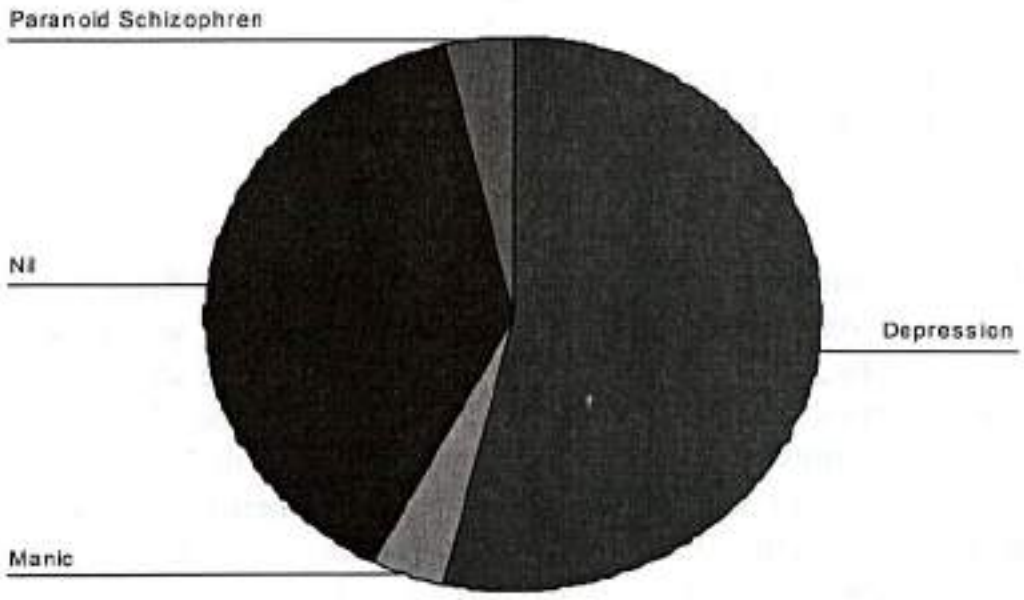

**Table 2**
**Correlation between Scores on MMSE (intensity of dementia) and duration of depressive illness**

| *r* | *sig* | *N* |
|---|---|---|
| -.582 | .001 | 29 |

## DISCUSSION

The present study reveals that 29 out of 54 dementia patients have a long history of depressive illness (Table 1). It means that about 66% of our sample had been suffering from depression prior to the onset of dementia. So, our first hypothesis is confirmed regarding the vulnerability of depressive patients towards dementia. The results (Table 2) further indicate that patients having a long history of depression were identified as severe demented patients; it means that there is an inverse relationship between the scores obtained on MMSE and duration of depression. These findings are in line with a study conducted by Ownby et al. (2006) which suggest that long history of depression may confer an increased risk for later developing Alzheimer diseases. Jorm (2001) also found relationship between history of depression and dementia. It also suggested that this relation may reflect an independent risk factor for the said diseases. In the light of the above-mentioned studies we can assume that depression can cause permanent changes in the brain which later on lead to dementia and other cognitive problems.

These results support our hypotheses but also raise some questions of serious nature, when studied in the light of neurotransmitters. The underlying chemistry of neurotransmitters in both the diseases is different but one seems to be the cause of another. It is believed that the level of dopamine, serotonin and norepinephrine are decreased during depressive illness (Whybrow, 1997), while dementia is caused by the suppression of another neurotransmitter known as acetylcholine. Then how depression can cause dementia. Do we suspect a cause and effect relationship here? Perhaps certain drugs used to raise the level of these neurotransmitters simultaneously manifesting it in lowering the activity of acetylcholine. On the other hand there is also a possibility that prolong symptoms of depression tend to condition the dementia.

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# MAJOR ATTRIBUTES OF THE PERSONALITY STUDIES: REVIEW OF DISSERTATIONS AND RESEARCH REPORTS SUBMITTED TO THE NATIONAL INSTITUTE OF PSYCHOLOGY, QUAID-I-AZAM UNIVERSITY, ISLAMABAD

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## ABSTRACT

*This study aims to explore the main features of the studies in the broad domain of personality psychology conducted at National Institute of Psychology, Quaid-I-Azam University. The sample consisted of 34 studies. Fourteen were M.Sc. research reports, 19 were M.Phil. dissertations, and only 1 was PhD. dissertation. Ten studies were of year 1987 to 1999 and 24 studies were completed during 2000 to 2007. There were 7279 participants in these 34 studies. In that, 5279 were men, one was transgender, and 1999 were women. Most commonly used personality measures were Urdu versions of CPI (Ahmad, 1986), NEO PIR (Chishti, 2002), and Mini Marker Personality Inventory (Manzoor, 2000). Researchers have analyzed data by using both descriptive as well as inferential statistics like mean, standard deviation, correlation, t-test, and ANOVA. Results of these studies supported that effect of different personality dimensions vary from situation to situation and from person to person.*

## INTRODUCTION

The research literature on the personality psychology is increasing with time. Keeping pace with the overwhelming amount of incoming data in personality psychology is very time consuming, if possible at all. We can come out of this problem if we have a database or a study presenting the combined facts of the studies in the field of personality psychology. Light and Pillemer

(1984) stated that it is useful to prepare databases in specific areas to describe the publication sources, samples studied, and instruments and statistics used. It is also useful to illustrate theses summaries by a histogram, or any other graph.

Petticrew (2001) stated that a good systematic review provides a precise and overall view of studies free of bias and personal judgments. This study aims to explore the main features of the studies in the broad domain of personality psychology conducted at National Institute of Psychology, Quaid-I-Azam University.

We selected the dissertations for this study because dissertation is an original, rigorous research work carried out by the students under supervision of the professionals. Primarily, the researcher conceives, perform, and document research work for the dissertation. In addition, researcher makes it understandable by using demonstrable facts, procedures and results, and by drawing conclusions and implications on the basis of facts (American Psychological Association, 2001).

Research is the systematic way of collecting, tabulating, and analyzing data and processing it to get useful information. Creswell (2003) stated that research is the systematic inquiry to discover, establish, or revise facts or theories, or reach new conclusions and the research method employed is dependent on the nature of the inquiry. Booth, Colomb, and Williams (2003) stated that researchers use different types of research methods to in different contexts. In some contexts, the research method involves a special type of controlled experiment; however, in other contexts, an independent survey may be more appropriate. There is no generally accepted classification of types of research. Researcher can use qualitative as well as quantitative methods or combination of both. It all depends on the objectives of the study.

The researchers study personality by using different ways by keeping in view the objectives of the study (Schultz & Schultz, 2001). In idiographic research approach, small sample is selected for detailed study to have general insights of the issue under consideration. In nomothetic approach, researchers analyze and compare a large sample of subjects statistically. Schultz and Schultz (2001) stated that three types of research methods used in personality research included the clinical method, the experimental method, and the correlational method. Researchers use both subjective as well as objective type of measurements to know the personality of participants. The present study

focuses on the evaluation of dissertations and research reports on the basis of facts related to personality. The aim of this review is to provide a comprehensive and contemporary appraisal of the studies in the field of personality psychology. The major sub objectives of the study were as follows:

i. To describe the nature of samples in studies
ii. To know the type of instruments used to measure personality
iii. To explore the major findings of the studies
iv. To identify the major statistical techniques used to achieve objectives of the studies.

## METHOD

### *Sample*

Population for the study consisted of PhD. dissertations, M.Phil. dissertations, and M.Sc. research reports submitted by students to fulfill the requirement of their degrees. Purposive sampling technique was used to select the dissertations and research reports for present study. The inclusion criterion was: a) Personality as one of the major variable of the study, b) Student has used objective measure to know the traits or attributes of the personality, c) The student has submitted the final copy of the dissertation or research report, d) Dissertation or research report is available at the library of National Institute of Psychology. The sample consisted of 34 studies. Fourteen of the studies were M.Sc. research reports, 19 were M.Phil. dissertations and only 1 was PhD. dissertation.

### *Study Design*

The study has been completed in three stages.

### *1. Pooling of Information*

We reviewed all the dissertations and research reports to pool out information into categories. For that summary tables of the data were constructed. The information was pooled out on the basis of nature of sample, method used, instruments used and their psychometric properties, nature of variables and type of statistics used to obtain results. Petticrew (2001) stated that some form of pooling of the information is sensible to make sense of the data from the eligible studies.

### 2. *Summary of Main Features of the Studies*

Summary of main features of each study was prepared, and then combined for all the dissertations in the form of tables. These summary tables included only personality related facts of the dissertations. The summary tables provided information about:

i. List of Dissertations Included in the Review
ii. Number of Studies Conducted in Each Year
iii. Sample Characteristics across the Dissertations
iv. Proportion of Men and Women participants in sample
v. Frequencies of Measures Used in dissertations
vi. Psychometrics to verify the usability of measurements
vii. Type of Statistics Used to Tabulate and Interpret Data

### 3. *Evaluation of the Dissertations and Research Reports*

Evaluation of the dissertations and research reports was based on the data derived from the stage 1 and 2. This phase of the study described following facts of the dissertations:

i. Research Design: Which type of research design has been used in these studies, and how these studies have been carried-out?
ii. Evaluation of the used personality measures.
iii. Relationship of personality traits with other variables of the studies: Does the whole personality relate to these variables or do some dimensions of the personality relate with these variables?
iv. Recommendations and suggestions for future studies.

## RESULTS

**Table** 1
**Dissertations and Research Reports Included in the Review (N = 34)**

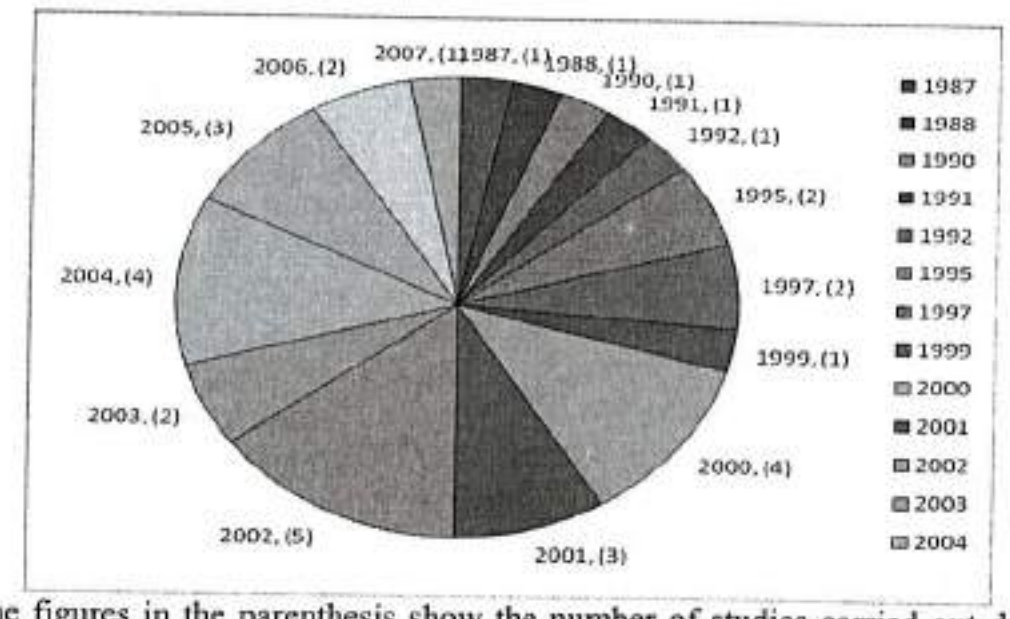
| Reference | Personality Measure | Subscales |
|---|---|---|
| Ashfaq (1987) | CPI (Ahmad, 1986) | So, Re, Sc |
| Altaf (1988) | CPI (Ahmad, 1986) | Socialization Scale |
| Agha (1990) | UTA (Agha, 1990) | Complete list |
| Tariq (1991) | CPI (Ahmad, 1986), ACL (Ansari, Farroqui, Yasmeen, Khan, & Farroqui, 1982) | So (CPI) |
| Shujaat (1992) | CPI (Ahmad, 1986) | Do, Cs, Sy, Re, Ai, Mp, Wo |
| Saleem (1999) | LAS (Akhtar, 1997) | Personality Attributes |
| Rana (1995) | ESPQ (Rana, 1995) | Complete Questionnaire |
| Butt (1997) | CPI (Ahmad, 1986) | All Folk Concept Scales |
| Riaz (1997) | CPI (Ahmad, 1986) | Sc, So |
| Burki (1999) | TABPS (Anjum & Khaliquee, 1991) | Complete Scale |
| Siddiqa (1999) | HSSDS (Naheed, 1988) | R, I, A, S, E, C |
| Ayub (2000) | Mini MPI (Manzoor, 2000) | E, Aa, C, Es, O |
| Manzoor (2000) | Mini MPI (Manzoor, 2000) | E, Aa, C, Es, O |
| Khan (2000) | PAQ (Rohner, 2000) | D, NSe, NSa, H, EU, EI, NWV |
| Malik (2001) | CPI (Malik, 2001) | Re, Ac, Ie, Mp, Wo |
| Ilyas (2001) | CPI (Ahmad, 1986) | Pwb, Sc, Wo |
| Masood (2001) | TABPS (Anjum & Khaliquee, 1991) | Aggression, Impatience, Competence |
| Chishti (2002) | NEO-PIR (Chishti, 2002) | A, E, C, O, N |
| Safdar (2002) | NEO-PIR (Chishti, 2002) | A, E, C, O, N |
| Tasmeera (2002) | NEO PIR (Chishti, 2002), CPI (Ahmad, 1986) | A, E, C, O, N & Fe, Ma (CPI) |
| Shiraz (2002) | MMPI (Mirza, 1977) | Complete inventory |
| Hameed (2002) | MMPI (Mirza, 1977) | Hypochondriasis, Depression |
| Akhtar (2003) | NEO-PIR (Chishti, 2002) | A, E, C, O, N |
| Naz (2003) | NEO-PIR (Chishti, 2002) | A, E, C, O, N |
| Ashraf (2004) | CPI (Ahmad, 1986) | Do, So, Re, In, Ai, |
| Ayub (2004) | Mini MPI (Manzoor, 2000) | E, Aa, C, Es, O |
| Taj (2004) | NEO-PIR (Chishti, 2002) | A, E, C, O, N |
| Ishaque (2004) | MMPI (Mirza, 1977) | Complete inventory |
| Safdar (2005) | TABPS (Khaliquee, 1991) | Complete Scale |

| | | |
|---|---|---|
| Sawar (2005) | STPI (Sawar, 2005) | Emotional Stability |
| Dar (2005) | PAQ (Haq, 1987) | Psychological Adjustment |
| Basir (2006) | Mini MPI (Manzoor, 2000) | E, Aa, C, Es, O |
| Shahid (2006) | Mini MPI (Manzoor, 2000) | E, Aa, C, Es, O |
| Naqvi (2007) | EPQ (J) (Naqvi, 2007) | E, N, P, L |

*Note:* In Scales column references of translated and adapted versions of original scales have been given as these were used in studies. Full names of abbreviations of these scales are given at end of Graph 2. and In Subscale Column: CPI Scales: So = Socialization Scale; Re = Responsibility Scale, Sc = Self control Scale, Do = Dominance Scale, Cs = Capacity for status; Sy = Sociability; Mp = Managerial Potential; Wo = Work orientation, In = Independence Scale; Ai = Achievement via Independence; Ac = Achievement via Conformance; Ie = Intellectual Efficiency; Fe = Feminity; & Ma = Masculinity Scales, In RIASEC: R = Realistic; I = Investigative; A = Artistic; S = Social; E = Enterprising; & C=Conventional. In Mini Maker Personality Inventory: E=Extraversion; Aa=Agreeableness; C = Conscientiousness; Es = Emotional Stability; & O = Openness. In PAQ: D = Dependency; NSe = Negative Self esteem; NSa = Negative Self adequacy; H = Hostility; EU = Emotional Unresponsiveness; EI = Emotional Instability; NWV = Negative World View, And in NEO-PIR: A = Agreeableness; E = Extraversion; C = Conscientiousness; O = Openness to experience; & N = Neuroticism. In EPQ: E = Extraversion; N= Neuroticism; P= Psychoticism; L= Lie.

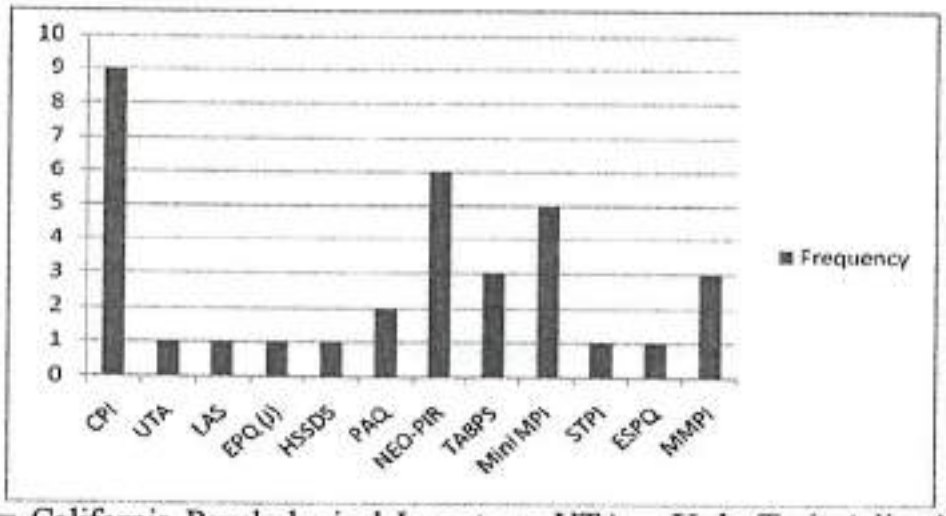
**Graph 1**

**Pie Chart Showing Number of Studies in Each Year (N = 34)**




*Note:* The figures in the parenthesis show the number of studies carried out during the year.

**Graph 2**
**Frequencies of Personality Measures Used (N = 34)**




*Note:* CPI = California Psychological Inventory; UTA = Urdu Trait Adjectives; LAS= Leadership Assessment Scale; ACL = Adjective Check List; ESPQ = Early School Personality Questionnaire; HSSDS = Holland Scale of Self Directed Search; Mini MPI = Mini Marker Personality Inventory; PAQ = Personality Assessment Questionnaire; TABPS = Type A behavior Pattern Scale; NEO-PIR = NEO Personality Inventory Revised; MMPI = Minnesota Multiphasic Personality Inventory; STPI = State Trait Personality Inventory; & EPQ (J) = Eyseneck Personality Questionnaire (Junior).

Table 1 displays a summary of the dissertations included in the sample. Most of the dissertations were submitted after year 2000. More personality related studies (Ashraf, 2004; Ayub, 2004; Chishti, 2002; Safdar, 2002; Taj, 2004; Tasmeera, 2002) were conducted in the year 2000, 2002, and 2004. Pie chart (Graph 1) shows that ten of studies were of year 1987 to 1999 and 24 studies were completed during 2000 to 2007. In these studies, 11 types of personality measures have been used to determine the personality traits of participants. California Psychological Inventory is used in 9 dissertations. Butt (1997) used all the scales of CPI, while Ashfaq (1987), Ashraf (2004), Malik (2001), Riaz (1997), and Tasmeera (2002) administered few scales of CPI in their studies. Mini Marker Personality Inventory and NEO Personality Inventory Revised Urdu Version have been administered in 5 studies each. Minnesota Multiphasic Personality Inventory has been used in three studies.

**Table 2**
**Sample Description and total sample of each study (N = 34)**

| Reference | Sample Description | Early Phases | Main Study | Total Sample |
|---|---|---|---|---|
| Ashfaq (1987) | Women with Hysteria | 0 | 30 | 30 |
| Altaf (1988) | Adolescent Delinquents | 0 | 150 | 150 |
| Agha (1990) | Post graduate students | 120 | 754 | 874 |
| Tariq (1991) | Adult Criminals | 0 | 570 | 570 |
| Shujaat (1992) | Managers (Pvt. Org.) | 25 | 98 | 123 |
| Saleem (1999) | Managers (Pvt. Org.) | 0 | 50 | 50 |
| Rana (1995) | Primary Class Students | 0 | 60 | 60 |
| Butt (1997) | Army Personnel | 0 | 360 | 360 |
| Riaz (1997) | Adult Murderers | 0 | 180 | 180 |
| Burki (1999) | Government Employees | 0 | 45 | 45 |
| Siddiqa (1999) | Working Women | 0 | 120 | 120 |
| Ayub (2000) | University Students | 0 | 154 | 154 |
| Manzoor (2000) | College Students | 195 | 80 | 275 |
| Khan (2000) | 7th class students | 50 | 66 | 116 |
| Malik (2001) | Post graduate teachers | 0 | 100 | 100 |
| Ilyas (2001) | University Teachers | 0 | 80 | 80 |
| Masood (2001) | Working men and women | 0 | 100 | 100 |
| Chishti (2002) | Air force cadets | 120 | 215 | 335 |
| Safdar (2002) | M.Sc. Students | 6 | 60 | 66 |
| Tasmeera (2002) | Transgender | 0 | 1 | 1 |
| Shiraz (2002) | Adult Murderer | 0 | 1 | 1 |
| Hameed (2002) | Psychiatric Patients | 0 | 60 | 60 |
| Akhtar (2003) | Smoker & Non smoker Adults | 0 | 60 | 60 |
| Naz (2003) | Conversion patient | 0 | 1 | 1 |
| Ashraf (2004) | Air force officers | 120 | 143 | 263 |
| Ayub (2004) | Young and middle adult hood | 40 | 1133 | 1173 |
| Taj (2004) | Working women | 0 | 60 | 60 |
| Ishaque (2004) | Murderers | 0 | 110 | 110 |
| Safdar (2005) | Emergency Services Personnel | 40 | 240 | 280 |
| Sawar (2005) | Adults | 60 | 250 | 310 |
| Dar (2005) | Children | 42 | 300 | 342 |
| Basir (2006) | University Teachers | 0 | 40 | 40 |
| Shahid (2006) | Cellular companies employers | 40 | 300 | 340 |
| Naqvi (2007) | Child Labour | 200 | 250 | 450 |
| Total | | 1058 | 6221 | 7279 |

*Note:* Early Phases refers to pilot study or stage 1 and stage 2 of the research before the main study.

Table 2 shows that there is heterogeneity in the nature of samples studied in these dissertations and research reports. Personality traits of persons from different fields of life like Armed forces personnel (Ashraf, 2004; Butt, 1997; Chishti, 2002); students (Ayub, 2000; Manzoor, 2000; Safdar, 2002); teachers (Basir, 2006; Malik, 2001); women (Siddiqa, 1999; Taj. 2004); and transgender (Tasmeera, 2002) have been assessed in these dissertations and research reports. There were 7279 participants in these 34 studies. Most of the studies were completed in single phase while 13 studies were completed in more than one phase. Most of the participants (6371, average 191 in each study) were part of the main study of the dissertations and research reports. While in 13 studies, 908 participants (average, 69 in each study) took part in earlier phases of the study. On the basis of sample, 8 studies can be include into broad domain of Abnormal psychology, 10 in Organizational Psychology, 11 in Educational Psychology, and 4 in Social Psychology.

**Table 3**

**Number of men and women in each study along their average age in each study (N = 34)**

| Reference | Men | Women | Average age (in years) |
|---|---|---|---|
| Ashfaq (1987) | 0 | 30 | Not given |
| Altaf (1988) | 150 | 0 | 14-19 years |
| Agha (1990) | 450 | 424 | Not given |
| Tariq (1991) | 570 | 0 | Not given |
| Shujaat (1992) | 123 | 0 | 24-59 years |
| Saleem (1999) | 50 | 0 | 20-56 years |
| Rana (1995) | 60 | 0 | 08-17 years |
| Butt (1997) | 360 | 0 | 18-49 years |
| Riaz (1997) | 180 | 0 | Not given |
| Burki (1999) | 37 | 8 | Not given |
| Siddiqa (1999) | 0 | 120 | Not given |
| Ayub (2000) | 77 | 77 | 18-24 years |
| Manzoor (2000) | 235 | 40 | 16-20 years |
| Khan (2000) | 83 | 33 | 11-14 years |
| Malik (2001) | 48 | 52 | 30-56 years |
| Ilyas (2001) | 40 | 40 | 25-45 years |
| Masood (2001) | 50 | 50 | 33.7 (mean age in years) |
| Chishti (2002) | 335 | 0 | 17-24 years |
| Safdar (2002) | 30 | 36 | 20-24 years |
| Tasmeera (2002) | 0 | 0 | Not given |
| Shiraz (2002) | 1 | 0 | 32 years |

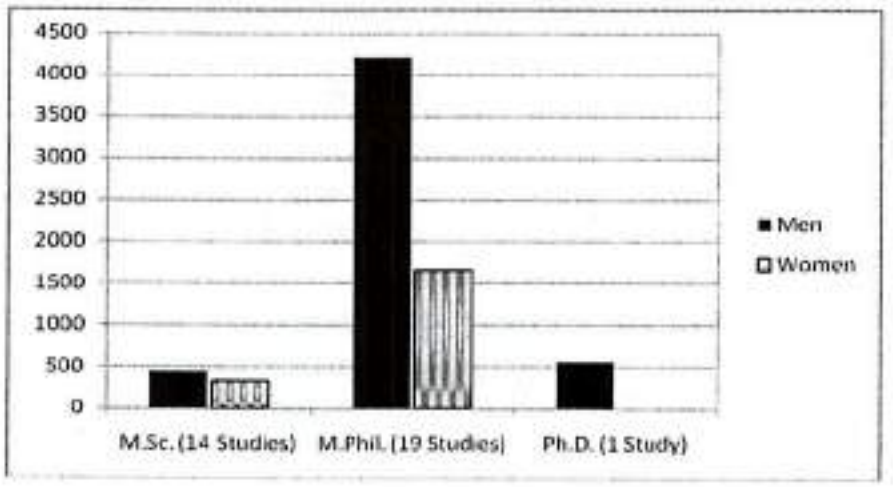
| | | | |
|---|---|---|---|
| Hameed (2002) | 30 | 30 | 21-25 years |
| Akhtar (2003) | 60 | 00 | 18-26 years |
| Naz (2003) | 0 | 1 | Not given |
| Ashraf (2004). | 263 | 0 | 23-53 years |
| Ayub (2004) | 624 | 549 | 17-25,50 & above years |
| Taj (2004) | 0 | 60 | 20-50 years |
| Ishaque (2004) | 75 | 35 | Not given |
| Safdar (2005) | 280 | 0 | Not given |
| Sawar (2005) | 189 | 121 | 20-59 years |
| Dar (2005) | 174 | 168 | 7-13 years (children) |
| Basir (2006) | 40 | 0 | 26-60 years |
| Shahid (2006) | 215 | 125 | 23-43 years |
| Naqvi (2007) | 450 | 0 | 11-17 years |
| Total | 5279 | 1999 | |

There were 5279 men (average 158 in each study) and 1999 women (average 61 in each study) in 34 studies. The age range of the participants in many studies (Ashraf, 2004; Basir, 2006; Saleem, 1999; Taj, 2004) was 20 to 50 years. While, Altaf (1988), Manzoor (2000), Naqvi (2007), and Rana (1995) have studied the personality traits of adolescents in their work, Dar (2005) studied the personality traits of school going children with an age range of 7 to 13 years.

**Table 4**
**Sample Distribution of the Studies With respect to Gender of Subjects (N = 34)**

| | **Men** | **Women** | **Total** |
|---|---|---|---|
| **M.Sc. (14 Studies)** | 498 (60%) | 335 (40%) | 833 |
| **M.Phil. (19 Studies)** | 4211 (72%) | 1664 (28%) | 5875 |
| **PhD. (1 Study)** | 570 (100%) | 0 | 570 |
| **Total** | 5279 (72%) | 1999 (28%) | 7278 |

**Graph 3**
**Proportion of Men and Women (N = 34)**




M.Sc research reports have small sample size (834 participants, average 60 in each study) as compared to M.Phil. dissertations (5875, average 309 in each study). Proportion of women participants is 43 % in M.Sc. research reports, while in M.Phil dissertations only 28% participants were women.

**Table 5**
**Psychometric Measures to verify the usability of Tests in the Studies (N = 34)**

| Reference | Psychometrics Used |
|---|---|
| Ashfaq (1987) | None |
| Altaf (1988) | None |
| Agha (1990) | Item Total Correlations, Alpha Reliability Coefficient, Inter scale correlations. |
| Tariq (1991) | Inter Sclaes Correlation, Subscales correlation |
| Shujaat (1992) | K-R 20, Sub Sclaes Correlation |
| Saleem (1999) | Alpha Reliability Coefficient |
| Rana (1995) | Discriminant validity |
| Butt (1997) | K-R 20, Inter-correlation of Subscales |
| Riaz (1997) | Alpha Reliability Coefficient |
| Burki (1999) | K-R 20, Inter Sclaes Correlation |
| Siddiqa (1999) | Item Total Correlations, K-R 20, Inter scale correlations, Subscale Correlations |

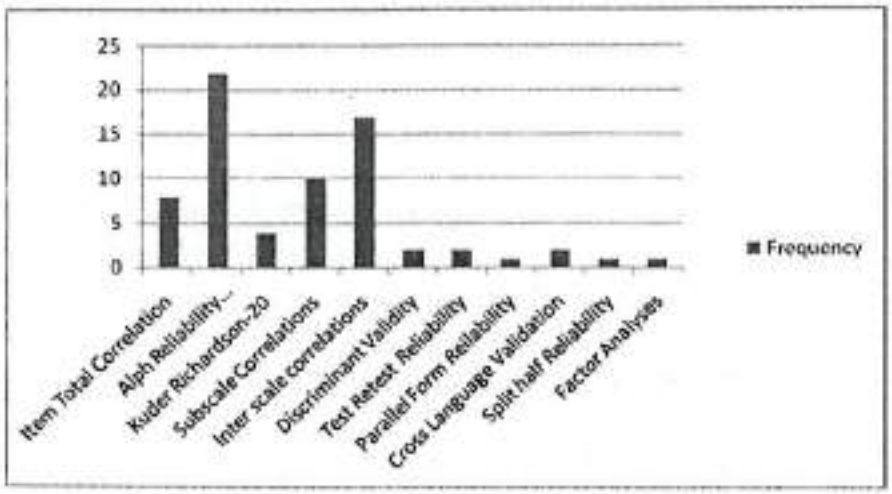
| | |
|---|---|
| Ayub (2000) | Alpha Reliability Coefficient, Inter scale correlations, Subscale Correlations |
| Manzoor (2000) | Item Total Correlations, Alpha Reliability Coefficient, Inter scale correlations, Test Retest Reliability, Parallel Form Reliability, Empirical Equivalence |
| Khan (2000) | Alpha Reliability Coefficient, Inter Scales Correlation, Subscales Correlation, Content Validity |
| Malik (2001) | Alpha Reliability Coefficient, Inter scale correlations |
| Ilyas (2001) | Alpha Reliability Coefficient, Inter Scales Correlation, Subscales Correlation |
| Masood (2001) | Alpha Reliability Coefficient, Inter Scales Correlation |
| Chishti (2002) | Item Total Correlations, Alpha Reliability Coefficient, Inter scale Correlations, Inter Facet Correlations, Convergent and Discriminant Validity with ACL, Cross Language Validation. |
| Safdar (2002) | Alpha Reliability Coefficient |
| Tasmeera (2002) | None |
| Shiraz (2002) | None |
| Hameed (2002) | Alpha Reliability Coefficient |
| Akhtar (2003) | Alpha Reliability Coefficient |
| Naz (2003) | None |
| Ashraf (2004). | Alpha Reliability Coefficient, Inter scale correlations |
| Ayub (2004) | Alpha Reliability Coefficient of scale and subscales, Subscale Correlations, Inter scale correlations. |
| Taj (2004) | Alpha Reliability Coefficient |
| Ishaque (2004) | None |
| Safdar (2005) | Item Total Correlations, Alpha Reliability Coefficient |
| Sawar (2005) | Item Total Correlations, Alpha Reliability Coefficient, Inter scale correlations, Split Half Reliability coefficient |
| Dar (2005) | Alpha Reliability Coefficient, Inter Scales Correlation |
| Basir (2006) | Alpha Reliability Coefficient of scale and subscales |
| Shahid (2006) | Item Total Correlations, Alpha Reliability Coefficient, Inter scale correlations |
| Naqvi (2007) | Item Total Correlations, Alpha Reliability Coefficient, Inter scale correlations, Test Retest Reliability, Cross language validation |

In most of the studies (Ashraf, 2004; Ayub, 2004; Chishti, 2002; Safdar, 2002; Saleem,1999; Shahid, 2006; Taj, 2004) psychometrics of the instruments have been determined before the main study of variables. Type of the psychometric tests used in a study depends on the objectives of the study. Those

researchers who were interested in translation and adaptation of test have used more type of psychometric measures. For example, Chishti (2002) used Item Total Correlations for Each Domain, Alpha Reliability Coefficient for each domain and its facets, Inter scale Correlations, Inter Facet Correlations, Convergent and Discriminant Validity with ACL and Mean, S.D to assess Urdu Version of NEO-PIR (Form S). Similarly, Naqvi (2007) found Item Total Correlations, Alpha Reliability Coefficient, Inter scale correlations, Test Retest Reliability, Cross language validation for Urdu Version of Eyseneck Personality Questionnaire Junior.

While those researchers (Ashraf, 2004; Ayub, 2004; Basir,2006; Malik, 2001; Riaz, 1997; Safdar, 2002; Saleem, 1999; Taj 2004) who were using indigenous translated scales have found Alpha Reliability Coefficients only to assess the reliability of the scales for the sample. There was an ambiguity in determining the psychometric properties of California Psychological Inventory. Ashraf (2004), Malik (2001) and Riaz (1997) have found Alpha Reliability Coefficients for California Psychological Inventory, while Butt (1997) has found K-R-20 as a measure of reliability. In all the dissertations, the values for all the measured psychometrics were in acceptable range.

**Graph 4**
**Frequencies of Usage of Psychometric Measures (N = 34)**




Graph 4 shows that alpha reliability, inter scale correlations, and subscale correlations were frequently used psychometric measures in these studies. While, only one or two researchers used discriminant validity, test retest reliability, split half reliability, factor analyses and parallel form reliability in their studies.

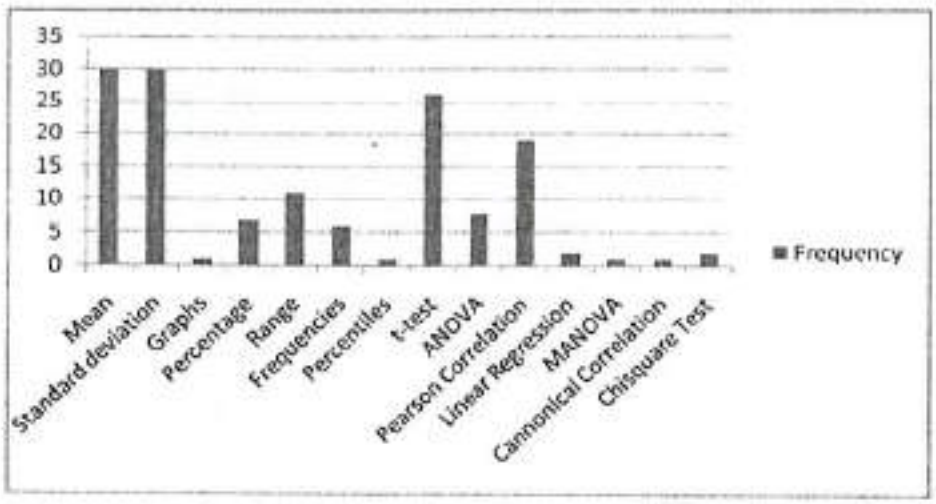
**Table 6**
**Type of Statistics Used to Tabulate and Interpret Data (N = 34)**

| Reference | Statistics Used to Tabulate and Interpret Data |
|---|---|
| Ashfaq (1987) | Frequencies, mean, standard deviations, t-test |
| Altaf (1988) | Frequencies distribution, t-test, Profile of male norms |
| Agha (1990) | Means, Standard deviations |
| Tariq (1991) | Frequencies, Percentages, means, standard deviations, t-test, Pearson correlations |
| Shujaat (1992) | Frequencies, Percentages, means, standard deviations, t-test, Pearson correlations |
| Saleem (1999) | Frequencies, means, standard deviations |
| Rana (1995) | Means, standard deviations, t-test, Cannonical Correlations, MANOVA TEST |
| Butt (1997) | Pearson correlations, means, range, standard deviations, ANOVA |
| Riaz (1997) | Pearson Correlations, range, Means, standard deviations, t-test, ANOVA, Linear Regression, Graphs |
| Burki (1999) | Means, standard deviations, t-test, Correlations |
| Siddiqa (1999) | Pearson Correlations, range, Means, standard deviations, Chi-square, t-test, ANOVA |
| Ayub (2000) | Percentages, means, standard deviations, t-test, Pearson correlations |
| Manzoor (2000) | Pearson Correlations, range, Means, standard deviations, Chi-square, t-test |
| Khan (2000) | Means, standard deviations, t-test, Correlations |
| Malik (2001) | Means, standard deviations, t-test, ANOVA |
| Ilyas (2001) | Means, standard deviations, t-test, Correlations |
| Masood (2001) | Means, standard deviations, t-test, Correlations |
| Chishti (2002) | Pearson Correlations, range, means, standard deviations, t-test, |
| Safdar (2002) | Pearson Correlations |
| Tasmeera (2002) | Total Score on Each Domain of NEO-PIR and Scale of CPI |
| Shiraz (2002) | t-score |
| Hameed (2002) | Means, standard deviations, t-test |
| Akhtar (2003) | Means, standard deviations, t-test. |
| Naz (2003) | Total Score on Each Domain of NEO-PIR |
| Ashraf (2004) | Percentages, means, standard deviations, t-test, Pearson correlations, Range |
| Ayub (2004) | Frequencies, Percentages, means, standard deviations, range, t-test, Pearson correlations |

| | |
|---|---|
| Taj (2004) | t-test, mean, standard deviations |
| Ishaque (2004) | Frequencies, Percentages, means, standard deviations, t-test, t-scores |
| Safdar (2005) | Pearson Correlations, range, Means, standard deviations, t-test, ANOVA, Percentiles |
| Sawar (2005) | Means, standard deviations, t-test, ANOVA |
| Dar (2005) | Means, standard deviations, t-test, Correlations |
| Basir (2006) | Means, standard deviations, t-test, range, Pearson correlations |
| Shahid (2006) | Pearson Correlations, range, Means, standard deviations, t-test, ANOVA, Regression |
| Naqvi (2007) | Pearson Correlations, Range, Means, standard deviations, t-test, ANOVA, Linear Regression, Graphs |

Researchers have used both descriptive as well as inferential statistics to tabulate, test, and interpret data in their respective studies. Descriptive statistics used in these dissertations and research reports included means, standard deviations, graphs, total scores, percentages, frequencies, range, and percentiles. Inferential statistics used in these studies included t-test, one way analyses of variance, correlation, linear regression, and chi-square test.

**Graph 5**
**Frequencies of Usage of Statistics (N = 34)**




The graph 5 shows that the most frequently used statistical methods were means, standard deviations, t-test, Pearson correlation, and one-way analyses of variance. While some researchers used graphs, frequencies, percentiles, linear regression, MANOVA, canonical correlation and chi-square to explore and interpret data.

## DISCUSSION AND CONCLUSION

Psychologists and researchers study personality in different ways. Overwhelming amount of incoming data in personality psychology researches is the fact of the day. Therefore, there is need to have a database presenting facts of the earlier studies. The present study aims to explore the features of personality related 14 research reports and 20 dissertations submitted to National Institute of Psychology Quaid-I-Azam University by PhD., M.Phil., and M.Sc. students.

The study consisted of three stages. In the first stage, the information was pooled out on the basis of nature of sample, method used, instruments used and their psychometric properties, nature of variables, type of statistics used to obtain results, and major results of these studies related to personality. In the second stage, the researchers focused on preparing the summaries of main features of the study. Moreover, in the third stage, the researchers evaluated the studies on the basis of information obtained in stage 1 and stage 2.

Most of the studies (Ashraf, 2004; Ayub, 2000, 2004; Basir, 2006; Butt, 1997; Malik, 2001) are correlational as researchers have tried to assess the relationship of personality with other variables. These studies have been completed in two stages. In the first stage, the researchers have assessed the psychometric properties of the instruments for their samples. And in the second stage (main study), researchers have collected the data by administering objective measures to the participants. Then they have used different type of descriptive and inferential statistics to analyze data and interpret information. One of the limitations of these correlational studies is that these do not provide cause and effect relationship between the variables. Saleem (1999) and Siddiqa (1999) have used Leadership Assessment Scale (Akhtar, 1997) and Holland Scale of Self-Directed Search (Naheed, 1988) respectively to assess personality profile in their studies.

Naz (2003), Shiraz (2002), and Tasmeera (2002) have used case study approach to assess the personality profile of a conversion patient, murderer and a transgender respectively. They have used both subjective as well as objective measures to assess the personality of a single subject. They have completed their study in one stage (main study). They have relied on existing psychometric properties of the personality measures. One of the limitations of these studies is that the results of these studies can not be generalized to others, although these studies have their own significance of being an in depth study. Future studies can be based on the findings of these two studies.

In most of the dissertations (Ashraf, 2004; Ayub, 2000, 2004; Basir, 2006; Butt, 1997; Chishti, 2002; Malik, 2001; Naqvi, 2007; Safdar, 2002) valid and reliable personality measures have been used. The researchers have also translated and adapted well known personality measures for Pakistani population into Urdu. For example, Chishti (2002) translated and adapted NEO-PIR. Manzoor (2000) translated and adapted Mini Marker Personality Inventory and Naqvi (2007) have translated and adapted Junior Eyeseneck Personality Questionnaire. Malik (2001) translated and adapted five subscales (Responsibility, Managerial Potential, Work orientation, Achievement via Conformance, Intellectual efficiency) of California Psychological Inventory. These researchers completed their studies in four to five stages because of translation and adaptation process. They have really made a solid contribution by translating and adapting these measures into Urdu for Pakistani population. However, they were unable to develop norms for these tests in Pakistani population due to the limitations of time and resources. Now it is the responsibility of researchers interested in personality psychology to come forward and develop norms of these translated and adapted versions of the personality measures for Pakistani population.

Researchers have also determined the association and effects of personality dimensions to many other variables in the fields of organizational, abnormal, educational, and social psychology. Results of these studies have supported the idea that effect of different personality dimensions vary from situation to situation and from person to person.

Shujaat (1992) found that successful and unsuccessful executives differed significantly in terms of personality profile. Siddiqa (1999) found that the women in nontraditional occupations have high level of congruence among their personality and occupations than women in traditional occupations. She also found that Employees of national and multinational differ in culture and personality traits and organizational culture is not associated with personality traits. Ashraf (2004) found no difference in personality traits among aviators and non aviators, and among junior and senior air force officers. Ashraf (2004) also found that increase in age results increase in score on extraversion, decrease in score on lie, and no change for psychoticism and neuroticism with age. Butt (1997) studied the difference among high religious and low religious groups on California Psychological Scales and correlations of CPI scales with index of religiosity. He found that high religiosity was positively correlated with socialization, self control, work orientation, achievement via conformance and

leadership. He found that CPI scales were positively correlated with high religiosity. Safdar (2005) found that emergency service providers were having more type A traits and type A has significant correlation with occupational role stress.

Altaf (1988) developed profile of delinquents and non delinquents on socialization scale of CPI and he proposed a cut off score of 34. Naqvi (2007) reported that extraversion, neuroticism, and psychoticism contribute to self-reported delinquency in adolescents.

Khan (2000) found that parent child interaction accounts for child's feeling of loneliness and there is positive relationship between parent child interaction and personality dispositions. There is only one cross cultural study (Dar, 2005), in which objective personality test has been used. Dar (2005) studied Pakistani families and USA families. She found that children of United States have more negative attributes than children of Pakistan. US children were found to be more aggressive, emotionally instable, and had negative view of the self and the world. Pakistani children were found to be dependent upon others. She found that children of well coping parents have positive personality traits. Rana (1995) found that pass students face less school related personality problems than that of fail students.

Tariq (1991) studied three personality characteristics (socialization, self-esteem and acting out behavior). Tariq (1991) stated that non professional criminals scored low on socialization scale than professional criminals. Moreover, non professional criminals have higher positive self-esteem than professional criminals. Riaz (1997) found that there were significant differences among socialized murderer and socio-pathic murderer on socialization and self control scales of California Psychological Inventory. Socialized murderers were those who committed murder because of social dispute or social interaction, while socio-pathic murderers were those who committed murder because of personal reasons. Ishaque (2004) stated that both men and women murderers had tendencies of psychopathology and tendency of paranoia was more prevalent among them.

Ashfaq (1987) found significant differences among women with conversion reaction and women with neurotic symptoms on the sociability scale, responsibility scale, succorance, abasement, Intelligence, and stability. Masood (2001) found that people who had low type A behavior pattern were high on perceived social

support. Hameed (2002) stated that normal men were more depressed and hypochondrical than normal women. Hameed (2002) also found that patients were more depressed and hypochondrical than normal participants. Ayub (2004) stated that hopelessness, life orientation, social support, agreeableness and emotional stability positively correlate with suicide ideation. Sawar (2005) studied adults and found that there is significantly high relationship between resilience, emotional stability, and self-regulation. Sawar (2005) found no significant gender differences on emotional stability and self-regulation. Sawar (2005) also stated that there are significantly gender differences on the scores of state resilience, and trait resilience.

Ilyas (2001) found that personality attributes such as psychological well being, self control and work orientation have significant positive relationship in a sample of university teachers. Malik (2001) found that differences between male post graduate teachers and female post graduate teachers were significant on achievement, intellectual efficiency, and managerial potential scales of California Psychological Inventory. While there was no difference among men and women on responsibility and work orientation scales.

All the above correlational studies show that different groups of sample have significant differences on various types of personality dimensions. There is need to explore the reason of these differences in future studies.

In these dissertations and research reports, the researchers have made some main contributions in the personality research at national level. They have provided base to the national researchers by translating and adapting well-known personality inventories into Urdu. They have introduced new areas for personality studies by studying heterogeneous groups of population. They have shown that association between personality dimensions and other variables is meaningful and they have proved it by the findings of inferential statistics.

However, there is a need to make improvement in many aspects of the personality researches. In these studies, most of the participants were men (72 %) as compared to women (28%). There is need to maintain gender balance in future studies in the field of personality. The researchers have translated and adapted popular personality inventories into Urdu. Now researchers should focus on developing norms of these translated inventories for Pakistani population.

These studies have assessed the relationship of personality dimensions with other variables. There are still many other areas in the domain of personality psychology that needs to be explored in detail in our society. First, there is need

to conduct studies to test the theories of personality. The future studies should focus on different aspects of theories like how theories are shaped, modified, elaborated, or discarded. Second, the researchers should conduct studies in other areas of personality like personality development, and impact of heredity on personality, and issue of stability and change in personality.

To study successful personality development there are three general approaches available to researchers: growth models, life-span models, and life-course models. Growth models of personality development are based on different traditions and conceptual back grounds. Life-span personality development is concerned with three major influences: age-graded influences (e.g., education) which shape individual development; history-graded influences (e.g., wars) which make development different across historical periods and non-normative influences (e.g., accidents) which may have powerful effects on an individual's development. Further, social trajectories are influenced by four factors in the life course. First, they are influenced by human agency, the timing of life-course events in relation to other events in life, linked lives or through the experiences of related others and by historical changes (Roberts & DelVecchio, 2000).

Researchers should also study the stability or change in personality. There is ongoing debate concerning when in the life course personality traits stop changing. Costa and McCrae (as cited in, Robins, Fraley, Roberts, & Trzesniewski, 2001) have argued that personality does not change after the age 30. However, Erickson (as cited in, Robins et al., 2001) stated that personality continues to develop during young adulthood and several longitudinal studies have found meaningful changes in personality during this stage of life.

In most of the dissertations and research reports, researchers have tried their level best to take care of all theoretical and methodological issues in these dissertations at individual level. However, this review has revealed certain facts at collective level that should be considered by the personality researchers in their studies. In this review, we have only considered those studies that were directly measuring personality attributes by using objective measures. Further, researchers should review other indigenous personality studies related to emotional intelligence, subjective personality measures, self-efficacy, self-esteem and emotional stability to summarize and comprehend the findings of these studies.

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# BODY IMAGE DISSATISFACTION AS AN INDICATOR OF LOW SELF-ESTEEM AND DISTURBED EATING ATTITUDE IN ADULTS

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## ABSTRACT

*The present research was conducted in order to assess the relationship of body image dissatisfaction with low self-esteem and disturbed eating attitude in adults. After detailed literature review certain hypotheses were formulated: (1) There would be a negative relationship between body image dissatisfaction and self-esteem in adults. (2) There would be a positive relationship between body image dissatisfaction and disturbed eating attitude in adults. The sample of the research consisted of 50 males and 50 females with an age range of 20-25 years, belonging to middle class socioeconomic status and with the qualification of at least graduation. Body image dissatisfaction was measured by the Body-Esteem Scale-Revised (BES; Mendelson, White, & Mendelson, 1998); Self-esteem was measured by using the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965), while Eating attitude was measured using the Eating Attitude Test (EAT; Garner & Garfinkel, 1979). Data analysis was done using Pearson Product Moment Coefficient of Correlation. The results were consistent with the first hypothesis as body image dissatisfaction was negatively correlated with self-esteem ($r=-.293$, $p<.05$). The results were inconsistent with the second hypothesis as insignificant correlation was found between body image dissatisfaction and eating attitude($r=.106$, $p>.05$).*

## INTRODUCTION

Anxiety about body image, body shape or size begins early in an individual's life. Body image is a term which may refer to the perception of a human's own physical appearance, or the internal sense of having a body which is interpreted by the brain. Essentially a person's body image is how they perceive their exterior to look, and in many cases this can be dramatically different from how they actually appear to others (Wikipedia, 2008).

It has also been defined as the cognitive experience of the physical self (West-Smith, 1997) and the perception or attitude one has regarding the appearance of his or her body (Garber, 1999, p. 3555). Some examples of the dimensions encompassing body image are: perception, attitude, cognition, behavior, affect, fear of fatness, body distortion, body dissatisfaction, cognitive-behavioral investment, evaluation, preference for thinness, and restrictive eating (Brown, Cash, & Mikulla, 1990).

Body image, according to Cash (2004), is the multifaceted psychological experience of embodiment, especially but not exclusively one's physical appearance. Body image is viewed as a loose mental representation of body shape, size, and form which is influenced by a variety of historical, cultural, and social, individual, and biological factors, that operate over varying time spans (Slade, 1994).

Body image dissatisfaction is almost found in all societies. In a survey, it has been found that 56% of the women and about 40% of the men were dissatisfied with overall appearance (Psychology Today, 1997).

Negative feelings towards a person's body can lead to psychological problems and mental disorders. Though, there can be a variety of different reasons why psychological problems or mental disorders occur, but the construct of body image has captured the attention of many researchers. It has been suggested that body image dissatisfaction can lead to depression, social-evaluative anxiety, sexual difficulties, poor self-esteem (Cash & Pruzinsky, 1990) and eating disorders (Cash & Lavallee, 1997). Several studies which focused on the major trends toward increased body-image dissatisfaction and its effects on self-esteem and eating disturbances among adult have found that body dissatisfaction and body distortion are strong predictors of both mild and severe eating disturbances and low self-esteem (Cattarin & Thompson, 1994; Manley, Rickson, & Standeren, 2000; Stice, 2001).

Self-esteem refers to an individual's sense of his or her value or worth, or the extent to which a person values, approves of, appreciates, prizes, or likes him or herself (Blascovich & Tomaka, 1991). The most broad and frequently cited definition of self-esteem is given by Rosenberg (1965), who described it as a favorable or unfavorable attitude toward the self. Most people experience low self-esteem at some point in their life (e.g. if they lose their job or relationship) but they can also experience high self-esteem at other points in their life (e.g. if they are promoted, successfully complete a challenge or fall in love). Although, there have been numerous factors that leads to poor self esteem, but one that has been receiving increased attention is body image. Body image dissatisfaction is closely linked to self-esteem which is also one of the objectives of the present research.

Body image evaluations have significant implications for the more global evaluations of the self and for self-esteem. Correlations between perceived appearance and self-esteem are typically reported to be as high as .70–.80 (Bull & Rumsey, 1988; Harter, 1993). Likewise, Wichstrom (1995) reported that perceived obesity is associated with depression and unstable self-perception in the general adult population. Ross (1994) found that feeling about one's self may be shaped by the attitudes of others those who are over weight may suffer from low self-esteem and have high level of depression. In addition, Cash (1986) found that body satisfaction or physical self-esteem is closely associated with more global feelings of self-esteem.

Body dissatisfaction is often what is meant when you hear or see the words body image (Thompson, 2004). It refers to the subjective component of how satisfied or, more often, dissatisfied individuals are with their body (Thompson et al., 1999). Body image has been demonstrated to be the most important factor in the development of eating disturbances and disorders (Hoyt & Kogan, 2001).Stice (2002) concluded that body dissatisfaction is "one of the most consistent and robust risk and maintenance factors for eating pathology" (pp. 832-833).

Disordered eating can be defined as a wide spectrum of harmful and often ineffective eating behaviors used in attempts to lose weight or achieve a lean appearance (American College of Sports Medicine, 1997). The concept of a disordered eating continuum has been proposed (Mintz & Betz, 1988) that ranges from normal eating behavior to the clinically diagnosed eating disorders of anorexia nervosa and bulimia nervosa.

Mangrum (1997) differentiated between four subtypes of eating: normal/unrestrained eaters, restrained eaters, distressed restrained eaters, and clinically eating disordered. While Hesse-Biber (1989) considered another variable in determining intermediary groups, the individual's concern about their pattern of behavior. Accordingly, five categories were developed including ideal, dieters, pre-syndrome, at-risk, and problem eaters. The first two groups were considered in the "normal" eating range, and exhibited only dieting or no symptoms. The last three groups were considered "problematic," and exhibited increasingly more eating disordered behaviors along with a concern about these behaviors.

Studies investigating eating disorders and disordered eating have attempting to identify risk factors that can lead to the development of this behavior. Perfectionist behavior, low self-esteem, over concern with body weight and appearance, inadequate coping skills, need for control, high distress levels and a strong need for social approval are just a few of these factors (Roberts-McComb, 2001).

Both college males and females are engaging in self-destructive behaviors such as: induced vomiting, misuse of laxatives, diuretics, excessive exercise and diet pill use to enhance their current image of themselves (Johnson, Powers, & Dick, 1999; Klemchuk, Hutchinson, & Chislett, 1990). Although engaging in these behaviors on a long term basis can cause serious consequences, the severity of this behavior does not always meet the operational definition of an eating disorder (Buckroyd, 1996).

However, it has been proposed that body image satisfaction has received the most empirical support as a predisposing factor to the development of disordered eating (Kalondner & Scarano, 1992; Mazzeo, 1999; Thompson, Coovert, & Stormer, 1999; Williamson et al., 1995). In fact, many of the above-mentioned variables have been shown to be predictors of body image and body satisfaction itself. These factors then influence disordered eating by way of an individual's body image. Without body image dissatisfaction, disordered eating behaviors do not develop. According to Polivy and Herman (2002), body image dissatisfaction is "a necessary factor in the emergence of eating disorders".

Many researchers have found that body image dissatisfaction appear to be related to core measures of well being such as self esteem as well as clinical syndromes of anorexia nervosa and bulimia nervosa (Cash & Pruzinsky, 1990;

Garner & Garfinkel, 1981). In this regard the present research was designed with the objective to identify if body image dissatisfaction is an indicator of low self-esteem and disturbed eating attitude in Pakistani adults. Also the evidence obtained here will extend the literature on the role of body image dissatisfaction as a risk factor to low self-esteem and eating disturbances.

Keeping in view the literature review, following hypotheses were formulated for the present research:

1. There would be a negative relationship between Body Image Dissatisfaction and Self-Esteem in adults.
2. There would be a positive relationship between Body Image Dissatisfaction and disturbed Eating Attitude in adults.

## METHOD

### *Sample*

The sample of the present study was taken from the different departments of University of Karachi, Pakistan. It consisted of 100 students ( 50 males and 50 females). The ages of participants (both genders) ranged from 20 to 25 years. This age range was selected to minimize the effects which are usually associated with the variability of different age cohorts so that the findings of study could be more valid and easy to generalize on a specific group. The entire sample belonged to middle socio economic class. Socio-economic status of the participants was determined on the basis of Household Economic Expenditures Survey expenditures survey conducted by the Federal Bureau of Statistic Government of Pakistan in 2001. The education level of the sample was at least graduation.

### *Measures*

#### Demographic Form

Demographic Form contained items focusing on information regarding participant's age, sex, birth order, family structure and monthly income of family etc.

### Body-Esteem Scale-Revised

Body image dissatisfaction was measured by the Body-Esteem Scale-Revised (Mendelson, White, & Mendelson, 1998). The questionnaire consisted of twenty-three forced choice items on a 5-point Likert-type scale, ranging from "never" to "always". Responses are scored from 1 to 5, with higher scores indicating greater body image dissatisfaction.

### Rosenberg Self-Esteem Scale

Self- esteem was measured using the Rosenberg self esteem scale (Rosenberg, 1965). It consists of 10-item with 4-point Likert-type scale, (1= strongly disagree, 2=disagree, 3= agree, 4= strongly agree). Half of the self-esteem scale items are reversely scored. Score greater than 20 indicates generally positive attitudes towards the self. Total administration time is 5-10 minute.

### Eating Attitude Test (EAT-26)

Eating attitude was measured by Eating Attitude Test (EAT-26). The EAT-26 is a self-report psychometric measure that assesses attitude and related behaviours that may be characteristics of eating disorders (Garner & Garfinkle, 1979). Individuals who meet or exceed the EAT-26 cut off scores may have disturbed eating attitude and behaviors but not necessarily clinical Anorexia Nervosa.

### *Procedure*

First of all researchers obtained the list of different departments of University of Karachi. A letter of consent describing the research project and inviting participants was provided to the head of different departments of University of Karachi along with the questionnaires. After getting permission from authorities of departments, the researchers briefly described the purpose of the study to the participants. Confidentiality regarding information and results was assured. Once the rapport was developed, the demographic form was administered. It consists of items focusing on individual's personal\demographic information e.g. age, education, date of birth, family structure, monthly income of family, etc. Then, they were asked to respond on Body-Esteem Scale Revised (Mendelson, White, & Mendelson.1998) to assess the level of body image dissatisfaction. Then Self-esteem was measured by using the Rosenberg Self-Esteem Scale (Rosenberg, 1965) and at the end Eating Attitude Test (Garner & Garfinkle, 1979) was also administered to measure eating attitude.

### *Statistical Analysis*

In order to examine the data statistically, SSPS, V. 12 was used for statistical analysis. Pearson Product Moment Coefficient of Correlation was used to examine relationship of Body image dissatisfaction with self-esteem, and eating attitude. Descriptive statistics was also utilized.

### *Operational Definitions*

#### Self-Esteem

Self esteem is the favourable or unfavourable attitude toward the self (Rosenberg, 1965).

#### Body Image Dissatisfaction

Body image dissatisfaction is an individuals negative psychological experience of the appearance and function of his/her body and is one aspect of an individual's mental representations of him/her self (Mendelson, White, & Mendelson, 1998).

#### Disturbed Eating Attitude

Eating attitude is eating patterns of an individual, which interfere with normal psychological functioning (Garner & Garfinkle, 1979).

## RESULTS

**Table 1**
**Descriptive Statistics of the Variables of Body Image Dissatisfaction (BID), Self-Esteem, and Eating Attitude**

| Variables | Male | | Female | | Total Sample | |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| BID | 54.18 | 12.269 | 51.40 | 11.245 | 52.79 | 11.791 |
| Self-Esteem | 20.38 | 3.244 | 20.96 | 3.736 | 20.67 | 3.493 |
| Eating Attitude | 14.44 | 8.652 | 10.48 | 6.710 | 12.46 | 7.956 |

**Table 2**
**Correlation of Body Image Dissatisfaction with Self-Esteem and Eating Attitude**

| Variables | *N* | *r* | *Sig.* |
|---|---|---|---|
| **Self-Esteem** | 100 | -.293 | .003 |
| **Eating Attitude** | 100 | -.106 | .294 |

## DISCUSSION

The present research evaluated the relationship of body image dissatisfaction with self-esteem and disturbed eating attitude. A number of previous studies have found a relationship between body image dissatisfaction and low self-esteem. Our findings (Table 2) are consistent with these findings and indicate a significant negative correlation between body image dissatisfaction and self-esteem ($r$ = -.293, $p$<.05). According to Cash and Gild (2002) body image dissatisfaction can lead to low self-esteem among individuals. Similar findings have been found by Tiggemann and Williamson (2000), who indicated a negative correlation between body image dissatisfaction and self-esteem; and Bowker, Gadbois, and Cornock (2003), who found significant relationship between body image and self-esteem.

These findings suggest that our body image is directly related to our self-esteem. The more negative our perception of our bodies, the more negative we feel about ourselves. Adults whether they are males or females, if are not satisfied with their body image are prone to have poor or low self-esteem. The reason might be that now-a-days with the rapid change in trends of media industry and media images of skinny girls and bulked up boys, the concern about body image has greatly increased. Adults are trying to improve their appearance in order to get approval and acceptance from others which they now have started perceiving as conditioned with attractive and thinner appearance. When they fail to achieve their desired body image, they evaluate their self as negative and consequently their self-esteem is lessened.

Further, the results (Table 2) indicate an insignificant relationship between body image dissatisfaction and eating attitude ($r$ = -.106, $p$>.05). These findings are inconsistent with the formulated hypothesis. According to Thomas and Cash (2003), body image dissatisfaction might be the cause of exercise and dieting program but not cause for disturbed eating attitude. Another reason for an insignificant relationship between the two variables could be that our study was done on a small sample size representing just University students belonging to middle socioeconomic status who do give importance to their body image but not to an extent of developing disturbed eating patterns. It has been reported that Eating disorders are most commonly found in the upper social classes of industrialized countries. Being slim and fit is highly rated in Western cultures where being thin apparently symbolizes certain cherished notions, such as social acceptance, self-discipline, self-control, sexual liberation, assertiveness, competitiveness and class. Dieting in Western culture has become a cultural preoccupation and it may even be argued that eating disorders are simply extensions of normal and socially acceptable modes of behavior (Shuriquie, 1999).

In conclusion, the present research highlights the association of body image dissatisfaction with low self-esteem that indicates that the greater the body image dissatisfaction more is the chances to have low self-esteem in an adult. Further, this study fails to find out any relationship between body image dissatisfaction and disturbed eating attitude. These findings suggest that dissatisfaction with ones body do not affect one's eating pattern. However, the association of body image dissatisfaction with disturbed eating attitude is a universal phenomenon. Therefore, we cannot make any conclusion based on just one study's finding. Therefore, it is suggested to replicate the same study with a larger sample size.

It is noteworthy to mention here that these findings only highlight body image dissatisfaction as an indicator of low self-esteem and disturbed eating attitude. But this is not the only cause; there are also other variable which either alone or in combination with this variable can act as a risk factor to low self-esteem and body image dissatisfaction. However, the importance of this variable in association with self-esteem and eating problem cannot be ignored. This research also provide basis for future research. Future researchers should not only replicate these findings but should also study other risk factors in combination with body image dissatisfaction.

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# PSYCHOSOCIAL DETERMINANTS OF DEPRESSION IN PRENATAL AND POSTNATAL PERIOD

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## ABSTRACT

*The present study examined the predictive relationship of psychosocial variables (marital adjustment, perceived lack of social support and socioeconomic status) with depression in prenatal and postnatal period. After detailed review of literature it was hypothesized that a) Psychosocial variables (marital adjustment, perceived lack of social support, and socioeconomic status) would predict depression in prenatal period; b) Psychosocial variables (marital adjustment, perceived lack of social support and socioeconomic status) would predict depression in postnatal period. Sample of the 155 pregnant women were assessed during third trimester in prenatal period. The age range of participants was from 25-40 years with a mean age of 28.2 years (SD=3.95), the minimum duration of marriage was two years and minimum qualification was graduation. All three socioeconomic status (low socioeconomic status = 33, middle socioeconomic status = 63, higher socioeconomic status = 59) were included in the sample. However, due to attrition the postnatal sample was reduced from 155 to 90 women (assessed within 4 weeks after delivery) with a mean age of 28.4 years (SD=3.39); and approximately similar profile of socioeconomic status i.e. (low socioeconomic status = 23, middle socioeconomic status = 35, higher socioeconomic status = 32). Semi structured interview form for psychological assessment was administered. Moreover, Dyadic Adjustment Scale (DAS; Spanier, 2001), 'Nonsupport' Subscale of Personality Assessment Inventory (PAI; Morey, 1991), and Edinburgh Postnatal Depression Scale (EDPS; Cox, Holden, & Sagovsky, 1987) were administered to assess the variables of marital*

*adjustment, perceived lack of social support and depression in prenatal period respectively. Edinburgh Postnatal Depression Scale was re-administered during postnatal period (within 4 weeks after delivery) to assess depression in postnatal period. Stepwise Regression Analysis was applied to investigate the predictive relationship of psychosocial variables (marital adjustment, perceived lack of social support and socioeconomic status) with depression in prenatal and postnatal period. Results revealed the significance of psychosocial variables in prenatal period, with marital adjustment playing major role in predicting depression in prenatal period. Perceived lack of social support, although being non significant in overall model, appears to have its significance in association with marital adjustment in determining depression in prenatal period. However, socioeconomic status was found as a non significant predictor of depression in prenatal period. Moreover, the psychosocial variable of marital adjustment appeared as a significant predictor of depression in postnatal period. However, results failed to demonstrate the significance of perceived lack of social support and socioeconomic status as predictors of depression in postnatal period.*

## INTRODUCTION

Women's psychological and emotional adjustment is influenced by psychosocial variables particularly around childbirth, which is a phase of vulnerability and transition. Women experience drastic changes during prenatal and postnatal period, in terms of biological, psychological, and social well being which can predispose a woman to mental turmoil like anxiety, depression etc.

According to Rahman, Iqbal, and Harrington (2003) about 25% and 28% of women living in rural areas of Pakistan fulfill the ICD- 10 criteria for depressive episode in prenatal and postnatal period, respectively. Prevalence of psychopathological symptoms specifically depression is high around childbirth (prenatal and postnatal period) among Pakistani women. Previous and recent researches indicated the associative significance of psychosocial variables with depression around childbirth (e.g. Cutrona, 1984; Campbell, & Cohn, 1991; Swain, O'Hara, Starr, & Gorman, 1997; Felicea, Salibaa, Grechb, & Cox, 2004;

Westdahl, Milan, Magriples, Kershaw, Rising, & Ickovics, 2007; Diaz, Le, Cooper, & Munoz, 2007).

The predictive relationship of psychosocial determinants (marital adjustment, perceived lack of social support and socioeconomic status) with depression around childbirth (prenatal and postnatal period) is being studied in the present research. According to Spanier (2001marital quality can be assessed through factors including level of agreement and disagreement in matters like finances, time spent together, and spousal level of commitment; their satisfaction with affectionate expression and sexual relations; and level of sharing common interests and activities.

Marital problems have a significant relationship with symptoms of depression during prenatal period (Rahman, Iqbal, & Harrington, 2003). Similarly Collins, Dunkel-Schetter, Lobel, and Scrimshaw (1993) concluded that less satisfaction with marital support is associated with depression during postnatal period.

Another psychosocial determinant of depression in prenatal and postnatal period considered in the present research is perceived lack of social support. Gardner and Cutrona (2004) conceptually defined social support in terms of receivers' perceptions independent of communicator intentions or easily observed "objective" characteristics. Perceived support (also known as functional support; Wills & Filer, 2001) is person's cognitive appraisal of being reliably connected to others (Barrera, 1986).

Zelkowitz, and colleagues (2004) reported that lack of social support is a risk factor of depression during prenatal period and found significantly negative relationship between these two variables. Recently Horowitz and Goodman (2004) found that women depressed after giving birth were more likely to have poor and less social support. Support system provided by family and friends around childbirth plays a crucial role in healthy coping with dilemmas of pregnancy and postnatal period. Besides familial support, support groups in prenatal and postnatal period can also be helpful for women to cope with their distress and refrain themselves from depression. Such groups are being introduced in Pakistan but still these resources are limited to high socioeconomic class and larger part of population is unable to take benefit because of financial constrains. Poverty also limits access to resources such as mental health services

that can reduce the deleterious effects of postnatal depression (Hobfoll, Ritter, Lavin, Hulsizer, & Cameron, 1995).

Socioeconomic liabilities are not only related to the treatment resources but also to the domestic finances. Women with low income are highly vulnerable groups and have considerably higher rates of prenatal depression, ranging from 38 to 50% (Kelly, Zatzick, & Anders, 2001). A study was conducted in rural areas (i.e., low income areas) of Pakistan. It was found that more than one-quarter of mothers were suffering from depression during the prenatal and postnatal periods (Rahman, Iqbal, & Harrington, 2003). Financial impoverishment is also associated with elevated rate of postnatal depression (Zelkowitz & Milet, 1995).

To our knowledge, few studies have been conducted to explore the long-term outcome of prenatal and postnatal depression in developing countries like Pakistan. In this regard present study is an attempt to identify the role of significant risk factors in developing depression around childbirth. Hence, the current research might be advantageous for introducing psychotherapeutic services, for a probable victim, her spouse and family, as it focuses on issues regarding satisfactory marital relationship, and social support that might reduce the negative impact of limited financial resources. This effort will be helpful in identification and reduction of early psychological morbidity in women during prenatal period and after giving birth. This study would also be beneficial for mental health and medical professionals, (including psychologists, psychiatrists, gynecologists and others), as it would play a vital role in providing awareness regarding the issue of prenatal and postnatal depression.

Keeping in view the literature following hypotheses were formulated

1. Psychosocial variables (marital adjustment, perceived lack of social support, and socioeconomic status) would predict depression in prenatal period

2. Psychosocial variables (marital adjustment, perceived lack of social support, and socioeconomic status) would predict depression in postnatal period.

## METHOD

### *Sample*

Sample consisting of 155 married women, were assessed during third trimester of prenatal period. The age range of participants was from 25-40 years with the mean age of 28.2 years (SD=3.95), the minimum duration of marriage was two years and minimum qualification was graduation. Those women were selected who had no history of psychological problem and had never been on any kind of psychiatric/ psychological treatment (psychotropic medication / psychotherapy). The selected women also had no history of physical illnesses, e.g., Cancer, Diabetes, etc. This was further confirmed through a detailed interview based on a semi structured interview form for psychological assessment, with the help of their medical records available in the hospital and through discussion with participants. All three socioeconomic classes (low socioeconomic status = 33, middle socioeconomic status = 63, higher socioeconomic status = 59; N=155) were included in prenatal sample. However, due to attrition the postnatal sample was reduced to 90 women with the mean age of 28.4 years (SD=3.39); and approximately similar profile of socioeconomic status i.e. (low socioeconomic status = 23, middle socioeconomic status = 35, and higher socioeconomic status = 32; N=90). Among 155 previously assessed women (during last/ third trimester of prenatal period) only 90 were reassessed in postnatal period (within four weeks after delivery) and those 65 could not be reassessed, who had a still born or physically handicapped child and whose children died after delivery. Some of them could not be contacted via phone and e-mail, some withdrew because of lack of time and few of them were restricted by their families for further participation in the research. Only those women were included in the study whose husbands were available around childbirth (prenatal and postnatal period).

### *Measures*

#### Semi-Structured Interview Form for Psychological Assessment

This interview form, designed by Institute of Clinical Psychology University of Karachi, was administered. It consisted of demographic information, presenting problems, history of problem, medical, family, school, social / friendship, sexual history and questions regarding mental status examination, symptoms of psychological disorders/personality disorder, and family history of psychopathology. Additionally, information regarding other

relevant variables including duration of marriage, duration of pregnancy, preferred gender of child, willingness for child, number of children (parity) and weeks after delivery was also collected.

**Dyadic Adjustment Scale (DAS; Spanier, 2001)**

Marital adjustment was measured using the full scale of DAS. The DAS was developed to assess the quality of marital relationship. It is 32-item self-report scale that generates a score on overall adjustment and four subscales scores for dyadic consensus, dyadic satisfaction, dyadic cohesion, and affectional expression.

**'Nonsupport' Subscale of Personality Assessment Inventory (PAI; Morey, 1991)**

"Nonsupport" subscale of Personality Assessment Inventory (PAI) was used to assess the perceived lack of social support. The Nonsupport (NON) scale is an 8 item scale which provides a measure of perceived lack of social support both in term of the availability and quality of respondent social relationship.

**Edinburgh Postnatal Depression Scale (EDPS; Cox, Holden, & Sagovsky, 1987)**

In the present study depression during prenatal and postnatal period was assessed by Edinburgh Postnatal Depression Scale. It was developed to detect minor as well as major depression. EPDS is a 10-item scale; respondents are required to underline which of the four possible responses is closest to how she has been feeling during the past week. It scored on four point rating scale (0-3).

***Procedure***

Sample of present research was recruited from maternity wards of different hospitals including Liaquat National Hospital, South City Hospital, and Aziza Hussaini Hospital. Hospitals were selected on the basis of their location, fee structure, and different fee packages. After getting permission from authorities of these departments, the pregnant women were approached, during the last trimester of pregnancy (7th, 8$^{th}$, 9$^{th}$ month), through staff i.e., nurses. Before the administration of psychological tests, the researcher established rapport with the participants individually, and the purpose of the study was explained briefly to all the participants. The participants were informed that if they are willing to participate they have to sign the consent form, containing information regarding the purpose of research, how participants would be

approached again within four weeks after delivery and other details including the terms of confidentiality and their (participants) right to withdraw from study at any time. Confidentiality regarding information and results was assured verbally as well. Once the rapport was developed with the participants they were interviewed and the examiner filled in the semi-structured interview form for psychological assessment. Additional information was also collected, regarding the variables relevant to the present study (e.g. marriage, duration of pregnancy, preferred gender of child, willingness for child, number of children, and weeks after delivery). Socioeconomic status was carefully determined, as it was handled as an independent variable in current study, by using the information obtained through semi-structured form for psychological assessment. Moreover, in the present study, the criteria for monthly family income was considered, that was reported by Ansari (2003). According to this criteria socioeconomic status is divided into three levels: i) Low (Household having a monthly income of Rs. 14000 and below), ii) Middle (Household having a monthly income of Rs. 14000 to 30000), and iii) High (Household having a monthly income of Rs. 30000 and above) on the basis of Household income and expenditure survey conducted by the Federal Bureau of Statistics (FBS), Government of Pakistan (2001).

The administration of semi structured interview form was followed by the administration of Dyadic Adjustment Scale. After that the subscale of Personality Assessment Inventory i.e. Nonsupport scale was administered. It provides a measure of perceived lack of social support. This was further followed by the administration of Edinburgh Postnatal Depression Scale. Participants contact numbers, e-mail addresses, and delivery dates were noted with the consent of participants and at times also with consent of participant's husband or other significant person. Participants were contacted after delivery (within four weeks) via phone/email and appointment was fixed with each participant. They were approached again and reassessed at their home and only Edinburgh Postnatal Depression Scale was re-administered.

***Scoring and Statistical Analysis***

Stepwise Regression analysis was computed to assess predictive relationship of psychosocial variables (i.e. marital adjustment, perceived lack of social support, and socioeconomic status) with depression in prenatal and postnatal period.

***Operational Definitions of Various Terms***

**Marital Adjustment**

Marital Adjustment is defined on the basis of four components of Dyadic Adjustment Scale. The four subscales as defined by Spanier (2001) are as follows: Dyadic Consensus (the extent of agreement between partners on matters important to the relationship, such as money, religion, recreation, friends, household tacks, and time spent together); Dyadic Satisfaction (the amount of tension in the relationship, as well as the extent to which the individual has considered ending the relationship); Affectional Expression (the individual's satisfaction with the expression of affection and sex in the relationship); and Dyadic Cohesion (the common interests and activities shared by the couple).

**Perceived Lack of Social Support**

This variable is assessed by the subscale of nonsupport which provides a measure of perceived lack of social support tapping both the availability and quality of relationships. It also addressed the level and nature of interaction with acquaintances friends and family members (Morey, 1999).

**Socioeconomic Status**

***Lower Socioeconomic Status***: (Households having a monthly income of Rs. 14000 and below). This income group is categorized as people spending a very high percentage of their income on food, transport and house rent. Their expenditure on items relating to personal appearance, cleanliness and laundry is minimal. For education, they depend on government-subsidized institutions. ***Middle Socioeconomic Status***: (household having a monthly income of Rs. 14,000 to Rs. 30,000) this group has a lesser amount of expenditure on food and spends more on personal appearance and education as compared to the lower socioeconomic group. ***High Socioeconomic Status:*** (Household having a monthly income of Rs. 30,000and above) this class is categorized with people having high emphasis on personal appearance, education and recreation as compared to the two above mentioned groups.

**Postnatal Depression:**

According to Cox and Holden (2005) the term postnatal depression is characterized by a low, sad mood, lack of interest, anxiety, sleep difficulty,

reduced self-esteem, somatic symptoms such as headache and weight loss, and difficulty coping with day-to-day tasks following childbirth (postnatal period)). In the current study postnatal period refers to the first four weeks after delivery.

**Prenatal Depression:**

In the current study prenatal depression is defined as experiencing symptoms similar to postnatal depression but occurring in last trimester of pregnancy.

## RESULTS

**Table 1**
**Summary of Stepwise Regression Analysis with Psychosocial Predictors of Depression in Prenatal Period (N=155)**

| Steps | Predictors | *R* | $R^2$ | *F* | *p* | *df* | *Summary of Coefficient* | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | *t* | *p* |
| I | Marital Adjustment | .449 | .201 | 38.556 | .000 | 1,153 | -6.209 | .000 |
| II | Marital Adjustment | .460 | .211 | 20.377 | .000 | 2, 152 | -4.802 | .000 |
| | Perceived Lack of Social Support | | | | | | 1.399 | .164 |
| III | Marital Adjustment | .462 | .213 | 13.630 | .000 | 3,151 | -4.806 | .000 |
| | Perceived Lack of Social Support | | | | | | 1.501 | .135 |
| | Socioeconomic Status | | | | | | .565 | .573 |

**Table 2**
**Summary of Linear Regression Analysis with Perceived Lack of Social Support as Predictor of Depression in Prenatal Period**

| Predictor | *R* | $R^2$ | *F* | *p* | *df* |
|---|---|---|---|---|---|
| Perceived Lack of Social Support | .303 | .092 | 15.467 | .000 | 1, 153 |

**Table 3**
**Summary of Linear Regression Analysis with Socioeconomic Status as Predictor of Depression in Prenatal Period**

| Predictor | *R* | $R^2$ | *F* | *p* | *df* |
|---|---|---|---|---|---|
| Socioeconomic Status | .127 | .016 | 2.523 | .114 | 1, 153 |

**Table 4**
**Summary of Stepwise Regression Analysis with Psychosocial Predictors of Depression in Postnatal Period (N=90)**

| Steps | Predictors | *R* | $R^2$ | *F* | *p* | *df* | *Summary of Coefficient* | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | *t* | *p* |
| I | Marital Adjustment | .240 | .058 | 5.385 | .023 | 1, 88 | -2.320 | .023 |
| II | Marital Adjustment | | | | | | -1.637 | .105 |
| | Perceived Lack of Social Support | .252 | .064 | 2.956 | .057 | 2,87 | .744 | .459 |
| III | Marital Adjustment | | | | | | -1.654 | .102 |
| | Perceived Lack of Social Support | .257 | .066 | 2.034 | .115 | 3, 86 | .886 | .378 |
| | Socioeconomic Status | | | | | | .492 | .624 |

**Table 5**
**Correlation among Psychosocial Variables (marital adjustment and perceived lack of social support) and Depression in Prenatal Sample (N=155)**

| Variables | Marital Adjustment | Perceived lack of social support |
|---|---|---|
| Depression in Prenatal Period | -.449** | .303** |
| Marital Adjustment | | -.478** |

** $p<.01$

## DISCUSSION

The purpose of this section is to discuss the findings and consider the predictive importance of psychosocial variables (marital adjustment, perceived lack of social support and socioeconomic status) in the development of depression in prenatal and postnatal period.

The results of present study indicate that there is a significant relationship of different psychosocial variables with depression in prenatal period. Stepwise regression analysis was performed where psychosocial variable of marital adjustment was entered at step I followed by inclusion of other psychosocial variables of perceived lack of social support at step II and socioeconomic status at step III (Table 1). First step explained 20% variation in scores of depression in prenatal period ($F$= 38.556, $df$ = 1, 153, $p$<.01; Table 1), second step explained 21 % variation in scores of depression in prenatal period ($F$= 20.377, $df$ = 2, 152, $p$<.01; Table 1) and step III explained 21% variation in scores of depression in prenatal period ($F$=13.630, $df$ = 3, 151, $p$<.01; Table 1). Summary of coefficients indicate that marital adjustment is the only predictive variable at step II and step III ($t$ = - 4.802, $p$<.000; $t$ = -4.806, $p$<.000; Table 1) respectively.

Stepwise regression analysis was also performed to investigate the relationship of psychosocial variables and depression in postnatal period, where psychosocial variable of marital adjustment was entered at step I followed by inclusion of psychosocial variables of perceived lack of social support at step II and socioeconomic status at step III (Table 4). First step explained 5% of variation in scores of depression in postnatal period ($F$= 5.385, $df$ = 1, 88, $p$<.05; Table 4), second step explained 6% variation in scores of depression in postnatal period ($F$= 2.956, $df$ = 2, 87, $p$>.05; Table 4) and step III explained 6% variation in scores of depression in postnatal period ($F$= 2.034, $df$ = 3, 86, $p$>.05; Table 4). Thus marital adjustment significantly predicts depression in postnatal period, whereas, perceived lack of social support and socioeconomic status have been found as non significant predictor of depression in postnatal period.

According to the results of present study martial adjustment was found as a significant predictor of depression in prenatal (Table 1) and postnatal period (Table 4). Depressions in women around childbirth may be associated with the perception, that their partners do not share similar interests with them, do not provide the feeling of connection and inclusion, and usually are not available for

companionship (Dennis & Ross, 2006). Role restriction and barrier in freedom of enjoying mutual leisure activities (component of marital adjustment) around child birth (prenatal and postnatal) significantly affect the emotional state of women. Throughout the phase of child birth (prenatal/postnatal), women in our culture are required to stay at home and to reduce excursions. After child birth, women's activities and priorities become more child oriented and they usually ignore mutual leisure time interests with their husbands. Leisure, among many, is one of the domains significantly affected by the transition to parenthood (Crohan, 1996). However, it is quite difficult for husbands to restrict themselves. As reported by Nicolson (2001) it is difficult for many men to explain to friends that they can no longer do the social things they used to do, because they have to take an active parenting role. Hence they (men) may get involve in individual leisure that is referred to leisure done without one's spouse, reported by Johnson (2005). Individual recreation, exclusion of one's spouse has predictive relationship with marital distress (Orthner & Mancini, 1991). Consequently, deficiencies in marital satisfaction (or in any aspect of marital satisfaction) are found to be associated with maternal depression (Cutrona, 1996). Lack in mutual leisure activities being a main aspect of marital adjustment could contribute in the development of depression in prenatal and postnatal period.

Results of present study also indicate that in step II, when the variable of perceived lack of social support was entered; psychosocial variables appeared as significant predictors of depression in prenatal period (Table 1). However, when the model was further analyzed, according to the summary of coefficient marital adjustment appeared as the only variable which significantly predicts depression in prenatal period; whereas variable of perceived lack of social support appeared as a non significant predictor of depression in prenatal depression ($t$= 1.399, $p$>.05; Table 1). For further analysis, linear regression was applied to investigate individually the predictive relationship of perceived lack of social support and depression in prenatal period. Results revealed that perceived lack of social support explains 9% (Table 2) variance in the scores of depression in prenatal period and appeared as a significant predictor of depression ($F$= 15.467, $p$<0.05; Table 2). It was observed that two variables (marital adjustment and perceived lack of social support) are highly correlated with each other (Table 5). Therefore, when analyzed along with correlated variable of marital adjustment, its role appears limited in explaining the variation in the scores of depression. The result thus highlights the significance of perceived lack of social support, as an important variable associated with marital adjustment in predicting depression in prenatal period.

Women's perception of social support plays an important role. Women may perceive social support provided by family as negative. They may perceive that social support provided by family increases during prenatal and postnatal period because of the infant not because of them (women). The main focus of support, either practical or in terms of suggestions, is usually related to physical needs of the women including diet, medication, exercise etc and is usually offered to protect the infant's health, whereas, women's emotional and psychological needs are usually disregarded. This lack of emotional support and unavailability of someone around while crying and suffering from emotional setbacks may develop feelings of being abandoned and dejected. Some women who experience such feelings may over generalize the situation and may also perceive genuine support in the same context. This overgeneralization of negative perception of social support may be a strong path way leading towards depressive mood. Bilszta, Tang, Meyer, Milgrom, Ericksen, and Buist (2008) reported, that women's cognitive appraisal of her support is of more importance than the objective reality of how much support she receives.

Social support does not always mean to have a group of people around to share thoughts and feelings; there may be only one person e.g. husband, who may provide emotional support in terms of affection and attention; and instrumental support. Husband's support may be perceived by woman as more momentous during pregnancy than support provided by family, friends and other social networks. Many women reported that they have groups of relatives around all the time, to support them; who share their experiences and suggest to the women different ways of coping with their pregnancies, without considering the circumstances of the woman. Moreover, the women were facing criticism for not being competent to cope with the realities of child birth, as every woman has to go through these stages and it does not matter to be emotionally disturbed at this time. On the contrary, some women may not perceive this type of communication as instrumental or emotional support rather they may perceive it as criticism. Therefore, some times familial support does not guard the women against psychological morbidity (depression) rather it could lead them towards emotional disturbances depending upon whether perception of social support is negative or positive.

Further, results indicated that the role of perceived lack of social support becomes non-significant in determining depression in postnatal period (Table 4). The factor that may reduce the significance of perceived lack of social support in predicting depression in postnatal period is infant health issues. In postnatal

period, infant may become more important as compared to presence or absence of people around to provide support. Hence the factors related to infant may play more significant role in psychological vulnerability of mother as compared to the lack of perceived social support. Mothers, whose babies are physically weak or under weight were more distressed and emotionally vulnerable. Romito, Saurel-Cubizolles, and Lelong (1999) found that the babies with serious health problem were a major predictor of maternal depression. Most of women in present study reported that the health of their babies is of more importance and a major source of their emotional distress. Women with babies, who are under weight, reported that their foremost concern is the strength, fitness, and physical well being of their babies rather than the presence of people around. As Ghosh (2005) interviewed women with the babies having health problem, these women reported that they were anxious and upset. However they also mentioned that they did not have time to think if they felt any dysphoria and did not care if they have enough rest, or performed any rituals. This suggests that not only the perception of social support is subsided but ones own emotional health becomes less important as well.

Another psychosocial variable studied in the present research was socioeconomic status, and that is found as a non significant predictor in determining depression in prenatal and postnatal period. However number of previous researches indicated that poverty and low income is a significant predictor of depression in prenatal period.

The results of current study are not consistent with previous findings. For further analysis, in addition to stepwise regression analysis, linear regression was also applied to investigate the relationship of socioeconomic status in predicting depression in prenatal period; results indicated nonsignificant predictive relationship between socioeconomic status with depression in prenatal period (Table 3) and postnatal period (Table 4). Previous researches mostly enlighten the prevalence of depression in prenatal and postnatal period among low income population of the rural areas of Pakistan (Rahman, Iqbal & Harrington, 2003). The sample of present study comprised of women mostly belonging to urban areas of Pakistan. In rural areas of Pakistan the economic disadvantages hinder women to approach quality health care resources as these resources are not available in their vicinity and they have to travel towards cities to approach such facilities. Likewise, population living in rural areas does not consider the significance of the medical and hospital facilities, and therefore resist approaching appropriate services, even if it is quite affordable which could

negatively effect the physical and psychological health of women during prenatal and postnatal period. On the contrary, the women living in urban areas have resources and at least basic medical facilities available in government and semi government hospitals, offering low fee packages. Among number of hospitals, some semi government hospitals of Karachi are providing the services of prenatal and postnatal classes to women conducted by concerned obstetrician and gynecologists. These classes provide awareness regarding possible complications, preventions and precautions during pregnancy and after child birth; therefore, urban women are having an edge without bearing extra expenditure. Hence, the predictive role of socioeconomic status becomes less important in the development of depression among urban women living in Pakistan. Since urban women belonging to the low socioeconomic class may be able to preserve their physical and psychological well being in a better way as compared to the women living in rural areas.

Moreover, most of females in current study reported that their satisfactory marital relationship reduces the negative outcomes of economic limitation. As research conducted in Karachi, Pakistan, indicated that women belonging to upper and upper middle class also get depressed if they suffer from martial conflicts (Niaz, 1995). Therefore, the most relevant factor associated with postnatal depression is the relationship with husband; satisfactory marital relation may reduces the impact of a stressful life event such as child birth and other related stressors including finances, which could lead the women towards depressive symptoms. As many women who participated in the present research reported that they could deal with economic stressors if their partners support them in all ways emotionally, physically, and took interest in infant related activities. Mothers with supportive marital relationships have been reported less likely to develop depressive symptoms during the postnatal period (Logsdon & Usui, 2001).

Thus, to prevent the women from depression in prenatal and postnatal period they should be provided with the healthy family atmosphere in terms of their relationship with husbands and their perception of social support. The identification of the role of psychosocial factors associated with depression around childbirth points out the need for specific program planning according to the needs, and social circumstances of women. Likewise, further researches are needed while overcoming certain limitations that became apparent in the present study.

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# ESTABLISHING PSYCHOMETRIC PROPERTIES OF CHAOS SCALE-URDU VERSION (CONFUSION, HUBBUB, AND ORDER SCALE) AND COUPLES' PERCEPTION OF HOME CHAOS IN PAKISTANI CULTURE

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## ABSTRACT

*Growing body of research has indicated Environmental Chaos (high noise levels, crowding, high density, high context traffic patterns, less physical and temporal structure) as an important factor in child development. Number of studies has shown a positive relationship between environmental chaos and adverse developmental outcomes in children. However little has been done to explore this relationship in non-western cultures. The present study was designed to bridge this gap and understand the impact of environmental chaos in Pakistani culture. For this purpose the CHAOS Scale (Matheny, Wachs, Ludwig, & Phillips, 1995) was translated into Urdu (the national language of Pakistan) to establish its psychometric properties. It was also intended to explore the relationship between the couple's scores on the Chaos Scale to observe their perception regarding home chaos including demographic variables: age, education, and occupational status of both husbands and wives. A sample of 152 couples with an age range of 20-60 years was taken from Rawalpindi and Islamabad, Pakistan. Satisfactory alpha reliability and significant item total correlations shows that CHOAS Scale-Urdu Version is a reliable measure of home chaos*

*in Pakistani culture. Furthermore, results indicate no significant mean difference between husbands and wives CHAOS score. No significant mean differences are found between wives's education, occupational status and home chaos; whereas significant mean differences are found between husband's education and their score on CHAOS Scale-Urdu version*

## INTRODUCTION

Human development is dependent on both heredity and environment and their interaction (Bronfenbrenner, 1979; Gottlieb, 1994). Various social and environmental factors such as parenting, neighborhood quality, family size, etc. have been found to have impact on human development. Most of the research in this regard has focused on social microenvironment of the child which included caregivers' responsivity, vocalization, control, cohesion etc. (Wohlwill & Heft, 1987; Pervez & Kamal, 1994; Tung, 2003).

Development is considered to be the result of genetic programming, physical maturation, cognitive growth, and personal inclination. However, development is highly influenced by forces outside the person, by physical surrounding, and social interaction that provide incentives, opportunities, and pathways for growth (Berger, 2001). All of these external factors form the systems or the environment in which development takes place. Among these systems, Microsystems provides the immediate setting in which child directly interacts with other individuals such as parents, peers, and teachers (Bronfenbrenner, 1979; Santrock, 2006).

Environmental Chaos is an important aspect of physical microenvironment and refers to the Microsystems contexts (i.e. home, day care centers, and schools) which are characterized by high noise levels, high levels of crowding and density, high context traffic patterns, and a lack of physical and temporal structure (Wachs & Corapci, 2003; Bronfenbrenner & Evans, 2004). Such systems have few regularities and routines and are characterized by unpredictability and disorganization. Home environment is one of the most important settings of microsystems. Family provides the most secure and significant attachment, care, and stimulation for children's growth and development during early childhood. Steady socioeconomic and psychosocial conditions of the family play a very important role in maintaining the quality of physical, social, and affective care of children (Andrade et al., 2002). Evidence

also indicates that chaotic home environment can lead to various adverse developmental outcomes (Wachs & Corapci, 2003). Disorganized and unsafe homes that do not offer predictable environment which is rich in opportunities to learn through routines and regularities generally limit child's adjustment. Home chaos can produce adverse developmental outcomes by interfering with proximal processes i.e. the interaction between the developing person and the people, objects, symbols in the immediate environment, and so on (Bronfenbrenner & Evans, 2000).

Environmental chaos affects child development through both direct and indirect processes. It may directly influence child development by causing children to develop strategies that help them filter out unwanted stimulation. Unfortunately, these strategies may also result in children filtering out developmentally facilitative information and stimulation (Evans, Kliewer, & Martin, 1991). It may affect indirectly by influencing caregiver's behavior. Caregivers in noisy and crowded environments have a higher probability to behave in ways that inhibits child development, for example, less responsiveness, less vocalization and scaffolding, and more interference (Wachs, 1989). Such behavior may be attributed to the interference created by the noisy and crowded environments in caregiver's ability to hear child's vocalization, or by increasing his/her fatigue, thus decreasing appropriate responsivity (Matheny et al., 1995; Wachs, 1989).

Environmental chaos also can lead to deterioration of social support network that ultimately leads to more problematic outcomes for the individuals (Evans, Palsane, Lepore, & Martin, 1989; Lepore, Evans, & Schneider, 1991). In addition, different aspects of chaos may combine to produce negative outcomes. Evans and Seagert (2000) found that children from low socioeconomic status families were significantly more affected by high-density living conditions when family turmoil was high than when it was relatively low. Available research has shown home chaos as being linked to family income and parental education (Dumas et al., 2005), parental stress and emotional distress (Evans, Lepore, Shejwal, & Palsane, 1998), parenting difficulties including inappropriate discipline, lack of responsivity and sensitivity (Smith, Prinz, Dumas, & Laughlin, 2001), behavioral problems, and delinquency (Wachs, 1993).

Studies have identified various culturally driven coping strategies that can act to moderate the effects of chaos on family functioning such as traditions of extended family system that allow multiple caregivers (Munroe & Munroe, 1971), buffering strategies such as emphasis on interpersonal cooperation, and

reduced public display of emotionality (Anderson, 1972; Wachs & Corapci, 2003), and maternal education (Von der Lippe, 1999; Wachs & Corapci, 2003). In spite of the presences of such moderators, environmental chaos has been found to be negatively related to child development in both western and non-western cultures.

Keeping in view the impact of environmental chaos on child development the present study was conducted to observe the presence of environmental chaos in Pakistani families. It was also intended to observe the relationship between couples' scores on the Chaos Scale to observe their perception of home chaos. Occupational status of both the partners, and female participants' education was also kept in perspective. For this purpose the CHAOS Scale was translated into Urdu, and the psychometric properties of the translated version of the CHAOS Scale were established.

## METHOD

### *Sample*

Non probability sample of 152 couples were taken from Rawalpindi and Islamabad, Pakistan. The age range of the sample was from 20 to 60 years. Both working and non-working men and women were included. Their education level ranged from 10$^{th}$ grade to masters or equivalent. Four groups were formed on the basis of their education, i.e. Secondary School (10$^{th}$ grade), Intermediate (12$^{th}$ grade), Bachelors, and Masters or equivalent.

### *Measures*

Confusion, Hubbub, And Order Scale (CHAOS; Matheny et al., 1995) was used which consists of 15 items with true false format. To offset response set half of the items were written to be reverse keyed. A single score is derived from the questionnaire by simple sum of responses. Higher score on the scale shows more chaotic, disorganized, and hurried characteristics of the home environment. The reported alpha coefficient of the CHAOS items is 0.79 and 12-months test-retest stability correlation is 0.74.

In the present study the CHAOS scale was translated into Urdu language. The scale was first translated into Urdu and then back translated into English by language experts. Committee approach was used to select the closest translation.

After the successful completion of two pilot studies, the translated version of the CHAOS scale was used on a sample of 152 couples in the main study. The items were scored as 1 and 0 on the basis of true and false.

***Procedure***

The sample of 152 couples was randomly taken from Rawalpindi and Islamabad, Pakistan. Both husbands and wives were given the CHAOS Scale–Urdu Version separately. They filled the scale in the presence of the researcher. Demographic information about their age, education level, and occupation was also collected.

***Statistical Analysis***

Reliability and internal consistency of the CHAOS scale was determined by using alpha coefficient. Item total correlation separately for husbands and wives CHAOS scores and alpha reliability of the combined CHAOS scale of husband and wives was also computed (see table 1, 2, 3).

Further, *t*-test and Analysis of Variance (ANOVA) was used to interpret the data in statistical terminology.

## RESULTS

**Table 1**
**Alpha Coefficient of CHAOS Scale-Urdu Version (N=152)**

| Scale | Number of Items | Alpha Coefficient |
|---|---|---|
| **CHAOS scale(Wives)** | 15 | .75 |
| **CHAOS scale (Husbands)** | 15 | .78 |

**Table 2**
**Alpha Coefficient of combined CHAOS Scale Urdu-Version (N = 304)**

| Scale | Number of Items | Alpha Coefficient |
|---|---|---|
| CHAOS scale (Urdu) (Wives and Husbands) | 15 | .77 |

**Table 3**
**Item-Total Correlations of CHAOS Scale-Urdu Version (N=152)**

| Items | *r* (CHAOS score-wives) | *r* (CHAOS score-husbands) |
|---|---|---|
| 1 | 0.524** | 0.591** |
| 2 | 0.548** | 0.613** |
| 3 | 0.486** | 0.403** |
| 4 | 0.564** | 0.646** |
| 5 | 0.440** | 0.505** |
| 6 | 0.368** | 0.576** |
| 7 | 0.474** | 0.534** |
| 8 | 0.616** | 0.585** |
| 9 | 0.489** | 0.513** |
| 10 | 0.605** | 0.535** |
| 11 | 0.344** | 0.316** |
| 12 | 0.492** | 0.548** |
| 13 | 0.159* | 0.293** |
| 14 | 0.589** | 0.476** |
| 15 | 0.448** | 0.481** |

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

**Table 4**
**Scores of the total sample on CHAOS Scale (N=152)**

| Categories | Total CHAOS scores range | No. of Couples | Percentage |
|---|---|---|---|
| Non-Chaotic | 0 | 9 | 6% |
| Low Chaotic | 1-5 | 98 | 64% |
| Moderately Chaotic | 6-10 | 37 | 24% |
| Highly Chaotic | 11-15 | 8 | 6% |

**Table 5**
**Means, standard deviations and *F* value of 4 groups of education of wives on CHAOS Scale-Urdu Version (N = 152)**

| | Education Groups | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 10 years *N* = 50 | | 12 years *N* = 27 | | 14 years *N* = 47 | | 16 years *N* = 28 | | |
| | *M* | *SD* | *M* | *SD* | *M* | *SD* | *M* | *SD* | *F* |
| CHAOS | 3.86 | 3.40 | 2.74 | 2.18 | 3.49 | 2.62 | 3.21 | 2.94 | .937 |

*df = (3,148), p>.05*

**Table 6**
**Means, standard deviations and *F* value of the 4 groups of education of husbands on CHAOS Scale-Urdu Version (N = 152)**

| | Education Groups | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 10 years *N* = 26 | | 12 years *N* = 25 | | 14 years *N* = 43 | | 16 years *N* = 58 | | |
| | *M* | *SD* | *M* | *SD* | *M* | *SD* | *M* | *SD* | *F* |
| CHAOS | 4.19 | 3.72 | 1.92 | 1.96 | 3.44 | 2.88 | 3.02 | 2.73 | 2.881* |

*df = (3,148), *p<.05*

Table 7
*t*-test analysis of the working and non-working wives on their scores on CHAOS Scale-Urdu version (N = 152)

| | Occupational status of wives | | | | |
|---|---|---|---|---|---|
| | Working $N = 31$ | | Non-working $N = 121$ | | |
| | *M* | *SD* | *M* | *SD* | *t* |
| **Home chaos** | 3.61 | 3.17 | 3.38 | 2.83 | 0.399 |

Table 8
*t*-test analysis of the CHAOS score of husbands and wives on CHAOS Scale Urdu version (N = 152)

| | Groups | | | | |
|---|---|---|---|---|---|
| | Husbands $N = 152$ | | Wives $N = 152$ | | |
| | *M* | *SD* | *M* | *SD* | *t* |
| **Home chaos** | 3.18 | 2.96 | 3.43 | 2.91 | .723 |

## DISCUSSION

The results of husbands and wives were analyzed separately to measure reliability and internal consistency of CHAOS Scale-Urdu Version. It indicates that the Scale has high internal consistency and is a reliable measure of home chaos in Pakistani culture (Tables 1, 2, 3). Results are consistent with earlier studies which showed that CHAOS Scale is an economical measure of chaotic or non-chaotic home environment (Wachs & Corapci, 2003).

The scores of couples showed their perception of the level of chaos present in their homes. Non-significant mean differences between husbands' and wives' scores on the CHAOS scale reveal the similarity of their perception regarding their home environment (Table 8). Sixty four percent of the couples reported low, and 24% reported presence of moderate chaos around the house. A

small number (6%) reported high levels of home chaos. Only 6% of the couples regarded their home environment as non-chaotic. The low number of couples perceiving their home environment as non-chaotic indicates the prevalence of environmental chaos in Pakistani families.

It was also intended to observe the relationship between couples' education, and occupational status with their scores on CHAOS scale. Available research indicates maternal education as a buffering agent in overcrowded homes. A research showed that educated Egyptian mothers living in overcrowded homes use authoritative style which is related to high cognitive competence of their children (Shapiro, 1974; & Von de Lippe, 1999 as cited in Wachs & Corapci, 2003). However in the present study results showed no significant differences between four educational groups of wives on their scores on CHAOS Scale-Urdu version. Similarly, no significant difference was found between working and non-working wives on their scores on CHAOS Scale-Urdu version (Table 5, 7).

The results indicated that formal education of women did not play a role in determining the home chaos. Although the significant mean differences between husbands' educational groups and their scores on CHAOS scale suggest that husbands might have a role to play in managing their home environment. This can be an indication that in authoritarian and male dominated cultures like Pakistan, home environment is also dependent on the husbands' education and attitude (Table 6). Even with educated women who like to work, very few supportive facilities (e.g. day care centers, adequate transportation to work place and so on) are available. These conditions can make it difficult to manage the household efficiently. Although no supporting data is available regarding husband's education and home chaos in particular, results of the present research indicate the importance of education and general environment in homes in managing home chaos.

The present research suggests new directions for further exploration of the relationship between home chaos and other related variables. In the present study the sample was small and the number of working females was also limited. Research with larger samples and with more detailed demographic information can be done to explore the interactions between factors such as family system (both nuclear and extended families), total number of people living in home, socioeconomic status of the family, cultural values, and psychological well being of parents and children, in relation to home chaos.

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# DEPRESSIVE SYMPTOMATOLOGY IN ADOLESCENTS WITH BORDERLINE PERSONALITY FEATURES

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## ABSTRACT

*The purpose of present research was to investigate association of borderline personality features with depressive symptomatology in adolescents. After detailed literature review following hypothesis was formulated: (1) Borderline Personality Features would be positively associated with depressive symptomatology in adolescents. The sample of the present research consisted of 100 students (50 females and 50 males) recruited from different departments of University of Karachi. Their ages ranged from 18-20 years and their qualification was at least intermediate. Borderline Personality Features Scale of Personality Assessment Inventory (PAI; Morey, 1991) and Reynolds Adolescent Depression Scale-2 (RADS-2; Reynold, 2002) were administered in order to measure borderline personality features and depressive symptomatology, respectively. Pearson Product Moment Coefficient of Correlation was computed to assess relationships among the variables i.e. borderline personality features and depressive symptomatology. The results were consistent with the hypothesis as borderline personality features significantly correlated with depressive symptomatology ($r=.446$, $p<.05$).*

## INTRODUCTION

Borderline Personality Disorder (BPD) has long been considered a mental health problem that results in considerable costs in terms of human suffering and psychiatric expenses among adult patients. Borderline personality

disorder (BPD) is diagnosed as a cluster of long-standing problems with relationships, identity or sense of self, and the control of emotions and behavior. Recurring suicidal impulses and self-harm are generally seen as a core problem area. Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) characterizes the essential features of borderline personality disorder as a pervasive pattern of instability in interpersonal relationships, self-image, and affects, and marked impulsivity that begins by early adulthood and is present in a variety of contexts (American Psychiatric Association [APA ] 2000).

Although the diagnosis of BPD for adolescents is frequently used in clinical settings, the field of mental health has questioned whether one should diagnose BPD among adolescents. There is growing acceptance of the diagnosis of BPD in adolescents; however, there is debate over whether features of personality disorders remain stable over time amongst young people (Links, Gould, & Ratnayake, 2003). Because the personality of adolescents is still developing, therefore the diagnosis of borderline personality disorder should be made with care in this age group. Becker, Grilo, Edell, and McGlashan (2002) found that BPD and its symptoms appear to be as frequent for adolescents as for adults. Similarly, Oldham et al. (2001) found that borderline personality disorder may be present in the elderly, although later in life a majority of individuals with this disorder attain greater stability in functioning. Generally it is estimated that about two percent of the population is estimated to meet diagnostic criteria for BPD, 75 percent of people diagnosed with BPD are female. Individuals with borderline personality disorder may be prone to develop depressive symptoms (Mental Illness Fellowship Victoria, 2005).

Major depressive disorder is a mood disorder. The essential features of major depressive disorder as listed by DSM-IV-TR is a clinical course that is characterized by one or more major depressive episodes without a history of manic, mixed, or hypo manic episodes. The frequently co-occurring mental disorders with major depressive disorder are substance-related disorder, panic disorder, obsessive-compulsive disorder, anorexia nervosa, bulimia nervosa, and borderline personality disorder (APA, 2000).

The frequent occurrence of depressive symptoms in patients with borderline personality disorder (BPD) has generated considerable interest in the nature of the relationship between borderline personality disorder and depressive disorders. Data from the perspectives of phenomenology, biology, and family history, course of illness, co morbidity patterns, and treatment response have

been brought to bear on the question. Reviews based on research available by 1985 and 1991, respectively, arrived at differing conclusions: (1) that both disorders shared common but non-specific sources, and (2) that the two disorders were unrelated but co-occurred because of the high prevalence of each. Since the time of these reviews, additional evidence has become available from a wider range of biological investigations, better controlled co morbidity studies, studies of the relationship of psychosocial stressors to the course of each disorder and neuroimaging studies. Koenigsberg, Anwunah, New, Mitropoulou, Schopick, and Siever (1999) proposed that the disorders co-occur, both because they share some common biological features and because the psychosocial sequella of each can contribute to the development of the other.

Likewise, Daley, et al. (1999) examined the relationship between personality pathology and depression in a sample of late adolescent women followed over three years. As predicted, Axis II symptoms were associated with concurrent depressive symptomatology. Overall, self-reported personality disorder symptoms, as well as those specifically in Clusters A and B, predicted interviewer-rated depression over two years beyond the contribution of initial depression, indicating that sub clinical Axis II symptoms are a risk factor for subsequent depressive symptomatology. In addition, Lewinsohn, Rohde, Seeley, and Klein (1997) have examined the occurrence of elevated personality disorder (PD) dimensional scores in a community sample of young adults as a function of the occurrence of Axis I disorders through age 18 years. Result of the study found prevalence of PD diagnoses was relatively low (3.8% in participants with a history of Axis I versus 1.7% in participants with no Axis I history). The occurrence of all four Axis I diagnostic categories (major depression, anxiety disorders, disruptive behavior disorders, substance use disorders) in childhood and adolescence was associated with elevated PD dimensional scores. The likelihood of elevated PD dimensional scores increased as a function of the number of Axis I disorders. Elevated PD scores were significantly associated with a negative course of major depression. They concluded that, although the rates of Personality Disorders were low, the findings suggest a substantial degree of association between early-onset Axis I disorders and Axis II psychopathology in young adulthood.

Researchers who have examined the association of borderline personality features and depressive symptomatology in non-clinical adolescent's population have found significant association among these. For instance, Zeigler-Hill and Abraham (2006) examined borderline features in students over the course of a

week. Besides other findings, they found that PAI-BOR scores correlated with the overall mean level of Negative Affect, and with the average level of Positive Affect; these results clearly establish that borderline features are associated with a generally dysphoric mood. Similarly, Tolpin, Gunthert, Cohen, and O'Neill (2004) examined borderline features in non-clinical student sample. Findings showed that individuals with borderline features showed marked affective instability and exhibited less day-to-day carryover of mood from one day to the next (i.e., their moods were more erratic and less predictable over time).

It has been found that Borderline Personality Disorder may be accompanied by serious depressive illness (including bipolar disorder), eating disorders, and alcohol or drug abuse. About 50 percent of people with BPD experience episodes of serious depression. At these times, the "usual" depression becomes more intense and steady, and sleep and appetite disturbances may occur or worsen (National Alliance on the Mentally Ill [NAMI] Arizona, 2007). Chanen, Jovev, and Jackson (2007) examined adaptive functioning and psychopathology in adolescents (aged 15-18 years) with DSM-IV borderline personality disorder. They found that, borderline personality disorder group had the most severe psychiatric symptoms and functional impairment across a broad range of domains, followed by the other personality disorder and no personality disorder groups, respectively. Borderline personality disorder was a significant predictor over and above Axis I disorders and other personality disorder diagnoses for psychopathology, general functioning, peer relationships, self-care, and family and relationship functioning.

Stanley and Wislon (2006) found that patients who have major depression and co morbid BPD report more severe symptoms than do patients with major depression alone. These findings are consistent with an earlier study by Comtois, Cowley, Dunner, and Roy-Byrnes (1999), who found that self-reports of depression severity, are increased in patients with BDP and Major Depressive Disorder (MDD) versus MDD alone.

In a recent empirical examination of clinician's ratings of BPD patients, tendencies toward being chronically anxious and unhappy, depressed, or despondent emerged as being most highly descriptive of the BPD suffer (Zittel, Conklin, & Westen, 2005). A study of Bellino, et al. (2005) concur that most patients with borderline personality disorder (BPD) have co morbid Axis I disorders during their lifetime. Likewise, Zimmerman and Mattiaj (1999) examined the relationship between borderline personality disorder and most axis

I diagnostic classes. Borderline PD patients were twice as likely to receive a diagnosis of three or more current axis I disorders (69.5% v 31.1%) and nearly four times as likely to have a diagnosis of four or more disorders (47.5% v 13.7%). In comparison to non-borderline PD patients, borderline PD patients more frequently received a diagnosis of current major depressive disorder (MDD), bipolar I and II disorder. In addition, Pinto, Grapentine, Francis, and Picariello (1996) examined systematically the affective and cognitive features of borderline personality disorder (BPD) in adolescents controlling for depression. Results found that both BPD and non-BPD adolescents endorsed significantly elevated levels of self-reported depression, anger, anxiety, hopelessness, self-deprecatory attributional style, and external locus of control

Conversely, Rothschild and Zimmerman (2002) examined depressed patients with co morbid personality disorders (PDs). Borderline PD (BPD) has been found to be one of the most common PDs in those with early-onset Major Depressive Disorder (MDD). Patients with BPD had an earlier onset of depression, and patients with early-onset depression were more likely to have BPD. The current results indicate that BPD does not significantly account for the differences between early- and late-onset MDD. While BPD is common in early-onset MDD patients, co morbid BPD is not a universal feature of early-onset MDD. Further, Corruble, Ginestet, and Guellfi (1996) estimated that 20% to 50% of inpatients and 50% to 85% outpatients with a current major depressive disorder have an associated personality disorder. Cluster B personality disorder, in particular borderline (10-30%), histrionic (2-20%) and antisocial (0-10%) seems to be overrepresented.

Borderline personality disorder and depression are the most common disorders that are usually diagnosed in clinical settings, and they are present in various cultures around the world. However, these disorders are often incorrectly diagnosed or under diagnosed in clinical practice. Borderline personality disorder causes marked distress and impairment in social, occupational, and role functioning, and it is associated with high rates of self-destructive behavior (e.g., suicide attempts), completed suicide and depression. These characteristics begin by late adolescents and are present in a variety of contexts that may remain in the future life and affect an individual's different life domains (e.g. Gunderson, Zanarini, & Kisiel, 1995).

The relationship between borderline personality features and depressive symptomatology has been the focus of increasing attention, but few investigators

have examined this issue in adolescent non-clinical samples. Most of the available literature is on either the association of borderline personality features and depressive symptoms or borderline personality disorder and depressive disorder among clinical population. This research, keeping in consideration the serious consequences of these two co-occurring symptom manifestations or disorders are an attempt based on the limited available literature to investigate the association of borderline personality features and depressive symptomatology in Pakistani non-clinical adolescent population.

## METHOD

### *Sample*

In present study 100 students (50 females & 50 males) were selected from different departments of University of Karachi. Entire sample belonged to middle socioeconomic class. Their age ranged from 18-20 (late adolescence) with the mean age of 19.22 (±*SD* .719) for total sample; 19.38 (±*SD* .697) for male sample; and 19.06 (±*SD* .712) for female sample. Their educational level was at least intermediate.

### *Measures*

1. **Demographic Form:** Demographic form provides demographic information about the participant, which was obtained through items such as: name, gender, age, education, number of siblings, birth order, family structure, and number of family members.

2. **Borderline Personality Features Scale:** Borderline personality features were measured by using a clinical scale extracted from Personality Assessment Inventory (PAI; Morey, 1991) that is "Borderline Personality Features Scale". This scale is divided into 4 subscales including: Affective Instability, Identity Problem, Negative Relationship, and Self-Harm. Each subscale comprised of 6 items that are arranged on a 3-point Likert-type scale. It reflects how much a person considers the statements about his or herself. The four categories range from false not at all, Slightly True, Mainly True, and Very True. These response categories were scored as, 0, 1, 2, 3 for positively phrased items, whereas, this scoring was reversed for the negative items. This

scale is valid and reliable instrument for measuring borderline personality features.

3. **Reynolds Adolescence Depression Scale-2:** Depressive symptomatology was measured through Reynolds Adolescence Depression Scale-2 (RADS-2; Reynold, 2002). It is divided into four factorically derived subscales, (1) Anhedonia/Negative Affect, (2) Somatic Complaints, (3) Dysphoric Mood, and (4) Negative Self-Evaluation. It contains 30 statements arranged on a 4-point Likert-type scale. It reflects how much a person considers the statement about his or herself. The four categories range from Almost never, Hardly ever, Sometimes, and Most of the time. These response categories were scored as 1, 2, 3, and 4 for the subscales of Somatic Complaints, Dysphoric Mood, and Negative Self-Evaluation, whereas, this scoring is reversed for the statements of subscale Anhedonia/Negative Affect. This instrument is a valid and reliable tool for measuring depressive symptoms in adolescents.

***Procedure***

The respondents were selected on the basis of convenient sampling technique. Authorities of different departments of University of Karachi were approached and were informed about the purpose of the research study. A letter describing the purpose of the research was provided to the concerned authorities. After getting permission from concerned authorities the students were approached in the rooms provided by the administrations of the respective departments. Only those respondents were included in the research that were between 18-20 years. The respondents were informed about the purpose of the study and were assured that the data will purely be used for research purpose and their identities will not be revealed to any one. The formal consent was taken from students through Consent Form and only those students were included in the present research who volunteered to participate. The administration was done in group form. First the participants were requested to complete the demographic information form. This research study measured two variables: borderline personality features and depressive symptomatology. After completion of demographic form, to measure the variable of borderline personality features, respondents were asked to rate themselves on the clinical subscale of Personality Assessment Inventory i.e., Borderline Personality Features Scale (Morey, 1991).

After that a break of 10 minutes was given. Then to assess the variable of depressive symptomatology Reynolds Adolescents Depression Scale-2 (RADS-2) was administered on the participants (RADS-2, Reynold, 2002).

### *Statistical analysis*

In order to interpret the data in statistical terminology the descriptive statistics (Mean, and S.D), Pearson Product Moment Correlation was computed through Statistical Package for Social Sciences (SPSS, V13.0).

### *Operational Definitions of Various Terms*

#### Borderline Personality Features

As described by Morey (1991), Borderline Personality Features focuses on attributes indicative of a borderline level of personality functioning, including unstable and fluctuating interpersonal relations, impulsivity, affective labiality, instability, and uncontrolled anger.

#### Depressive Symptomatology

Depressive Symptomatology is characterized by a range of symptoms along the four basic dimensions: Dysphoric Mood, Anhedonia/Negative Affect, Negative Self Evaluation, and Somatic complaints. Symptoms may include: reduced affect, social anxiety, loneliness, feelings of rejection, self-worth, social withdrawal, sadness, crying, worthlessness, anhedonia-peers, somatic complaint, discouragement, self-injurious, self-esteem, irritability, pessimism, fatigue, self-reproach, self-deprecation, self-pity, anger, reduced speech, sleep disturbance, anhedonia-general, worry, loss of interest, appetite disturbance, and helplessness (Reynolds, 2002).

## RESULTS

**Table 1**

**Descriptive Statistics for the Age of Total Sample**

| Variables | Males | | Females | | Total sample | |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| Age | 19.38 | .697 | 19.06 | .712 | 19.22 | .719 |

**Table 2**

**Descriptive Statistics of the Variables of Borderline Personality Features and Depressive Symptomatology**

| Variables | Males | | Females | | Total sample | |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| Borderline Personality Features | 34.30 | 7.875 | 31.88 | 6.853 | 33.09 | 7.444 |
| Depressive Symptomatology | 62.24 | 12.644 | 61.36 | 13.049 | 61.80 | 12.790 |

**Table 3**
**Correlation between variables of Borderline Personality Features and Depressive Symptomatology**

| Variables | *N* | *r* | *Sig.* |
|---|---|---|---|
| **Borderline Personality Features** | 100 | .446** | .000 |
| **Depressive Symptomatology** | 100 | | |

*p*< .05.

## DISCUSSION

Present research evaluated the relationship between borderline personality features and depressive symptomatology in adolescents. It is also noteworthy to mention that the variables analyzed in the present study do not necessarily lead to a mental disorder. The occurrence of depressive symptoms in patients with borderline personality disorder indicates an area for investigating this issue in different cultures. People with borderline personality disorder often reported difficulties managing their emotions and viewed them as highly reactive emotionally. A number of previous studies have reported the relationship between borderline personality features and depressive symptoms and suggested that individuals who posses feature of borderline personality also report depressive symptoms. Our findings are consistent with these findings and indicate a significant positive association between the variable of borderline personality features and depressive symptomatology among adolescents ($r$ = .446, p< .05; Table 3). These findings are consistent with the formulated hypothesis. According to Daley, Hammen, Burge, Davila, Paley Lindberg, and Herzberg, (1999), sub clinical Axis II symptoms is a risk factor for subsequent depressive symptomatology. One reason for the significance of result can be that the characteristic features of borderline personality disorder and depression have similar manifestation because both individual with borderline personality features

and depressive symptomatology have vulnerability towards stress, impulse dyscontrol and negative emotion. Another reason may be that individuals with borderline personality features perceive their environment as more critical which lead them to evaluate themselves as inadequate, consequently their self-esteem is low that in turn makes them vulnerable to depressive symptoms.

In conclusion, the present research highlights the association of borderline personality features and depressive symptomatology among male and female adolescents. The importance of these variables can not be denied in early treatment intervention for adolescents. As adolescence phase of life is the most critical phase in the life span of an individual and therefore, if adolescents' problems are identified and addressed at this early phase of life, it can assist them in successful transition from adolescence to adulthood and make them less likely to develop any psychopathology in future.

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# ANXIETY AND SELF-ESTEEM IN SMOKERS AND NONSMOKERS

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## ABSTRACT

*The present study aimed to investigate anxiety and self-esteem among smokers and nonsmokers. It was hypothesized that: (1) The level of anxiety would be different in smokers and nonsmokers, and (2) The level of self-esteem would be different in smokers and nonsmokers. Anxiety and self-esteem were measured by using self constructed questionnaire with 18 items on self-esteem and 8 items related to anxiety. The study sample comprised of 200 students (100 smokers & 100 non-smokers), studying at different departments of University of the Punjab. Purposive sampling was used to select the sample. t-test was used to interpret the data in statistical terminology. Results indicate insignificant difference in the level of anxiety (t= -0.654, df=198, p>.05) among smokers and nonsmokers. However, significant difference was found in the level of self-esteem (t= -3.009, df= 198, p<.05) among smokers and nonsmokers. Implications for the implementation of psychological interventions were discussed.*

## INTRODUCTION

Cigarette smoking on college and university campuses is on increase throughout the nation. Smoking behavior is complex to understand in this present era of globalization and advancement. Multiple reasons contribute to increase in smoking behavior among students.

Smoking as a construct is important to study, as it leads to death and disability by resulting in diseases like lung cancer and coronary heart diseases.

Though, no definite statistics are present for Pakistan, it is known that 120,000 people each year are killed due to smoking in UK (Callum, 1995). If interventions can be designed to prevent young people to stop smoking, the problem at hand could be resolved. One of the possible ways to tackle this issue could be, to focus on personality differences in both smokers and non smokers, and then design interventions, both psychological and medical accordingly.

The present research has utilized this very possible way to study differences in smokers and nonsmokers. The study focuses to examine the differences in anxiety and self-esteem in smokers and non smokers in student population. Though self-esteem has been explored in smoking research as a possible buffer for tobacco use, however, some studies addressed the association between, anxiety, self-esteem and smoking in college and university populations in West. No relevant literature related to this topic is available in Pakistan till date.

Past literature review shows that higher levels of trait anxiety are present among adult smokers as compared with nonsmokers. Three studies (Pritchard & Kay, 1993; Waal-Manning & Hamel, 1978; Williams, Hudson, & Redd, 1982), have confirmed this association but four others (Canals, Dome´nech, & Blade, 1996; Farley & Lester, 1995; Kick & Cooley, 1997; Takemura, Akanuma, Kikuchi, & Inaba, 1999) point in opposite direction. One reason for these controversial results can be the fact that negative studies have only examined smoking status rather than nicotine dependence.

It has been found that adolescent smokers report significantly higher levels of nervousness, stress and anxiety than do age-matched nonsmokers and 64% of adolescent female smokers report feeling calmer after smoking (Royal College of Physicians, 2000). Smokers have been found to have higher levels of neuroticism and neurotic traits (anxiety, depression, and anger) than nonsmokers (Spielberger & Jacobs, 1982; Gilbert & Gilbert, 1995). We can only determine relationship among these constructs as it is difficult to determine causality from these observations.

Many other cross-sectional and longitudinal studies have identified many bio-psychosocial factors associated with smoking (Tyas & Pederson, 1998). The use of smoking for dealing with stress is not unexpected as nicotine may have direct pharmacological effects. Johnson and Gilbert (1995) evaluated the ability of both state and trait anxiety variables, to distinguish smokers from nonsmokers.

Trait anger and anxiety were variables that did differentiate smokers from nonsmokers. Gays, Forgays, Wrzesniewski, and Bonaiuto (1993) also found that trait anxiety and anger were significantly more among smokers in comparison to nonsmokers.

The relationship of smoking and anxiety has not been confirmed in some other studies (e.g., Anda et al., 1990; Glassman et al., 1990). However, still other studies have found that there is, in fact, a clear relationship between smoking and anxiety (Breslau et al., 1991). In Spain, the only study which has been conducted to date on this topic (Canals, Dome´nech, & Blade, 1996) showed smoking behavior was not associated with trait anxiety scores.

Some researches points in opposite direction. In a recent study researchers found that self-esteem scores were significantly higher in nonsmokers than in smokers (Marie, Guillon, Marc, Crocq & Bailey, 2007). In a sample of 1272 children in grades 4 and 6 (Jackson, 1997), found a weak association of self-esteem with initial stage of tobacco smoking, whereas key factors included the use by best friends, the perceived prevalence of use among same-age peers, offers from parents, adjustment to school, and behavioral self-regulation. However, Murphy and Price (1988) studied a sample of 1513 eighth graders and found that low self-esteem was the main characteristic distinguishing smokers from nonsmokers, for both boys and girls. Other studies establishing an association between low self-esteem and smoking behavior only showed a significant association of these variables among girls. For instance, Abernathy, Massad, and Romano-Dwyer (1995) found no association in sixth-grade boys between self-esteem with subsequent smoking in grades 6–9, whereas girls with low scores on self-esteem from grade 6 through grade 9.

Spielberger theory separates anxiety into two parts: trait anxiety and state anxiety. The state-trait anxiety theory, just like the Liebert and Morris (1967; as cited in Spielberger & Vagg, 1995) view of anxiety, includes an emotionality and worry component. In the state-trait theory, worry is considered analogues to trait anxiety, and emotionality is considered analogous to state anxiety. Worry is a personality trait-different people worry different amounts about tests. The manner in which arousal is expressed in a particular situation is emotionality.

Speilberger (1978) theory differs from traditional anxiety theories as it emphasizes the role of emotionality in anxiety. Other more traditional anxiety theories emphasize the cognitive component of worry. State anxiety refers to the

temporary state, the current feelings or conditions of an individual. It is conceptualized as transitory emotional state or condition of the human organism that is characterized by subjective, consciously perceived feelings of tension and apprehension, and heightened autonomic nervous system. A state may vary intensely and fluctuate over time. State anxiety is defined as an unpleasant emotional arousal in face of threatening demands or dangers. A cognitive appraisal of threat is a prerequisite for the experience of this emotion (Lazarus, 1991).

A trait refers to relatively stable individual differences in anxiety proneness i.e., the differences between people in the tendency to respond to situations perceived as threatening with elevations in a state anxiety. Trait anxiety thus reflects the existence of stable individual differences to respond with state anxiety in anticipation of threatening situations. Present research will measure T-anxiety only.

In the mid 1960s Maurice Rosenberg and social learning theorists defined self-esteem "as a sense of personal worth or worthiness that can be measured by self-report testing". The terms used for status of smoking are smokers and nonsmokers. A smoker was defined as an individual "who smokes on a daily, weekly, or monthly basis". A nonsmoker was defined as an individual "who has never smoked".

The purpose of the current research is to determine differences in anxiety and self- esteem in smokers and nonsmokers. If there is a difference, it can be detected and psychological interventions can be designed to focus on effective management of anxiety and enhancement of self-esteem. Furthermore, suggestions for management of anxiety and improvement in self esteem can be designed within our educational systems, and alterations in Pakistani education system can be made accordingly. By investigating the anxiety and self esteem among Pakistani students proper planning of remedial and preventive measures in the form of student counseling services, can be introduced in schools, colleges and universities. The main focus of these intervention services could further be, to reduce, and eradicate detrimental psychological repercussions like anxiety and low self-esteem in students that lead towards health detrimental smoking behavior. Following hypotheses are proposed.

1. The level of anxiety would be different in smokers and nonsmokers.
2. The level of self-esteem would be different in smokers and nonsmokers.

## METHOD

### *Sample*

In the current research purposive sampling was used to select smokers and nonsmokers. A total of 200 students from different departments of University of the Punjab were included in the sample. Four faculties were selected from the list of thirteen faculties of University of the Punjab. It consisted of students enrolled in Masters and Graduation Program (age 20 to 28 years). 100 male smoker students and 100 male nonsmokers were taken. Gender variable was held constant (only male students were included in the study) as past research reveals that prevalence of anxiety and self-esteem among males and females is different.

### *Measures*

#### Trait Anxiety

Eight items questionnaire to find out how generally the respondent feels anxiety was constructed, its scale range from 1=Strongly Disagree, 2=Somewhat Disagree, 3=Slightly Disagree, 4=Slightly Agree, 5=Somewhat Agree, to 6=Strongly Agree. The extent of trait anxiety was determined by adding up the scores on individual items. Higher score indicated a higher trait anxiety. Test reliability coefficient was calculated through Cronbach's alpha it revealed reliability for the trait anxiety questionnaire to be $\alpha = 0.6769$. Content validity was determined in the light of Spielbergers (1979) theory of state trait anxiety.

#### Self-Esteem

Eighteen items questionnaire to find out self-esteem was constructed, its scale range from 1=Strongly Disagree, 2=Somewhat Disagree, 3=Slightly Disagree, 4=Slightly Agree, 5=Somewhat Agree, to 6=Strongly Agree. The extent of self-esteem was determined by adding up the scores on individual items. Higher score indicates high self- esteem. Test reliability coefficient was calculated through Cronbach's alpha it revealed reliability for the questionnaire to be $\alpha = 0.6769$. Content validity was determined by Rosenberg self-esteem theory (1960).

### *Procedure*

List of all the faculties of University of the Punjab was taken from the Punjab university website. Purposive sampling technique was used to collect the data. Only male smokers and non smokers were taken. The participants were provided with an explanation of the general nature of the research. They were informed of their right to confidentiality and anonymity, as well as their right to suspend participation without penalty. For those who decided to participate, their signature on an informed consent form was obtained. Data was collected for both male smokers and nonsmokers.

### *Statistical Analysis*

Data was analyzed using SPSS software. Descriptive statistics were calculated and the two groups were compared using independent sample *t*-tests. Two sets of results are presented. The first set addresses difference in anxiety in smokers and non smokers, and the second focuses difference in self-esteem in smokers and nonsmokers

## RESULTS

**Table 1**
**Descriptive Statistics**

| System Variable | *N* | *M* | *SD* | *SE* |
|---|---|---|---|---|
| **Age** | | | | |
| Smokers | 100 | 22.59 | 2.62 | 0.26 |
| Non-smokers | 100 | 21.05 | 1.94 | 0.19 |
| **Period of Smoking** | 100 | 3.95 | 2.95 | 0.30 |
| **Cigarettes** | 100 | 14.73 | 11.83 | 1.18 |
| **Pocket Money** | | | | |
| Smokers | 100 | 4605 | 2809.31 | 280.93 |
| Non-smokers | 100 | 3165 | 1860.56 | 186.06 |
| **Self-Esteem** | | | | |
| Smokers | 100 | 65.49 | 11.49 | 1.16 |
| Non-smokers | 100 | 70.40 | 11.58 | 1.15 |
| **Anxiety** | | | | |
| Smokers | 100 | 27.30 | 8.59 | 0.86 |
| Non-smokers | 100 | 28.06 | 7.82 | 0.78 |

**Table 2**
**Differences between Smokers and Nonsmokers on Variable of Anxiety and Self-Esteem**

| Variables | *df* | *t* | *p* |
|---|---|---|---|
| **Anxiety** | 198 | -3.009 | .003* |
| **Self-Esteem** | 198 | -0.654 | .514** |

*$p<.05$; **$p>.05$

## DISCUSSION

The mean age of smokers (22.59 years) was higher than the mean age of non-smokers (21.05 years). The students started smoking on average 4 years back (Mean = 3.95) which is not a long period of time. The smokers smoke almost 15 cigarettes in a day on average which is a high number. Another interesting thing was the pocket money of the respondents. The results indicate that the average amount of pocket money of smokers (Rs. 4605/-) is higher than the non-smokers (Rs. 3165/-).

No significant difference has been found between smokers and nonsmokers on anxiety ($t$= -.654, $df$= 198, $p > .05$) and past literature also shows mixed results regarding this variable. Results from our study are also some what consistent with past researches which were intended to explore the relationship between anxiety and smoking and found no evidence (e.g., Anda et al., 1990; Elisardo et al., 1999; Glassman et al., 1990).

Statistically significant result was found for the second hypothesis of the study, significant difference was found between smokers and nonsmokers on one dependent variable i.e. self-esteem ($t$= -3.009, $df$= 198, $p < .05$). These results are consistent with already existing literature. The results from even conventional, survey-based research have often been inconclusive, the suggestion being that global measures of self-esteem are insufficient, since feelings of self-esteem are domain or context specific. However, analyses of survey data from two Scottish samples of 13±14-year-olds, conducted some 10 years apart, one national (N=2100, 1987) and the other rural (N=800, 1996), to show that even with the bluntest of research instruments, i.e. self-report questionnaire survey data and general measures, it is possible to elaborate on the relationship between self-esteem and smoking in youth (Glendinning & Inglis, 1999).

As with any other study, there were limitations in the present study. Considering the fact that present sample only included university students we cannot generalize these findings to adolescents in general. Sample was limited to male participants this fact narrows the domain of generalizibility of this study. This study can be replicated with female students. Trait anxiety was considered in the present research, but this research can be replicated by using both (state and trait measures of anxiety). Further, the present study differences between categories of smoking status deal only with two levels smokers and nonsmokers. This study can further be improved by adding more levels to smoking status e.g., never vs. ever smokers, or daily vs. occasional smokers, as Young and Werch (1990) found that 2 measures of self-esteem (home and school) were lower among ever compared to never smokers and among those who smoked more compared to those who smoked less. This present study can be replicated further to address issues, as smoking behavior shifts from regular to occasional to ex-to never smoker. Moreover, depression is closely associated with anxiety so the study can be replicated by finding differences in smokers and nonsmokers on anxiety depression and self esteem. Also, interventions targeted on improving self-esteem need to be designed so to prevent smoking in adolescents.

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# ATTRIBUTIONAL STYLE AND HOPELESSNESS: VULNERABILITY TO DEPRESSIVE SYMPTOMATOLOGY IN ADOLESCENCE

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## ABSTRACT

*The objective of the present study was two fold. First, it aimed at investigating the predictive relationship of negative attributional style with depressive symptomatology in adolescents. Secondly, it was examined whether hopelessness mediates the relationship of negative attributional style with depressive symptomatology in adolescents. After detailed literature review, following hypotheses were framed: (1) Negative Attributional Style would predict Depressive Symptomatology in adolescents, (2) Hopelessness would predict Depressive Symptomatology in adolescents, (3) Negative Attributional Style would predict Hopelessness in adolescents, (4) Hopelessness would mediate the relationship of Negative Attributional Style with Depressive Symptomatology in adolescents. The sample consisted of 200 adolescents recruited from four Business Institutions of Karachi: Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST); Iqra University (IU); Institute of Business Management (IoBM); and Pakistan Air Force-Karachi Institute of Economics and Technology (PAF-KIET). The ages of the participants ranged from 17-20 years with the mean age of 19.17 years. Participants completed a battery of self-report research measures including Semi-Structured Interview Form, Attributional Style Questionnaire (ASQ; Peterson, Semmel, Von Baeyer, Abramson, Metalsky, & Seligman, 1982), Beck Hopelessness Scale (BHS; Beck, Weissman, Lester, & Trexler, 1974), and Reynolds Adolescent Depression Scale, 2nd ed. (RADS-2; Reynolds, 2002). Descriptive Statistics, Linear*

*Regression Analysis, Stepwise Regression Analysis, and Pearson Product Moment Coefficient of Correlation were computed to interpret the data in statistical terminology. The analysis reveals a significant predictive relationship of Negative Attributional Style with Depressive Symptomatology ($R^2$ = .077, F = 16.560, df =1, 198, p <.05); Hopelessness with Depressive Symptomatology ($R^2$ =.336, F = 100.134, df =1, 198, p <.05); and Negative Attributional Style with Hopelessness ($R^2$ = .048, F= 9.892, df =1, 198, p <.05). Moreover, Hopelessness significantly mediated the relationship of Negative Attributional Style with Depressive Symptomatology (F = 55.391, df = 2, 197, p <.05). These findings have implications for educational and clinical interventions and these will also guide further preventative research in examining cognitive variables as a precursor to depressive symptomatology.*

## INTRODUCTION

Human thought processes are the products of the particular cognitions which they employ. Cognitions are operating constantly- as we acquire information, store it, retrieve it, use it, and occupy a major portion of one's life. Cognitive factors influence each domain of a person's life and also play a significant role in the development of psychopathology, especially depression. Depression being called the common cold of psychopathology (Seligman, 1975), is a widespread, complex and multifaceted disorder that is difficult to describe concisely (Horwath, 2004). Depression has touched the lives of us all; and every one of us, at one time or another has felt the mood of depression: we feel blue, small exertions tire us out, we loose our sense of humor and our desire to do much of anything – even the things that usually excite us the most. For most people, these moods are usually infrequent and lift in a short time; for many others, however, this mood is recurrent, pervasive, and can be of lethal intensity (Seligman, 1975).

There is a relationship between one's thoughts and moods and the way you feel results entirely from the way you think. For example, you may have noticed that when you feel depressed or anxious you might be thinking about yourself in a pessimistic and self-critical way. This is also true when some negative event happens and at that moment the messages you give to yourself have an enormous impact on your emotions. Several cognitive positions make

similar claims and suggest that cognitive factors underlie problems in everyday living and among them one is *Hopelessness theory of Depression* (Abramson, Alloy, & Metalsky, 1989).

This theory is a further revision of reformulated learned helplessness theory of depression (Abramson, Seligman, & Teadsdale, 1978). The reformulated learned helplessness theory held that perception of lack of control over reinforcement alone did not explain the persistence and severity of depression. It was also necessary to consider cognitive factors, especially the ways in which people explain their failures and disappointments to themselves. Abramson et al. (1978) recast their learned helplessness model in terms of social psychology concept of attributional style.

An attributional style is an individual-differences variable that refers to habitual ways in which people explain their positive and negative life experiences (Abramson, Seligman, & Teadsdale, 1978). According to learned helplessness model, causal attributions vary on three critical dimensions: *locus*, *stability*, and *globality*. Locus of causality refers to whether the outcome was due to something about the person (internal) or something about the situation or circumstances (external). Stability refers to whether the cause will again be presented (stable) or is temporary (unstable). The third dimension, globality, refers to whether the cause influences just this particular situation (specific explanation) or whether it influences other areas of the respondent's life (global explanation; Tennen & Herzberger, 1985).

According to Abramson et al. (1978), individuals with a pessimistic or depressive attributional style will attribute negative life-events to internal ("It's my fault"), stable ("It will happen again"), and global ("It's in everything I try to do") causes, whereas positive life-events are causally attributed in the opposite manner (i.e., external, unstable, and specific). Individuals with an optimistic attributional style explain negative life-events in terms of external ("It was their fault"), unstable ("That won't happen again"), and specific ("That situation was difficult") causes, and positive life-events in terms of internal, stable, and global causes. Attributional style that is negative not only effects the present but also on individual's future orientation. It influences one's perception of present and future by drawing one's attention to all that is negative, as individuals develop the negative thinking pattern and a stable negative attributional style, their likelihood of developing depression increases.

Hopelessness Theory of depression (Abramson, Alloy, & Metalsky, 1989), a cognitive diathesis-stress theory, emphasized on hopelessness as a core aspect of depression. They proposed that having a pessimistic attributional style in conjunction with one or more negative life events was not sufficient to produce depression, unless one first experienced a state of hopelessness. Hopelessness expectancy was defined by the perception that one had no control over what was going to happen and by absolute certainty that an important bad outcome was going to occur or that a highly desired good outcome was not going to occur. Such expectations may themselves be a sufficient condition for depression.

In essence, this theory specifies that depressogenic inferential styles can serve as vulnerability factors to either sub-clinical depressive mood reactions or clinically significant levels of depressive symptomatology depending upon the severity of stressors encountered, and the generality of hopelessness that develops (Abela, 2002). Hopelessness theory has received enormous popularity and support in children and adolescents (e.g. Abela, 2002; Alloy & Clements, 1998; Hankin, Abramson, & Siler, 2001; etc.).

Like in adults, depression also prevails in children and adolescents, however, with minor differences in manifestation of symptoms. For example, an irritable or cranky mood may develop rather than sad or dejected mood in children and adolescents. Besides these differences, it has been evident by a large number of studies that the adolescence phase of our life is the most sensitive period for developing psychopathology, especially depression, when a number of significant changes occur simultaneously both inside and outside the individual (Santrock, 2003).

Cognitive models of depression suggest that attributional style is an important predictor of depressive symptoms in youth. Prospective studies designed to test the extent to which cognitive vulnerability precedes and predicts increases in depressive symptoms and onset of depressive disorder in adolescents have provided support for the diathesis-stress component of the hopelessness theory. For instance, Lakdawalla, Hankin, and Mermelstein (2007) suggested that negative cognitive style mentioned in hopelessness theory interacts with stress to predict prospective levels of depressive symptoms in children and adolescents. Similarly, Gib, Alloy, Abramson, Beevers, and Miller (2004) found that although cognitive vulnerability to depression appears to be dimensional rather than taxonomic, there does appear to be a point along the continuum at which the

strength of the relationship between negative cognitive styles and depression is significantly stronger.

Likewise, Garber, Keiley, and Martin (2002) found that attributional styles that were increasingly negative across time were associated with significantly higher initial levels and increasing growth of depressive symptoms. Alloy et al. (2000) showed that individuals who exhibited negative inferential styles and dysfunctional attitudes had higher lifetime prevalence of major and hopelessness depression and marginally higher prevalence of minor depression than did non-depressed individuals who did not exhibit these negative cognitive styles.

In addition, Lewinsohn, Joiner, and Rohde (2001) found a significant interaction between negative attributional style and negative life events in predicting major depressive disorder onset. Analysis indicated that at high levels of stress, attributional style had little effect on depression onset, however, at low levels of stress the probability of future depression increased as a function of increasingly negative attributional style. These findings suggest vulnerability to depression in persons with a negative attributional style, but only in the absence of elevated stress.

Hopelessness, or negative expectations toward the future, is considered to play a central role in the development of depression. Hopelessness, or negative expectations toward the future, is considered to play a central role in the development of depression. A number of studies examining the role of hopelessness in depression suggested that hopelessness has been found to be associated with depression (e.g., Beck, Riskind, Brown & Steer, 1988; Prezant & Neimeyer, 1988; Whisman, Miller, Norman, & Keitner, 1995; Nimeus, Traskman-Bendz, & Alsen, 1997). Furthermore, other studies suggest that in non-clinical samples it has been shown to be a predictor of depression (e.g., Rholes, Riskind, & Neville, 1985), and also, a key variable linking depression to suicide (e.g., Beck, Kovacs, & Weissman, 1975; Joiner & Rudd, 1996).

However, controversy swirls about the precise role of hopelessness in the etiology of depression and whether hopelessness is best viewed as a mediating or moderating variable (e.g., Dixon, Heppner, Burnett, & Lips, 1993). The hopelessness theory (Abramson, Alloy, & Metalsky, 1989) clearly views hopelessness as a mediating variable and predicts that factors involved in the etiology of depression act through hopelessness, and that any increase in

hopelessness leads to a direct increase in the number and severity of depressive symptoms. A number of studies have examined the causal mediation component of hopelessness theory in adolescents. Significant association between attributional style and depression was found however, the findings regarding the hopelessness as a mediator were mixed. Some studies supported the mediational role of hopelessness (e.g., Alloy & Clements, 1998; Lynd-Stevenson, 1996), some found partial support (e.g., Abela, 2002; Metalsky & Joiner, 1992), or no support (e.g., Abela, 2001) in adolescents.

Adolescence is the most critical phase of an individual's life and if depression is left unquestioned and untreated at this stage, it may have even more serious and long lasting consequences. As having an episode of depression early in life is associated with an elevated risk for developing future depression, substance abuse, anxiety disorder, nonaffective psychiatric disorders and marked difficulties in psychosocial functioning (Gotlib, Lewinsohn, & Seeley, 1995) and suicide (Gadpaille, 1996) during adolescence and later in life. Given these serious consequences of adolescent depression, knowledge about the magnitude and causal chain of etiological factors of depression in Pakistani adolescents is important to make a smoother transition into this phase possible and to save vulnerable adolescents from serious cost associated with this phenomenon (i.e., depression).

In this regard this research based on existing literature is an attempt to focus on the cognitive risk potentials and vulnerabilities (i.e., attributional style and hopelessness) associated with this phenomenon in adolescents. The theoretical framework for this research is 'Hopelessness Theory of Depression' which embedded 'attributional style' and which posits that cognitive (Attributional) styles and other etiological factors contribute to depressive symptoms through the operation of hopelessness as the final mediating pathway. It is noteworthy to mention here that this study did not test the whole theory rather it only examined the cognitive factors (i.e., negative attributional style and hopelessness) featured in the Hopelessness theory of Depression, in predicting normal variation in self-reported depressive symptomatology in adolescents. So keeping in view the literature review, following hypotheses for the current study are framed:

1. Negative Attributional Style would predict Depressive Symptomatology in adolescents.

2. Hopelessness would predict Depressive Symptomatology in adolescents.

3. Negative Attributional Style would predict Hopelessness in adolescents.

4. Hopelessness would mediate the relationship of Negative Attributional Style with Depressive Symptomatology in adolescents.

## METHOD

### *Sample*

A sample of 200 adolescents (76 girls and 124 boys) was recruited from four Business Institutions namely Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST), Iqra University (IU), Institute of Business Management (IoBM), and Pakistan Air Force- Karachi Institute of Economics and Technology (PAF-KIET). Their ages ranged from 17-20 years with mean age of 19.17 (±*SD*=.807) for total sample; 19.36 years (±*SD*=.714) for male adolescents; and 18.84 years (±*SD*=.849) for female adolescents. They were students of Bachelors of Business Administration (BBA). The population of adolescents in the Educational Institutions of Karachi is grouped into different educational types. However in this study adolescents from only Business Institutions were included in the sample to maintain homogeneity in the level of stress due to educational environment and examination. The research measure which was administered to assess Attributional Style required that the participant was currently facing some stressor in life. So it was further made sure that all these participants had their examination starting in next 15-20 days. As a caution, it was also made sure that participants were not experiencing any other stressor at the time of data collection. Adolescents belonging to broken families, being reared by single or no parents, with history of psychological illness either in themselves or in first degree relatives, who were receiving any kind of psychiatric/psychological treatment (psychotropic medication/psychotherapy), with the history of neurological impairment, major surgery, severe head injuries, cancer, diabetes, legal problems, and sexual abuse etc. were not included in the current study, because these variables have their own consequences on mental health. To control the effect of socioeconomic status, only those adolescents who were belonging to upper socioeconomic status were included in the study.

*Measures*

**Semi-Structured Interview Form**

Brief Semi-Structured Interview Form (self-developed according to the established research criteria) consisted of information related to Personal characteristics, Academics, Family history, and presence of Psychological problems.

**Attributional Style Questionnaire (ASQ)**

The Attributional Style Questionnaire (ASQ; Peterson, Semmel, Von Baeyer, Abramson, Metalsky, & Seligman, 1982) is a self-report measure of attributional style comprising of a list of 12 hypothetical events (six with positive outcomes and six with negative outcomes). Subjects are asked to imagine that each hypothetical event has happened to them, specify the persumed cause for each event, and then score the cause of each event along the internal–external (internality), global–specific (globality), and stable–unstable (stability) dimensions on a 7-point rating scale. The scale is designed to assess attributions for both positive and negative events, with higher scores reflective of more internal, stable, and global attributions (considered optimistic for positive events but pessimistic for negative events). The present study used only the composite score for negative events (mean item score for all 18 items).

**Beck Hopelessness Scale (BHS)**

The Beck Hopelessness Scale (BHS; Beck, Weissman, Lester, & Trexler, 1974) consisted of 20 true-false statements that assess the extent of negative expectancies about the immediate and long-range future. The items scores can range from 0 to 20 with higher scores indicating greater hopelessness.

**Reynolds Adolescent Depression Scale, 2nd ed. (RADS-2)**

Reynolds Adolescent Depression Scale, 2nd ed. (RADS-2; Reynolds, 2002) is a brief, 30 items self-report measure to evaluate severity of Depressive Symptomatology in adolescents. The 30 RADS-2 items yield scores on four subscales: Dysphoric Mood, Anhedonia/Negative Affect, Negative Self-Evaluation, and Somatic Complaints. In addition to the four subscale scores, the

RADS-2 yields a Depression Total scale score that represents the overall severity of depressive symptomatology experienced by the adolescents.

***Procedure***

The educational authorities of the four Business Institutions (namely, SZABIST, Iqra University, IoBM, and PAF-KEIT) were contacted to inform them about the present study and find out their willingness to cooperate and let their students participate in the study. A letter describing the study was provided to the concerned authorities. After getting permission from concerned authorities of these Institutions, appointment dates for data collection at least 15-20 days before their examination was set. Each institution was approached separately on the appointment dates. The first few minutes were spent putting the students at ease and then the purpose of the study was briefed and discussed in very general terms. The researcher assured the confidentiality of the participant's personal information and research findings. The formal consent was taken from students through Consent Form and only those students who gave consent to participate were selected as the participants of the present study. The administration was done in group form with maximum of 10 participants in each group.

First, the participants were interviewed using the Brief Semi-Structured Interview Form. Then Attributional Style Questionnaire (ASQ; Peterson, et al., 1982) was administered to assess the participants' attributional styles. After the administration of ASQ, a 10 minutes break was given. Then Beck Hopelessness Scale (Beck, Weissman, Lester, & Trexler, 1974) was administered to assess hopelessness among participants. Then after another 10 minutes break, Reynolds Adolescent Depression Scale (Reynolds, 2002) was administered. To further control the procedures, an effort was made to assess the whole sample in similar settings. The sitting arrangements, temperature, noise, illumination, order of research measures presentation, length of the breaks, and other environmental, measurement, and researcher variables were made identical, through out the study. At the end of the administration of research measures participants and concerned authorities also, were thanked for their cooperation and time.

***Scoring and Statistical Analysis***

After data collection, the all three research meaures were scored according to the standard procedures given in the respective manuals. Then, Statistical Package for Social Sciences (SPSS, V-13.0) and expert guidance were employed to analyze the data. To test the hypotheses of the present study, Linear

Regression Analysis, Stepwise Regression Analysis, and Pearson Product Moment Coefficient of Correlation were computed.

### *Operational Definitions of Various Terms*

#### Negative Attributional Style

The tendency to explain causes on internal, stable, and global dimensions on six hypothetical negative events. In the present research study, it is based on the internality, stability, and globality dimensions for negative events on Attributional Style Questionnaire.

#### Hopelessness

Hopelessness as conceptualized in Beck Hopelessness Scale adheres closely to Stotland's (1969) conception of hopelessness as a system of cognitive schemas in which the denominator is negative expectancy about the short-and long-term future. Hopeless individuals believe: (1) That nothing will turn out right for them; (2) That they will never succeed at what they attempt to do; (3) That their important goals can never be obtained; and (4) That their worst problems will never be solved.

#### Depressive Symptomatology

Depressive Symptomatology is characterized by a range of symptoms along the four basic dimensions: Dysphoric Mood, Anhedonia/Negative Affect, Negative Self-evaluation, and Somatic Complaints. Symptoms may include: reduced affect, social anxiety, loneliness, feelings of rejection, self-worth, social withdrawal, sadness, crying, worthlessness, anhedonia-peers, somatic complaint, discouragement, self-injurious, self-esteem, irritability, pessimism, fatigue, self-reproach, self-deprecation, self-pity, anger, reduced speech, sleep disturbance, anhedonia-general, worry, loss of interest, appetite disturbance, and helplessness (Reynolds, 2002).

#### Adolescents

For this study, Adolescents is defined as participants falling between the age ranges of 17- 20 years old.

## RESULTS

**Table 1**
**Descriptive Statistics of the Variable of Negative Attributional Style (NAS), Hopelessness (HOP), and Depressive Symptomatology (DS)**

| Variables | Males | | Females | | Total sample | |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| **NAS** | 12.02 | 1.943 | 12.33 | 2.118 | 12.14 | 2.012 |
| **HOP** | 3.82 | 2.811 | 4.53 | 3.500 | 4.09 | 3.102 |
| **DS** | 59.09 | 11.244 | 64.99 | 12.775 | 61.33 | 12.161 |

**Table 2**
**Summary of Linear Regression with Negative Attributional Style (NAS) and Hopelessness (HOP) as predictor of Depressive Symptomatology**

| Predictors | *R* | $R^2$ | *df* | *F* | *Sig.* |
|---|---|---|---|---|---|
| NAS | .278 | .077 | 1, 198 | 16.560 | .000 |
| HOP | .580 | .336 | 1, 198 | 100.134 | .000 |

**Table 3**
**Summary of Linear Regression with Negative Attributional Style (NAS) as predictor of Hopelessness**

| Predictors | *R* | $R^2$ | *df* | *F* | *Sig* |
|---|---|---|---|---|---|
| NAS | .218 | .048 | 1, 198 | 9.892 | .002 |

**Table 4**
**Stepwise Regression Analysis Predicting Depressive Symptomatology from Variables of Negative Attributional Style (NAS) and Hopelessness (HOP) on Entire Sample**

| Variables Entered | Model Summary | | | ANOVA | | Coefficient | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Step I** | *R* | *R²* | *Adj R²* | *F* | *Sig.* | Unstandardized Coefficient | | Standardized Coefficient | *T* |
| | | | | | | *B* | *SE* | *B* | |
| Constant | | | | | | 40.947 | 5.077 | | 8.065** |
| NAS | .278 | .077 | .073 | 16.560 | .000 | 1.679 | .413 | .278 | 4.069** |
| **Step II** | | | | | | | | | |
| Constant | | | | | | 40.929 | 4.239 | | 9.656** |
| NAS | .600 | .360 | .353 | 55.391 | .000 | .961 | .353 | .159 | 2.722* |
| HOP | | | | | | 2.136 | .229 | .545 | 9.329** |

** p<.001, * p< .01

## DISCUSSION

Negative attributional style has been suggested as a predictor of depressive symptoms and clinical depression. Our findings not only validate these previous studies but also extend them based on the following key findings. Statistical analysis of the data showed negative attributional style as a significant predictor of depressive symptomatology ($R^2$ = .077, $F$ = 16.560, df= 1, 198, $p$ <.05; Table, 2). These findings are consistent with our formulated hypothesis '1' and a number of studies that suggest that negative inferential, depressogenic or cognitive styles interacted with negative events to predict prospective symptoms of general and anhedonic depression specifically (Hankin, 2008), depressive mood reactions 4 days later (Abela & Brozina, 2004), and concurrent general depressive symptoms and internalizing symptoms but not externalizing problems (Hankin & Abramson, 2002).

In essence, it appears that attributional style that remained negative across time is a vulnerability factor to either depressive symptomatology or clinical depression. Individuals with such a style attribute *negative* outcomes to lasting internal causes such as their own traits or lack of ability, and attribute

*positive* outcomes to temporary, external causes such as blind good luck or special favors from others. This is their thought pattern—never crediting themselves for positive events and blaming themselves for every bad consequence— that has remarkable negative impact on mental health and such a style makes an individual susceptible to depressive symptomatology. The only way to successfully cope with our everyday problems and to preserve a good mental health is to alter our maladaptive attributional patterns.

Hopelessness has also been found to be a key variable leading to depression along a number of factors. Our study also reveals similar findings. Analysis of the results indicate hopelessness as a significant predictor of depressive symptomatology in adolescents ($R^2 = .336$, $F = 100.134$, df= 1, 198, $p < .05$; Table, 2). These findings are consistent with our formulated hypothesis '2' and a number of researches that have explored this link between hopelessness and psychopathology. For instance, Pillay and Sargent (1999) found hopelessness to be associated with both depression as well as anxiety. Likewise, findings from the study conducted by Alford, Lester, Patel, Buchanan, and Giunta (1995) also suggested that hopelessness predicted depressive symptoms over and above life events stressors, but not vice versa.

The findings of these previously conducted researches and the present study demonstrate that individuals who feel hopeless are mainly characterized by having a negative view about the future. Typically, these individuals believe that nothing will turn out right for them, no matter what they do; that they will never succeed at what they try to do; that their important goals can never be attained, and that their worst problems will never be solved, besides their best efforts.

Here the point arises: Do all of us experience enduring episodes of hopelessness? If the answer is 'No', then what makes some individuals hopeless for a longer time, while not others? Researchers, who were interested in this mechanism, have suggested that it is the attributional style that makes some individuals hopeless while not others (e.g., Seligman, 1990). The findings of the present study are also consistent with these previous findings and our hypothesis '3' and show negative attributional style a significant predictor of hopelessness ($R^2 = .048$, $F = 9.892$, df= 1, 198, $p < .05$; Table, 3).

In almost every person's life a stage comes when he fails and consequently, becomes momentarily hopeless. It's a natural response to failures, stressors, or negative events in our life, but it becomes alarming when this phase

persists for a long time. Some people recover almost at once; all the symptoms of hopelessness disperse within hours while others stay hopeless for weeks, months or longer depending upon the severity of the stressor or negative event. The difference between people whose hopelessness disappears quickly and people who suffer from their symptoms for weeks or more is simple. Seligman (1990) suggested that members of the former group have a pessimistic explanatory style, and a pessimistic attributional style changes learned helplessness from brief and local to long-lasting and general. Learned helplessness becomes full-blown depression when the person who fails is a pessimist, thus, the tendency to repeat the same pattern of attributions has an impact on individuals' estimate of hopelessness.

Accordingly, another point that comes to one's mind is: what leads to depression, whether it is negative attributional style or hopelessness? A number of previous studies have supposed that it's neither the negative attributional style nor its hopelessness alone that makes an individual vulnerable to symptoms of depression or clinical depression. It is a series of contributory causes that interact with each other to culminate in depression and among these causes, negative attributional style and hopelessness, both are equally important (e.g., Abramson, Alloy, & Metalsky, 1995).

In short, making negative inferences or having negative attributional style increases the likelihood that hopelessness will develop and once an individual develops hopelessness, depression is inevitable. A number of studies have been conducted to test this assumption; however, inconsistency has constantly been reported regarding the mediational role of hopelessness between negative attributional style and depressive symptom, clinical depression, or hopelessness depression. As mentioned earlier also, some studies found full support (e.g., Metalsky, Joiner, Hardin, & Abramson, 1993), some found partial support (e.g., Hankin, Abramson, & Siler, 2001), or no support (e.g., Nolen-Hoeksema, Girgus, & Seligman, 1992).

The findings from the present study are consistent with the existing literature that supports the mediational role of hopelessness and with our hypothesis '4'. Stepwise Regression Analysis (Table 4) indicates significant variations in level of depressive symptomatology. At step I, negative attributional style ($F = 16.560$, $df = 1, 198$, $p < .05$) explained 7 % variation in the depressive symptomatology. However, with the inclusion of hopelessness at step II ($F = 55.391$, $df = 2, 197$, $p < .05$), the variation explained increased up to 36 %.

Variation explained by negative attributional style lessened after the inclusion of hopelessness at step two.

These findings further highlight the main role of hopelessness. Therefore, the key to this process is hope or hopelessness. As adolescence is a critical period in one's life marked with stack of stressors in terms of pubertal changes; educational/environmental transitions; peers influence; excessive parental demands; role transition, need for independence, autonomy and pressure to conform to social demands. Besides all this they also have to struggle for their self-identity and also this is the stage when attributional style becomes more stable and appears to play a stronger role in their life. Therefore, most adolescents appraise what is happening to them as either good or bad and while doing this they are usually able to offer judgments about their lives. The evaluation of their lives may be in the form of cognitions or in the form of affect.

Trends have been changing rapidly now-a-days in Pakistani society and adolescents give more attention to their status and meeting social demands. Growing age adds more unhappiness in adolescent's life, as they become more exposed to bitter realities of life and consequently become vulnerable to cognitive distortions. With growing age they become more aware of the prejudice, discrimination, and inequalities that are prevalent in Pakistani culture. They frequently encounter discriminations in their daily lives in basic living necessities, educational, occupational, health care facilities, etc., on the basis of belonging to particular gender, sects, religions, and also to different regions. Awareness among adolescents of negative appraisals, social injustices, and restricted resources influences their life choices and future plans. Every adolescent has a desire to have an access to better job opportunities, to attain a better living standard and to attain a better position in society. This desire in turn leads to a sense of competition and higher expectancy level and of course, higher expectations are, if not impossible, more difficult to meet. Therefore, varying standards for comparison and pressure to conform societal demands make them vulnerable to perceive that failures will be long lasting and will be present across different situations, no matter how much efforts they put. And this attributional style in turn add more discontent among adolescents, even, when living standards improve, standards for comparison might raise and lead to increasing dissatisfaction. This discontentment and dissatisfaction in turn leads to hopelessness and make them vulnerable to depression and other psychological problems too.

As learning and academic performance plays an essential role in adolescents' lives, therefore, any obstruction and hindrance in meeting their expectations and from reaching their desired goals causes frustration and consequently hopelessness. Whenever adolescents encounter a negative event in their daily routine life, and they perceive that as an obstacle in reaching their desired goal, there is probability that they are more likely to attribute it to internal, stable, and global causes. Consequently, these attributional patterns make them prone to a fear of failure and subsequently to dissatisfaction, hopelessness which in turn make them vulnerable to depression.

In conclusion, the findings of the present study validate and extend the previous findings regarding predictive relationship of negative attributional style, hopelessness and depressive symptomatology. The results suggest that making negative attributions or inferences about the self, consequences, and causes in the face of negative or stressful events increase the likelihood that hope will be lost and as a result the positive emotional state will be broken and one will become prone to depressive symptomatology. In contrast, refraining from making such inferences should allow for hope to endure and a positive emotional state to be maintained. So making negative inferences and becoming hopeless could be something that we choose personally. By avoiding negative inferences and maintaining hope, we can remain mentally healthy.

These findings merely highlight negative attributional style, hopelessness as vulnerability factors to depressive symptomatology while experiencing negative event and hence, these are not the solitary causes of depressive symptomatology, there are also other variables which either alone or in combination with these factors serves as the vulnerability factors to depressive symptomatology. However, the significance of these variables in identification and treatment of adolescents at risk cannot be denied. These findings have also generated a basis of future hypotheses testing and clinical intervention and suggest that if clinicians will incorporate these variables in planning therapeutic interventions; this will prove highly beneficial for vulnerable adolescents. In addition, future research should also explore other causes to have a better understanding of etiological factors to depression, therefore to develop therapeutic interventions accordingly to help vulnerable adolescents. Such an approach may have great utility for preventing the onset of future episodes and the distinct and often gravid secondary consequences of adolescent depression.

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