# Aim and Scope

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# Adjustment Problems among Mothers of Children with and without Autism Spectrum Disorder

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The present study compared adjustment problems in mothers of children with Autism Spectrum Disorder (ASD) with mothers having normal children. 132 mothers (122 mother from main study and 10 mothers from pilot study) of children with ASD (Clinical group, n=66) and mothers with normal children (Normal group, n= 66) were included in study. Mothers of ASD children were recruited from six different institutions for mentally challenged children. Mothers of normal children were taken from six mainstream schools. Data was collected by administering a Demographic Questionnaire, Bell's Adjustment Inventory and Self Report Questionnaires. A Cross Sectional Research Design was used. Descriptive statistics, Independent sample t–test was used to analyze the data. Results showed that mothers of children with ASD reported greater Emotional Adjustment Problems, Health Adjustment Problems, and Social Adjustment Problems as compared to normal group. Conversely, there was no difference in mothers on Home Adjustment. These findings have implications for intervention with mothers of children with ASD. Future studies need to focus on maternal counseling that would help in decreasing their adjustment difficulties.

**Keywords:** Adjustment problems; Autism Spectrum Disorder, mothers.

A disability does not only affect the person but it also affects all family members in different domains (Crnic, Friedrich, & Greenberg, 1983). Rearing a handicapped child can be very difficult as with the manifestations of Autism parents get progressively confused and apprehensive about the uncertain future of their children. The communication of the diagnosis of a disabled child usually becomes a traumatic event for the family (Symon, 2001).

Bristol, Gallagher and Holt (1993) reported that personal difficulties reported by mothers of children with Autism include: increased stress; poor physical health; depression; excessive time demands; parental burnout; and concerns about their child's dependency, effect on family life, and future psychosocial problems. There is a dearth of

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empirical literature in Pakistan describing adjustment problems in parents of children with Autism Spectrum Disorder. In a developing country like Pakistan, children with developmental delay have traditionally been the sole responsibility of mothers; therefore having such a child is of great challenge to the mental health of the mother. It often requires a reorientation and reevaluation of the family goals, responsibilities and relationships. Considering the mental health of the mothers could be adversely affected while taking care of children with ASD, the present study was planned to discover the adjustment problems of mothers of children with ASD.

Adjustment is an umbrella term and often used as a synonym for accommodation and adaptation. Kulshrestha (1979) explained that the adjustment process is a way in which the individual attempts to deal with stress, tensions, conflicts etc and meet his or her needs. In this process, the individual also makes effort to maintain harmonious relationships with the environment.

Families having a child with autism have reported the greatest levels of stress (Boyd, 2002). Care giver encounter different pressures in the course of everyday living; and often they try to handle them to their best ability. When these pressures seriously affect one's coping resources, they lead to maladjusted behaviors (Davison, Neale, & Kring, 2001).

Adjustment problems refer to maladaptive reactions to a stressful situation occurring soon after the onset of the stressor. The individual fails to adjust properly to new stressful condition of life. Stress results from simultaneous occurrence of two or more incompatible needs or motives (Morgan, 1987). The parenting stress and adjustment problems experienced by the parents depends on some objective and subjective factors, including severity of the disability, parents' appraisal of the situation, and their coping resources (Dyson 1997). Allik, Larsson, and Smedje (2006) have suggested that the mothers of children with Asperger Disorder have poorer physical and mental health than mothers of normal children.

There is a dire need for researchers to explore the experiences regarding adjustment problems of families engaged in educational interventions for autism so that mothers of children with ASD can adopt effective coping mechanisms and manage maladjustment experienced during difficult parenting (Hastings et al., 2005).

The aim of the present study is to highlight maternal home adjustment, health adjustment, social adjustment and emotional adjustment of mothers of children with ASD. The care giver's adjustment problems are important to rule out because they affect not only the parent's well being but also its outcome. Studying maternal Adjustment problems among mothers of children with Pervasive Developmental Disorders (PDDs) is incredibly important because the literature on childhood Autism Spectrum Disorder clearly indicates that there is limited research available on many aspects of the topic. For instance, there is relatively little research that focuses explicitly on adjustment problems in families of children with autism (Hastings, Kovshoff, Brown, Ward, Espinosa & Remington, 2005) or on the social impact upon families of having a child with an Autism Spectrum Disorder (Higgins, Bailey & Pearce, 2005). Therefore, there is a dire need for researchers to explore the experiences regarding adjustments problems of families engaged in educational interventions for autism (Hastings & Johnson, 2001). Therapeutic program can be designed on the basis of findings in order to reduce and prevent adjustment problems and enhancing psychological wellbeing. Therefore the present study aimed to examine adjustment problems of mothers of children having Austism spectrum disorder.



**Hypotheses**

1. There is likely to be significant difference in parental stress between mothers of PDD children and mothers of normal children.
2. There is likely to be significant difference in home adjustment problems between mothers of PDD children and mothers of normal children.
3. There is likely to be significant difference in emotional adjustment problems between mothers of PDD children and mothers of normal children.
4. There is likely to be significant difference in social adjustment problems between mothers of PDD children and mothers of normal children.

## Method

**Participants**

The present study included a purposive sample of 132 mothers of children with ASD (Clinical group, n=66) and mothers of normal children (Normal group, n= 66). Mothers of ASD children with mean age of 33 (SD =4.79) were recruited from six different institutions for mentally challenged children, namely: Centre of Mentally and Physically Affected Special Students (n=8); Autism Institute of Pakistan (n=10); The Dimensions (n=7); Govt. Shadab Training Institute for Special Education (n=2); The Rising Sun (n=24) and Amin Mukhtab (n=15). The age range of children was between 3 to12 years (M = 7.68, SD = 2.60).

The Normal group was matched on the age, religious inclination, education, marital status and occupation of the mothers of the clinical group. Both groups were comparable on the gender of the child. A sample of 66 mothers (M = 33.07, SD = 5.41) of normal children were recruited through six different normal schools namely: Qurban and Surraya Trust, Government Elementary School for Boys; Government High School for Girls; Iqra Model High school; Shaheen Institue; Mumtaz Public High School and Pasha Model High School. Mothers in both the groups were the main care providers at home and were educated at least up till middle (8th grade). The age range of children was between 3 to12 years (M = 7.54, SD = 2.21).

**Measures**

***Bell's adjustment inventory.*** This 140 item inventory was developed by Bell (1934) comprises of five subscales namely: Occupational Adjustment, Home Adjustment, Health Adjustment, Social Adjustment and Emotional Adjustment. The Occupational

Adjustment subscale was not used in the present study because all the mothers were housewives. High score refers to poor adjustment in specific areas. The reliability for the specific areas and total adjustment ranges from 0.75 to 0.95 by test-retest method and from 0.80 to 0.89 by odd-even method. Its validity is 0.785. An adapted Urdu version of Bell's Adjustment Inventory was used (Sheikh, Kausar, & Tabassum,1994).

***Demographic questionnaire.*** A self developed demographic questionnaire was used which included information regarding: Age; education; occupation; family monthly income; religion; family system; and history of psychiatric illness, number of children with ASD in the family, birth order, age and gender of the child.

***Self report questionnaire.*** This self developed questionnaire comprised of five questions, which covered five different dimensions including, how they felt while filling in the questionnaire, the difficulty level they faced in understandability of language, length of questionnaire, time taken and their own suggestions or recommendations.

**Procedure**

***Pilot study.*** For pilot study, five mothers of children with and without ASD were assessed in the pilot study. The age of the children ranged from three to twelve years with sample drawn through two institutions of mentally challenged children and two schools of normal children. Firstly, written permissions were taken from the principals of institutions of mentally challenged children and schools of normal children.

The school administration helped the researcher in approaching the mothers of the children. Secondly, the rationale and procedure of the study was explained to the participants. They were assured about the confidentiality of their identities, and the information provided, and assurance was also provided that the information given by them would be solely used for research purposes. Thirdly, written consent was obtained from each participant. Finally, participants were administered Bell's Adjustment Inventory, Demographic Questionnaire and Self Report Questionnaire. The purpose of the pilot study was to check for the comprehension of questions and time taken in filling in the questionnaire. Individual administration was carried out in a single sitting. A self report questionnaire was used to take feedback from the participants. Most of the participants appreciated the concept, and found the questionnaires interesting and easy to comprehend.

***Main Study.*** In the main study, same procedure was followed as in the pilot study. Although, 78 mothers of children with ASD were approached through school authorities, only 61 mothers completed the questionnaires. After collecting data of clinical group, two class intervals of equal interval of age of mother and child and education of the mother were made to collect data of mothers in normal group to control for confounding variables (see table 1). Furthermore, normal group was also matched on religion, occupation and marital status of the mothers with the clinical group. All the mothers were Muslims, married and housewives, both groups were also made comparable on the



gender of the children. There were 57 boys and nine girls in each group. Participants took 35 to 45 minutes to complete the questionnaires in a single sitting. The present study took ten months to complete.

**Results**

Independent sample t- test is calculated to find out the difference on adjustment problems of mother of children with ASD and the mothers of normal children (N = 132) as measured by Bell's Adjustment Inventory. Out of 132 mothers, 122 mothers were recruited for main study and 10 for pilot study. Descriptive statistics are also used to calculate Mean, Standard Deviation, Frequency, Percentage etc.

**Table 1**

*Frequency of Number of Children in Clinical and Normal Groups, their Age as well as their Mother's Education and Age.*

| Age of the child in years | Years of educationin years | Age of the mother | Groups: Clinical *F* | Groups: NORMAL *F* |
|---|---|---|---|---|
| 3-8 | 7-12 | 25-35 | 7 | 7 |
| 3-8 | 7-12 | 35-45 | 4 | 4 |
| 3-8 | 12-17 | 25-35 | 16 | 16 |
| 3-8 | 12-17 | 35-45 | 5 | 5 |
| 8-13 | 7-12 | 25-35 | 8 | 8 |
| 8-13 | 7-12 | 35-45 | 2 | 2 |
| 8-13 | 12-17 | 25-35 | 7 | 7 |
| 8-13 | 12-17 | 35-45 | 17 | 17 |

Note. Class intervals are counted by excluding the upper limits.

**Table 2**
*Independent Sample t-test for Home Adjustment, Emotional Adjustment, Health Adjustment, Social Adjustment Scales of Bell's Adjustment Inventory of Mothers with ASD Children and Mothers with Normal Children (N= 132).*

| *Variables* | *Clinical group* | | *Normal group* | | | |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *t* | *Cohen's d* |
| *Health Adjustment* | 14.05 | 4.01 | 11.33 | 1.93 | 4.94** | 0.86 |
| Social Adjustment | 16.17 | 3.97 | 11.80 | 3.12 | 7.01** | 1.22 |
| Home Adjustment | 15.36 | 3.9 | 14.89 | 3.41 | 0.73 | 0.12 |
| Emotional Adjustment | 16.03 | 4.01 | 10.73 | 1.97 | 9.62** | 1.67 |

*Note: **=p<.01*

The above table shows that mothers of ASD children face more health adjustment problems as compared to normal group. Moreover, mothers of ASD children reported more social adjustment problems than normal group. Furthermore, mothers of PDD children reported more emotional adjustment problems than normal group. Therefore, results of independent sample t-test revealed the value of t as being significant for both health and social adjustment problems.

Analysis shows that the value of t is insignificant for home adjustment problems. That is there is no difference between mothers of children with ASD children and normal children on home adjustment problems. They are experiencing equal levels of home adjustment problems. Consequently, the hypothesis was partially accepted.

**Discussion**

The results of independent sample t-test revealed that the value of t (refer to table 1) of the present study showed significant differences on Social, Health, and emotional adjustment problems.

The fact that more social adjustment problems were reported by mothers of children with ASD children than by mothers of normal children indicates that the social isolation experienced by families of autistic children can be severe. Isolation may occur for a variety of reasons and leave parents lonely and depressed (Pearlin, Mullan, Semple, & Skaff, 1990) with a negative self-concept (Pearlin, Lieberman, Menaghan, & Mullan, 1981). Many parents have a difficult time socializing with parents of normal children,



and some of them cannot identify themselves with social circle around them. As the child with autism grows older and the difference between his/her peers becomes more obvious, parents might feel more isolated. Friendships may dissolve as caretakers abandon hobbies and outside interests. Another possible reason may be that parents of autistic children hold the opinion that their child has negative characteristics and therefore, as Gallagher and colleagues (1993) reported, experience more feelings of stigmatization (as cited in Gray, 1993). Mothers of autistic children may be at increased risk for psychosocial difficulties because of the scarcity of professional resources, unrelieved parental responsibilities, parental loneliness and isolation, and their child's slow progress (Bishop, Richler, Cain, & Lord, 2007).

The results also indicated that more health adjustment problems were faced by mothers of children with ASD than normal children. Previous literature showed that hectic schedules and unusual meal planned around the child may lead to vitamin and mineral deficiencies, and sleep deprivation that may further result in difficulties in concentrating, memory impairment, and other health complications in parents of ASD children (Rodrigue, Morgan, & Geffken, 1990). Findings of study of Allik, Larsson, and Smedje (2006) also supported the hypothesis who suggested that the mothers of children with Asperger Disorder (sub category of ASD) have more health related problems as compared to the controls indicating poorer physical and mental health. In the Asperger Disorder, maternal health was related to behavioral problems such as hyperactivity and conduct problems in the child.

Furthermore the findings of the analysis indicated the mothers of children with ASD reported more emotional adjustment problems as compared to mothers of normal children. Mothers of ASD children experience emotional adjustment problems as when the diagnosis of the disabled child is made by a clinician following the assessment and screening, the parents may have feelings of fear, rejection or shock. If the parents are not given some hope, they may have a severe grief reaction (Lainhart, 1999). Another possible explanation could be that the diagnosis of the child, which is a developmental disorder, is sometimes considered as the death of the expected normal child. Most of the parents of developmentally delayed children experience the mourning process but the stage progression and/or the length of the stages may be based on individual differences (Seligman, 1985).

Having a child with ASD may cause emotional distress in mothers that begins before the diagnosis and continues throughout life. Parents and other family members of children with ASD often feel alone, isolated, and ignored before receiving a diagnosis for their child. Upon learning that their child may be autistic, emotions may fluctuate between the reliefs of finally knowing what is wrong, to the despair that the child suffers from a disability with no known cure. When the diagnosis got confirmed then the family of the child experience confusion, guilt, anger, depression, and resentment (Valman, 1981, as cited in Shapiro, 1983). Anger and guilt can be devastating to marriages and other family relationships if not dealt properly.

The analysis showed an insignificant difference on home adjustment between the two groups of parents. This indicates that mothers are experiencing an equal amount of home adjustment problems. Yau and Li-Tsang (1999) proposed that despite the fact that the birth of a child with developmental disability may impose extra demands on the parents, some adaptive and successful functioning can also occur in these families. However, this has not received enough attention, similarly, Byrne and Cunningham (1985) claimed that, the assumption that psychological impairment is an inevitable consequence for the families of handicapped children, has turned to an overgeneralization. According to Shapiro (1983) parents are troubled about the tendency of the professionals to put too much emphasis on the negative aspects of the experience, and underestimate their capacity of adjustment. Greenberg et al. (1994, cited in Scwartz & Gidron, 2002) proposed that caring for a mentally ill child has led some parents to personal growth and self awareness. They reported that, parents feel more tolerant, stronger, and less judgmental. It was also found that the divorce rate among parents of autistic children were significantly lower than the average of the population (Akerley, 1984, as cited in Rodrigue, Morgan, & Geffken, 1990).

Studies that have considered both the beneficial and the deleterious effects on families of disabled children have suggested that responses can range from positive adjustment to distressed maladaptation (Seligman, 1985). Indeed, it seems that families can fluctuate through periods of strength and weakness depending on the situational context and that subsystem within a family unit can respond differentially to the presence of a handicapped member (Seltzer, Abbeduto, Krauss, Greenberg, & Swe 2004). The present study results support the findings of the earlier researchers partially. The mothers of ASD children might have adequate home adjustment due to their personal growth and self awareness. They may have felt their self as tolerant, stronger, and less judgmental as the mothers of normal children. Though three adjustment variables showed significant differences between the two sets of parents, lack of difference on home adjustment partially supports the conjecture.

**Limitations and Suggestions**

The findings of this study needs to be interpreted with caution in view that the present study is an exploratory one and has few limitations. Some participants in this study were volunteers and most of the mothers of children were associated with organizations or support group, through which they were recruited. Persons who volunteer for studies or who belong to support groups may have fewer adjustment problems than persons who do not volunteer for research. Positive growth as a result of an adversity was not measured in the present study. Future study is needs to address positive growth in the mother of children with ASD. The present findings have clear implications for the clinicians. The results seem to indicate that there is a need to properly assess adjustment problems experienced by these parents and include interventions to help them. Behavioral management and special education programs can be recommended to mothers who are experiencing such adjustment problems. In the long run, the present researchers believe



that health professionals need to focus on supportive therapy for these parents.

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# Social Support, Locus of Control and Personality Traits as Predictors of Hopelessness among Patients with Depression and those with Anxiety

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The aim of the present study was to investigate the relationship of social support, locus of control and personality traits among patients of depression and anxiety and to explore these variables as predictor of hopelessness. Purposive sampling was employed to gather data of 100 participants (Depression=60) and (Anxiety=40) from indoor and outdoor psychiatric wards of five teaching hospitals of Lahore. It was hypothesized that there is likely to be a relationship among social support, locus of control and personality traits. Moreover, social supports, locus of control and personality traits are likely to predict hopelessness among patients with anxiety and depression. Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem & Farley, 1988), Levenson's Multidimensional Locus of Control Scale (Levenson, 1988), Eysenck Personality Questionnaire (EPQ; Eysenck & Eysenck, 1975) and The Hopelessness Depression symptom Questionnaire (HDSQ; Metalsky & Joiner ,1997) were employed to assess social support, locus of control, personality traits and hopelessness respectively. The results revealed that there is a negative relationship between locus of control and psychoticism (personality trait) and positive correlation between psychoticism (personality trait) and social support from family among depression patients. Among anxiety patients, there is a positive correlation between perceived social support and neuroticism (personality trait) whereas there is negative relationship between perceived social support and extroversion (personality trait). Furthermore, regression analysis revealed that neuroticism (personality trait) was strongest predictor of hopelessness among depressive patients. While among anxiety patients, none of these variables emerged as predictors of hopelessness.

**Keywords:** Social support, locus of control, personality traits, hopelessness, depression, anxiety.

It is of crucial importance to understand the predictive relationship of hopelessness with psychosocial variables in individuals experiencing depression and anxiety disorders because hopelessness is a debilitating emotional symptom that exacerbates pessimism in depressive patients and apprehension in anxiety patients (as cited in Matthews, Deary, & Whiteman, 2003).

Melges and Bowlby (1969) defined hopelessness as a state and a degree in which an

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individual have negative anticipation regarding his/her future (as cited in Spirito & Overholser, 2003). Hope is person's will power and power to find his direction and to achieve a goal in life. Hopeful persons keep themselves positive towards the outcomes and stay away from the negative outcomes (Hellriegel & Slocum, 2007). Relationship between hope and hopelessness is like that it exists at two extremes of a continuum (Campbell, 1987). Hopelessness is a major component of depression and suicidal ideation (Beck, Steer, Kovacs, & Garrison, 1985; Weishaar & Beck, 1992). The people with depressive symptoms are more vulnerable towards hopelessness. They have poor medical as well as personal conditions. They endure more psychological problems such as anxiety, panic attacks and phobias etc (Tylee, Priest & Roberts, 1996).

The hopelessness theory speculated that individuals who are vulnerable towards depressive symptoms and have encountered negative events, moved towards hopelessness (Abramson, Metalsky & Alloy, 1989). Alford, Lester, Patel, Buchanan and Giunta (1995) conducted a study on hopelessness and confirmed that depressive symptoms predicted hopelessness. Hopelessness is a belief in which an individual thinks about the problem rather than solution of the problem (Beck, 1976). Individuals with hopelessness keep focusing on negative events and remain far away from positive ones (Jobes, 2006). The personal and social resources play significant role in developing and maintaining hopelessness. For instance, low level of education and financial crisis move a person towards the depressive symptoms and hopelessness (Hussain, Creed & Tomenson, 2000).

Social Support is defined as the perceived caring, appreciation, and assistance from the loved ones and others (Haber, 2001). Social support is an availability of a person at time of need (Jacobson, 1986). Johnson et al. (2001) identified hopelessness as a mediator of association between social support and depressive symptoms, and found out that men as compared to women with low social support are more vulnerable to hopelessness and depression.

According to Heller (1979) social support protects an individual against stressful life events and succeeding illness. Less social support cause depression and anxiety and many several problems related to health (as cited in Whittaker & Garbarin, 1983). Cohen & Wills (1985) illustrated that any kind of social support may lead an individual towards a healthier life, and it also affects their physical as well mental health.

Locus of control is considered to be an essential feature of personality. The concept was developed by Rotter in 1966. It is basically determined whether a person's life is controlled by oneself or any other external factor involved in it (Rotter, 1966). According to Rotter, people with external locus of control believe that all changes occur due to external or environmental factors, due to their luck or by chance. Whereas the people with internal locus of control believed that all the changes and outcomes are in their own hand (as cited in Sahoo, 2002).

Mutlu, Balbag and Cemrek (2010) studied the role of self-esteem, locus of control and big five personality traits in predicting hopelessness. His study indicates that the students having a personality trait neuroticism is positively associated with hopelessness and have external locus of control as compared to hopeful students.

Eysenck (1976) categorized personality traits into neuroticism, extroversion and psychoticism. As per him, neuroticism trait deals with the characteristics of anxious personality, obsessive attitude and behavior, low self esteem and pessimism towards events. Extroversion is related to the characteristics of individuals who is socially active, irresponsible, risk taker, impulsive, lack reflection and are expressive whereas psychoticism trait indicates the features of dominancy, aggression but assertiveness, goal oriented, ego centric and manipulative (as cited in Eysenck, 1992).

Clark, Beck and Alford (1999) demonstrated that neuroticism plays a great role in the development of anxiety disorder. Various researches interpreted that introversion trait predicted depressive symptoms among the individuals (Levenson, Aldwin, Bosse & Spiro, 1988). Gershuny and Sher (1998) reported that both Introversion and Neuroticism traits interact and predict depressive symptoms. Therefore, it may be concluded that social support, locus of control and personality traits affects psychological illnesses.

This study was carried out to highlight the importance of hope and to identify the level of hopelessness among the patients of depression and anxiety. It helped in identifying and figuring out the type of locus of control among depressive and anxiety patients and recognizing their perception about social support.

**Hypotheses**

1. There is likely to be a relationship between social support, locus of control and personality traits of patients with depression and anxiety.
2. Social support, locus of control and personality traits is likely to predict hopelessness among depression and anxiety patients.
3. There is likely to be difference in social support, locus of control and personality traits among depression and anxiety patients.

## Method

**Participants**

In the present correlation study, purposive sampling was used to collect data from outdoor and indoor patients. Data was collected from five psychiatric wards of Government teaching hospitals of Lahore. The sample comprised of 100 participants (Men=42, Women=58). The total number of patients with depression and those with anxiety was 60 and 40 respectively. Majority of the participants had education till 10th grade.



**Measures**

***Multidimensional scale of perceived social support (MSPSS; Zimet, Dahlem & Farley, 1988).*** It consists of 12 items and measures three dimensions of social support including family, friends and significant others. Each item is scored on 7 point Likert scale ranging from very strongly disagree (1) to very strongly agree (7). Higher score in any subscale indicates the significant role of that component in perceiving social support. The internal consistency of the subscales ranges from 0.86-0.90 and the whole scale reliability is 0.86 (Rizwan & Aftab, 2009). Permission was taken from the original author and also the author who had translated the tool in Urdu. Urdu translated version of the MSPSS was used for present study. The cronbach alpha of the scale for the present study was 0.83.

***Levenson multidimensional locus of control scale (LMLCS; Levenson, 1988).*** Was used to measure participant's perception about the outcomes of life events. It has 28 items and 2 subscales. The first subscale is Internal Scale which is based on general perception about the outcomes controlled by self. The second subscale is Powerful Others Scale that indicates the control of outcomes by others, and the third subscale is Chance Scale which interprets the outcomes due to luck or chance. Each item is scored on 6 point likert scale ranging from +3 (strongly agree) to -3 (strongly disagree). The internal consistency of the scale is 0.83 and for subscales it ranges from .64-.78 (Levenson, 1988). Urdu translated version of the tool was used for the present study after taking permission from the original author as well as the translating author of the tool. The alpha reliability of this scale in present study was 0.77.

***Eysenck personality questionnaire (EPQ; Eysenck & Eysenck, 1975).*** It has 90 items and comprises of four subscales and measures Extraversion, Neuroticism, Psychoticism and Lie scale. A high score in Extraversion subscale indicates the traits of outgoing, impulsive, uninhibited and social kind of personality whereas high score in Neuroticism indicates strong emotional lability and over reactivity. Elevation in scores of Psychoticism indicates cruel, inhumane, socially indifferent, hostile, aggressive, insular, glacial, less empathetic and intolerant traits. The test-retest reliability of Extraversion was reported to be 0.84, while it was 0.82 for Neuroticism, 0.69 for Psychoticism, and 0.69 for Lie scale. The alpha coefficient of EPQ in present study was 0.75. The test re-test reliabilities of subscales are ranging from 0.78 to 0.84. After seeking permission from the author of EPQ, Urdu version translated by Kausar and Amjad (2001) was used in the present research.

***The hopelessness depression symptom questionnaire (HDSQ; Metalsky & Joiner, 1997).*** It has 32 items and measures motivational deficit, interpersonal dependency, psychomotor retardation, anergia, apathy/anhedonia, insomnia, difficulty in concentration /brooding and suicidality. The internal consistency of the complete scale is 0.93, and the alpha values of subscales ranges from 0.70 to 0.86. Each item is scored from 0-3 point scale and higher scores indicated more symptoms of hopelessness depression.

After obtaining permission from the author, it was translated in Urdu by the researchers for the present research by following Mapi guidelines. The alpha reliability of HDSQ for the present study was 0.90.

***Symptoms checklist – revised (SCR; Rahman & Sitwat, 1997).*** Symptom Checklist-Revised was used to screen out patients with Depression and Anxiety. It comprises of six subscales but in present study, three scales were used: Scale I for Depression which includes 25 items, Scale III was used to measure Anxiety, consisting of 29 items and Scale IV for OCD which comprised of 15 items. The items are rated on four point scale (0= Not at all to 3= Very Much). For psychiatric population the reliability of Depression scale and Anxiety scale are reported to be 0.96 and 0.95 respectively. The validity of Depression and Anxiety scales are 0.73 and 0.47 respectively (Rahman & Jagir, 2000). The alpha reliability for the present study of SCR for depression and anxiety was .82 and .86 respectively.

**Procedure**

Data was collected from five psychiatric wards of Government teaching hospitals in Lahore. Permission from the concerned medical superintendents of the hospitals was taken for the purpose of gathering data. After taking consent from each participant, the questionnaires were administered. The participants who had received diagnosis from respective psychiatrists of the hospitals and were further screened out by administering the subscales of Anxiety, Depression and Obsessive Compulsive Disorder of Symptom Checklist-Revised. The participants who scored than the cutoff scores on these scales were included in the study.

After the selection of the targeted population, informed consent was taken from the participants. Information regarding the right to withdraw, use of data for only research purpose along with anonymity and confidentiality was communicated to each participant individually.

## Results

**Table I**

*Summary of Inter-correlations, Means, and Standard Deviations for Scaled Scores of EPQ, Subscales of MSPSS and LOC Scale of Depression and Anxiety Patients (N=100).*



| *Measures* | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | M | SD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. P | __ | -.27 | -.09 | -.14 | .01 | .15 | .26 | .31 | .27 | .29 | .14 | 33.92 | 2.26 |
| 2. E | -.04 | __ | -.26 | -.01 | -.03 | .01 | -.20 | -.53 | -.41** | -.40** | -.38* | 24.24 | 2.97 |
| 3. N | .06 | -.09 | __ | -.23 | .05 | .10 | .01 | .34* | .30 | .13 | .32* | .32* | 4.21 |
| 4. L | -.13 | -.14 | -.32* | __ | .02 | .02 | -.00 | .15 | .03 | .04 | .23 | 27.78 | 4.03 |
| 5. I | -.33** | -.19 | -.18 | .18 | __ | .71** | .70** | .03 | .12 | .19 | -.19 | 30.70 | 6.00 |
| 6. PO | -.36** | -.24 | -.23 | .09 | .47** | __ | .75** | .23 | .16 | .25 | .12 | 29.99 | 5.93 |
| 7. CS | -.30* | -.05 | -.20 | .04 | .49** | .49** | __ | .29 | .27 | .38* | .05 | 32.45 | 6.40 |
| 8. TM | .15 | -.15 | -.06 | .17 | .19 | -.22 | .09 | __ | .83** | .64** | .76** | 54.33 | 15.75 |
| 9. SO | .07 | -.06 | -.06 | .15 | .14 | -.16 | .09 | .85** | __ | .42** | .50** | 4.62 | 1.73 |
| 10. FA | .25* | .12. | -.02 | -.15 | -.04 | -.17 | .07 | .68** | .50** | __ | .12 | 4.90 | 1.48 |
| 11. FR | .06 | -.35** | -.06 | .34** | .29* | -.17 | .03 | .72** | .40** | .15 | __ | 4.05 | 1.94 |

Note: P= Psychoticism, N= Neuroticism, E= Extroversion, L= Lie scale, I= Internal control, PO= Powerful Others, CS= chance scale, TM= Total score of Multidimensional scale of perceived social support, SO= Significant others, FA= Family, FR= Friends
* p<.05, **p<.001.

Table I depicts a negative correlation between Locus of Control and Psychoticism (personality trait) in patients with depression. Furthermore, in depressed patients perceived social support from family is positively correlated with psychoticism (personality trait). There is a positive correlation between internal Locus of Control and perceived social support from friends. In anxiety patients, neuroticism is positive correlated with perceived social support and extroversion (personality trait) is negatively correlated with perceived social support.

**Table 2**

*Predictors of Hopelessness in Patients with Depression (n=60).*

| Variable | B | SE.B | β | 95% CI |
|---|---|---|---|---|
| SO | -1.39 | 1.3 | -.16 | [-4.06, 1.27] |
| SA | 1.43 | 1.6 | .13 | [-1.92, 4.79] |
| FR | .08 | 1.4 | .01 | [-2.73, 2.90] |
| IS | -.55 | .41 | -.21 | [-1.39, .28] |
| CS | .43 | .40 | .16 | [-.37, 1.25] |
| POS | .05 | .44 | .02 | [-.84, .95] |
| P | -1.0 | .92 | -.15 | [-2.86, .86] |
| E | .71 | .53 | .19 | [-.35, 1.77] |
| N | -2.06 | .94 | -.29* | [-3.96, -.16] |
| L | .66 | .56 | .16 | [-.47, 1.79] |

Note. N = 100, & $\Delta R^2$= .13, $R^2$ = .27, SO= Significant Others, FA= Family Scale, FR= Friend scale, IS= Internal Scale, POS= Powerful Others scale, CS= Chance scale, P= Psychoticism, E= Extroversion, N= Neuroticism, L=Lie Scale, CI= Confidence Interval, *p<.05, **p<.01

Table 2 indicates that neuroticism personality trait emerged as the strongest predictor of hopelessness in patients with depression.

**Table 3**

*Predictors of Hopelessness in Patients with Anxiety (n=40).*

| Variable | B | SE.B | β | 95% CI |
|---|---|---|---|---|
| SO | -.96 | 2.51 | -.08 | [-6.11, 4.19] |
| SA | -.78 | 2.22 | -.06 | [-5.32, 3.75] |
| FR | -1.03 | 2.19 | -.11 | [-5.52, 3.45] |
| IS | .40 | .86 | .12 | [-1.36, 2.17] |
| CS | -.60 | .70 | -.24 | [-2.04, .84] |
| POS | -.27 | .96 | -.0 | [-2.25, 1.70] |
| P | -1.73 | 1.56 | -.20 | [-4.9, 1.46] |
| E | .60 | .88 | .13 | [-1.20, 2.40] |
| N | -.31 | .90 | -.06 | [-2.16, 1.52] |
| L | .16 | .82 | .03 | [-1.51, 1.84] |

Note. N = 100, $\Delta R^2$= .08, $R^2$ = .31, SO= Significant Others, FA= Family Scale, FR= Friend scale, IS= Internal Scale, POS= Powerful Others scale, CS= Chance scale, P= Psychoticism, E= Extroversion, N= Neuroticisim, L=Lie Scale, CI= Confidence Interval *p<.05, **p<.01

Table 3 shows that none of the variable significantly predicted hopelessness in anxiety patients.

**Table 4**

*Independent sample t-test to find out Differences between Social Support, Locus of Control and Personality Traits in Patients with depression and anxiety*

| Variables | Depression | | Anxiety | | t | *p* | 95% CI | | Cohen's d |
|---|---|---|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | | | LL | UL | |
| MSPSS | 51.13 | 16.03 | 59.12 | 14.19 | -2.55 | .01 | -14.20 | -1.78 | .48 |
| SO | 4.40 | 1.89 | 4.96 | 1.41 | -1.71 | .09 | -1.22 | .09 | .33 |
| Family | 4.75 | 1.49 | 5.11 | 1.47 | -1.16 | .24 | -.95 | .24 | .24 |
| Friends | 3.62 | 1.90 | 4.70 | 1.83 | -2.80 | .006 | -1.83 | -.31 | .57 |
| IC | 30.25 | 6.33 | 31.37 | 5.47 | -.91 | .36 | -3.55 | 1.30 | .18 |
| PO | 30.43 | 6.36 | 29.32 | 5.23 | .91 | .36 | -1.29 | 3.51 | .19 |
| Chance scale | 32.66 | 6.10 | 32.12 | 6.89 | .41 | .68 | -2.06 | 3.14 | .08 |
| Psychoticism | 33.93 | 2.46 | 33.92 | 1.96 | .02 | .97 | -.91 | .93 | .00 |
| Extraversion | 30.27 | 4.43 | 30.09 | 3.91 | .21 | .82 | -1.52 | 1.90 | .04 |
| Neuroticism | 23.62 | 2.32 | 25.16 | 3.57 | -2.39 | .01 | -2.81 | -.25 | .51 |
| Lie Scale | 27.00 | 4.09 | 28.95 | 3.69 | -2.42 | .01 | -3.54 | -.35 | .50 |



Note.SO= Significant Others, IC= Internal Control, PO= Powerful Other Scale, CI = Confidence Interval, LL = Lower Limit, UL = Upper Limit.

As shown in the table 4, anxiety patients reported significantly more social support (support from friends) as compared to depression patients. On the other hand, significantly more neuroticism was reported by anxiety patients as compared to depressed ones.

**Discussion**

The aim of the study was to explore social support, locus of control and personality traits as predictor of hopelessness among patients with depression and anxiety.

The findings of the present study supported the first hypothesis as among depression patients, there was a significant negative correlation between extroversion (personality trait) and social support by friends. Findings of the present study are consistent with the past researches as it revealed that low level of extraversion predicted high perception of social support (Swickert & Hittner, 2010; Foster & Clarke, 2004). Thus findings of the present study highlighted that extrovert individuals are socially active but score high in depressive symptoms, which indicates that they perceive less support but need more emotional and tangible support from their families and significant others, which could contribute towards depressive symptoms.

The correlation analysis in table I indicated negative correlation between Locus of Control and Psychoticism (personality trait) among depressive patients. Previous studies have also shown that individuals who have high externality or high scores on powerful others scale of locus of control are more vulnerable towards depression due to negative perception of future outcomes as they believe their life circumstances to be out of their control, and they are also less socially active (Hurrell & Murphy, 1991; Smith & Williams,1992; Kline,1993). Individuals with psychoticism have minimum belief on oneself and others. The negative relationship between psychoticism and locus of control indicates that the individual characterized by assertiveness, egocentric, aggressive, manipulative and unsympathetic traits, do not belief in self due to their lack of assertiveness; blame others due to their aggressive and unsympathetic character; and have minimum belief on chances due to their egocentric nature.

Positive correlation was found between internal locus of control and perceived social support from friends. It indicated that those individuals have more friends and share a good quality of relationship with them, who consider themselves confident and avoid blaming others in negative situations. Voils, Steffens, Flint and Bosworth (2005) reported that among patients of depression there is an association between internal locus of control and family interactions. Hence, it could be concluded that high internal Locus of Control among depressive patients leads to high perception of family support, and better

relationships. When blame is skipped out of interactions with family and friends, relationships prosper.

Present study found that there is negative correlation in extroversion and perceived social support. Similarly, Clarke (2004) suggested that low level of extraversion predicted less perceived social support. It is easy for an extrovert to gain more social support as they like interacting with others, while an introvert is likely to keep things to oneself and one of this reasons for this can be perceiving people as less supportive.
Second hypothesis was concerned with the significant role of social support, locus of control and personality traits as predicting hopelessness among depression and anxiety patients. The results of regression analysis revealed that neuroticism is a strongest predictor (-.29) of hopelessness among depressive participants. Finding of the present study is supported by the previous researches as Chioqueta (2005) reported that depressive symptoms are positively associated by Neuroticism. Moreover, Mutlu and colleagues (2010) found positive relationship between neuroticism and hopelessness. For this reason, the individuals with traits of psychoticism and neuroticism are more vulnerable towards hopelessness. Barnhofer and Chittka (2009) found that neuroticism increases the vulnerability of an individual towards depression by constantly lowering the mood which increases the risk of hopelessness. The results of this study are in line with the results of the present study. Individual having emotional instability and over reactivity associated with neuroticism are more vulnerable towards psychiatric illnesses. Psychoticism characterized by hostility, aggression and inhumanity in the individual will lead them towards depression and anxiety.

The differences between depression and anxiety patients were also explored by independent t-test. This hypothesis was partially accepted as there was no major difference in reference to locus of control among depression and anxiety patients. It indicates that both anxiety and depression patients have not reported any particularly different locus of control.

Significant differences were found among anxiety patients with regards to neuroticism trait. This is supported by various studies that neuroticism and anxiety symptoms have positive relationship with each other (Muris, Peter & Engelen, 2004; Muris, Roelofs, Rassin, Franken & Mayer, 2005). As the trait of neuroticism is characterized by insecurity and negative feelings towards future, it causes an individual to feel anxious (Rachman, 2004; Carver & Scheir, 2002).

Results of the present study also revealed that anxiety patients have significant difference in perceiving social support by friends as compared to the depression patients. Anxiety patients have more social activities as compared to depressive. It might be explained by the fact that anxiety patients indulge them more in social activities to avoid negative outcomes ones; hence, their perception of perceived support is high. Whereas the depressive patient's low interest and sad mood decreases their interest in surroundings



and social activities.

**Limitations & Suggestions**

The data was comprised of 100 participants taken from government teaching hospitals only thus limiting the generalizability of the results. Future studies could also include patients from private clinics and hospitals too. Moreover, use of indigenous tools to measure the research variables would improve the quality and validity of the prospective research results.

**Future Implications**

The finding of the current study indicates that neuroticism trait is higher among anxious participants as compared to depressive ones. There is a need to study about individual characteristics of personality traits that are more vulnerable towards hopelessness that leads towards depression and anxiety in order to better equip clinicians so that timely interventions may be made. Further research can be conducted to examine these variables in different psychological illnesses (as in OCD and phobias).

**Conclusion**

Results indicated that personality trait specifically neuroticism was strongest predictor of hopelessness among depression and anxiety patients. The people who perceived less social support had higher tendency to be hopeless. However, locus of control does not significantly predict hopelessness among depression and anxiety patients. On the other hand, the participants having personality traits of neuroticism and extroversion showed more symptoms of hopelessness. As far as the comparison between depressive and anxious patients is concerned, it can be concluded from the present findings that anxious patients perceive more social support as compared to depressive ones. Neuroticism (personality trait) is higher among anxiety patients as compared to depressive patients. Furthermore, high score on neuroticism trait predicted more vulnerability towards hopelessness. Therefore, clinicians must be keep these findings in mind while assessing patients and planning interventions.

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# Gender Differences in Anger and Self-esteem in School Children

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The present study aims to ascertain the relationship between anger and self-esteem of school boys and girls. It was hypothesized that there is likely to be a relationship between anger and self-esteem. It was also hypothesized that boys and girls will likely to differ with respect to anger and self-esteem. A sample of 200 school boys (n=100) and girls (n=100) within the age range of 13-19 years (M=15 and SD=.90) were recruited from private English medium schools in Lahore. Convenient sampling technique was used to select sample. Demographic Questionnaire, State Trait Anger Expression Inventory (STAXI; Speilberger, 1997) and Offer Self Image Questionnaire for Adolescents-Revised (OSIQ-R; Offer et al., 1992) were administered to assess anger and self-esteem respectively. Pearson Product Moment Correlation revealed that subscales of anger had significant positive relationship with self-esteem i.e. morals, family relations, mastery, vocational and educational goals, superior adjustment and Idealism. Moreover, state anger, anger-in, anger-out and trait anger reaction had negative relationship with body image. Likewise state anger, trait anger and anger-in have negative relationship with social relations subscale of self-esteem. Furthermore, trait anger, trait anger temperament and anger-out had negative relationship with sexual attitude. t-test revealed that girls expressed more concern over body image and sexual attitude while boys had high scores in morals and family relationships. While no gender differences were found with respect to different domains of anger. This study will enhance awareness regarding devising counseling programs for anger management and self-esteem enhancement of school students.

**Keywords:** Anger, Self-esteem, family relationships, social relationships

Novaco (1992) explained anger as a normal reaction of people when they get angry at various situations but it becomes unhealthy or dysfunctional when its frequency, intensity and duration increases (as cited in O'Neill, 1999). Mental Health Organization (2008) provided the statistics of UK that almost one third of population reported that they have close relationship with those who has difficulty in controlling their anger. More than 1 in 10 reported that they felt difficulty in controlling their own anger. One in five of people (20%) reported that they have ended their relationship because other person behaved angrily. Moreover, 64% either strongly agree or agree that generally people are getting angrier. Theorists believe that anger is linked with self-esteem. Self-esteem means the experience of being competent to cope with the basic challenges of life as to take life positively and whenever any problem is faced the person deals with it effectively

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and to be satisfied and happy with ones abilities and give self-respect to oneself (Branden, 1969).

Many researches posit that low self-esteem leads to the experience of anger and anxiety (Ellis & Maclaren, 1998; Mathes, Eugene, Adams, Heather, Davies & Ruth; 1985; Todd, 2008). In the same context, Baumeister, Laura and Joseph (1996) found in a research that anger resulting in violence was closely related to threatened self-esteem. However, they also presented the conventional view describing that there is a relationship between low self-esteem and high anger.

Leary and Baumeister (2000) proposed sociometer theory which posits that self-esteem is the person's potential for building relationships and a person's self-esteem will be based depending on the people with whom the person is attached to (as cited in Zanna, 2000). Thus, if a person has high self-esteem due to the relationships around him/her, the anger expression may be reduced. Sociometer theory maintains that self-esteem evolves according to the level of status given to an individual and his acceptance in his desired social group (Greenberg, 2008). Kuppens (2005) suggested that people's attitude towards others and others attitude towards them contribute to trait anger. It has been suggested that if the relationships are working well then it will not lead to anger but will further help in increasing or maintaining a stable self-esteem (Brody et al., 1999 as cited in Busch, 2009; Goldman & Haaga, 1995). Similarly Michael, Bruce and Lynda (1989) proposed that individuals with unstable high self-esteem would report especially high tendencies to experience anger and hostility and vice versa.

Considering the sample of present study, Rosenberg, Schoole and Schoenbach (1989) found that adolescents with high self-esteem are more likely to perform well in school and will not show socially non-acceptable behaviors like anger (as cited in McCullough, Ashbridge & Pegg, 1994).

The relationship between self-esteem and anger had been discussed in many historical perspectives, such as psychodynamic, cognitive and humanistic perspectives. Many cognitive psychologists have suggested that people who suffered from anger and depression were too sensitive that they could not bear the loss of anything or being rejected. After showing anger they had a guilt feeling which create the fear of losing their important relationships. Due to fear of losing relationship, they will suppress their anger and this will lead to their low self-esteem (Busch, 2009). Abraham (1911) gave the similar concept that anger causes resentment which further lowers self-esteem (as cited in Busch, 2009).

The psychodynamic theory (Freud, 1917) proposed that a person who is angry at someone will not show his angry reactions to that person but will start blaming own self and considers himself having low worth (as cited in Busch, 2009).

Humanistic approach proposed that self-esteem is a basic human need. Maslow (1987) explained two levels of needs and self-esteem is considered in higher level of needs without which an individual cannot grow or be satisfied with self.

In the light of existing literature and theories, the present study aimed to find the inter-relationship between anger and self-esteem in school boys and girls. For this purpose following hypotheses were formulated:

1. There is a positive relationship between anger and self-esteem.
2. Boys and girls are likely to differ in anger and self-esteem.

## Method

### Participants

A sample of 200 students (n=100 boys; n=100 girls)was recruited from five different private English medium schools in Lahore. They were from educational level of 7th-10th grades and ranged in ages 13-19 years (M= 15, SD=.90).

### Measures

***Demographic information form.*** A demographic form was developed by the researcher to gather information about the participant's age, gender, grade, number of siblings, birth order, family system, general home environment, family income and any physical or psychological illness in family.

***State trait anger expression inventory (STAXI; Speilberger, 1997).*** State Trait Anger Expression Inventory is a 44 item scale developed by Speilberger (1997). It is consisted of 5 subscales i.e. State Anger (10 items), Trait Anger (10 items), Trait Anger Temperament (4 items) & Trait Anger Reaction (4 items), Anger-in (8 items), Anger-out (8 items), and Anger Control (8 items). Trait anger was further divided into two subscales namely Trait Anger Temperament (4 items) and Trait Anger Reaction (4 items). It has three portions, part 1 measures a person's present feeling, part 2 measures his generally feelings and part 3 measures his feelings when angry or furious. Responses are recorded on 4 point likert scale, “Not at all” to “Very much so”. The questionnaire is valid for age ranges of 13 to adulthood. The internal consistency of this scale for the current study was identified as .76.

***The Offer Self Image Questionnaire for Adolescents-Revised (OSIQ-R; Offer et al., 1992).*** Offer Self Image Questionnaire Revised was developed by Offer, Ostrov, Howard and Dolan (1992) to measure self-image and adjustment in adolescents (13-19years). This is comprised of 130 simple statements that tap 12 areas including Impulse Control, Family Functioning, Emotional Tone, Self-Confidence, Body Image, Vocational Attitudes, Social Functioning, Ethical Values, Self-Reliance, Mental Health, Sexuality and Idealism. The test approximately takes 30 minutes to complete. Responses are recorded on 6-point rating scale. The adolescent simply indicates how well each



statement describes him or her (“Describes me very well” to “does not describe me at all”). The internal consistency of this scale for the current study was identified as .63.

### Procedure

Permissions from the respective authors of the tools were sought in the first step. Before starting the main study, the pilot study was conducted. It was found in the pilot study that the measuring instruments were easily comprehensible for the said population. Permissions were taken from the administration of five private sector English medium schools for collection of data. Before distributing the questionnaires, participants were informed about the general purpose and nature of the study. The data was collected through group administration in class room settings where almost 20-25 students completed the questionnaires at the same time. Written informed consent was from participants and they were informed that they had right to withdraw at any point of the study if they felt uncomfortable. Total of 19 schools were approached but data was collected from 7 schools only as the administration of other schools did not allow data collection. A total of 230 students were approached, out of which 19 refused to participate due to lack of interest in research; 11 forms were discarded as questionnaires were incomplete.

## Results

### Descriptive Statistics

Demographic information reflected that mean age of the participant was 15 years (SD=0.90) with mean 10th grade qualification (SD=0.76). Majority of them were 2nd born residing in nuclear family system with monthly income within the range of PK Rs. 40,000-50,00.

**Table 1**

*Pearson Product Moment Correlation between Subscales of Self Esteem and State Trait Anger Expression Inventory (N=200).*

| V | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | M | SD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.SA | 1 | .46” | .48” | .31” | .26” | .29” | -.01 | .08 | -.10 | -.01 | .26” | .04 | .25” | .24” | 33” | .09 | .23” | .16” | 17.99 | 6.78 |
| 2.TA | | 1 | .82” | .81” | .18” | .42” | .01 | .06 | .01 | -.01 | .19” | -.01 | .18” | .11 | .15” | .13 | .08 | .13 | 23.32 | 6.32 |
| 3.TAT | | | 1 | .49” | .19” | .42” | .03 | .08 | .02 | .07 | .20” | -.04 | .16” | .08 | .20” | .05 | .10 | .14” | 8.24 | 2.90 |
| 4.TAR | | | | 1 | .18” | .23” | -.01 | .07 | -.01 | -.05 | .12 | .01 | .06 | .06 | .04 | .13 | -.06 | .03 | 10.64 | 3.06 |
| 5.AI | | | | | 1 | .35” | .05 | -.18” | -.15” | -.11 | .14” | .03 | .15” | .13 | .05 | .15” | .20” | .18” | 18.11 | 4.40 |
| 6.AO | | | | | | 1 | .11 | -.04 | -.12 | .02 | .12 | -.05 | .15” | .12 | .10 | .12 | .21” | .02 | 17.95 | 4.64 |
| 7.IC | | | | | | | 0 | .33” | .26” | .34” | .01 | .02 | -.03 | -.03 | .07 | -.12 | .06 | -.15” | 29.67 | 7.77 |
| 8.ET | | | | | | | | 1 | .49” | .53” | -.05 | .13 | -.14 | -.19” | .06 | -.29” | -.09 | -.10 | 32.68 | 7.48 |
| 9.BI | | | | | | | | | 1 | .34 | -.21” | -.18” | -.20” | -.27” | -.08 | -.22” | -.08 | -.04 | 31.75 | 6.99 |
| 10.SR | | | | | | | | | | 1 | .04 | .05 | -.02 | -.04 | .09 | -.29” | .03 | .35” | 29.31 | 5.77 |
| 11.Mo | | | | | | | | | | | 1 | .02 | .48” | .42” | .40” | 32” | .40” | -.10 | 29.69 | 6.80 |
| 12.SA | | | | | | | | | | | | 1 | .02 | .08 | .40” | .09 | -.01 | .32” | 35.84 | 8.35 |
| 13.FR | | | | | | | | | | | | | 1 | .44” | -.04 | .27” | .46” | .24” | 53.05 | 12.55 |
| 14.Ma | | | | | | | | | | | | | | 1 | .34” | .37” | .50” | .27” | 29.37 | 7.36 |
| 15.VE | | | | | | | | | | | | | | | .42” | .19” | .52” | -.03 | 27.11 | 8.07 |
| 16.EH | | | | | | | | | | | | | | | 1 | 1 | .29” | .35” | 42.46 | 9.31 |
| 17.SA | | | | | | | | | | | | | | | | | 1 | 1 | 40.37 | 9.51 |
| 18.I | | | | | | | | | | | | | | | | | | | 17.82 | 5.33 |

Note. SA=state anger; TA= trait anger; TAT=trait anger temperament; TAR=trait anger reaction; AI= anger-in; AO=anger-out; IC=impulse control; ET=emotional tone;

BI=body image; SR=social relationships; M=morals; SA=sexual attitude; FR=family relations; M=mastery; G=vocational and educational goals; EH=emotional health, SA=superior adjustment, I=idealism, *p< .05, **p< .01

Table 1 showed that state anger depicted inverse relationship with the domains of self-esteem i.e. impulse control, body image and social relationships but positive relationship with morals, family relations, mastery, vocational and educational goals, superior adjustment and idealism. Moreover, trait anger had negative relationship with social relations and sexual attitude but significant positive relationship with morals, family relations and vocational and educational goals where as positive relationship with other domains of self-esteem. Trait anger temperament showed negative relationship with sexual attitude while significant positive relationship with morals, family relations, vocational and educational goals and idealism. Trait anger reaction had negative relationship with impulse control, body image, superior adjustment while positive relationship with all remaining domains of self-esteem. Anger-in showed negative relationship with emotional tone, body image and social relations but significant positive relationships with remaining domains of self-esteem i.e. moral, vocational and educational goals, emotional tone and superior adjustment. Lastly, anger-out depicted negative relationship with impulse control, body image and superior adjustment but positive relationship with remaining domains of self esteem.

**Table 2**

*Gender Differences in State Trait Anger (N=200).*

| | *Boys (n=100)* | | *Girls (n=100)* | | | | |
|---|---|---|---|---|---|---|---|
| *Subscales* | *M* | *SD* | *M* | *SD* | *t* | *p* | *cohen's d* |
| State anger | 1.57 | .49 | 1.45 | .50 | 1.70* | .09 | .24 |
| Trait Anger | 1.00 | .72 | 1.05 | .70 | .45 | .62 | .07 |
| TAT | 1.11 | .72 | 1.09 | .72 | .19 | .84 | .02 |
| TAR | .98 | .72 | 1.14 | .71 | 1.57 | .12 | .22 |
| Anger-in | 1.10 | .55 | 1.17 | .66 | 1.83 | .07 | .11 |
| Anger-out | 1.19 | .73 | 1.26 | .71 | .68 | .45 | .09 |

Note: *=p<0/05, TAT=Trait Anger Temperament, TAR= Trait Anger Reaction

The table 2 shows no significant gender differences in reference to different types of anger while mean values depict significant difference in state anger, trait anger reaction, anger-in and anger-out between boys and girls. Boys had significantly higher state anger than girls.



**Table 3**

*Gender Differences in Self Esteem (N=200).*

| | *Boys (n=100)* | | *Girls (n=100)* | | | | |
|---|---|---|---|---|---|---|---|
| *Subscales* | *M* | *SD* | *M* | *SD* | *t* | *p* | *cohen's d* |
| Impulse Control | 29.57 | 6.37 | 29.77 | 8.98 | .18 | .85 | 0.03 |
| Emotional Tone | 32.75 | 7.65 | 32.62 | 7.35 | .12 | .90 | 0.02 |
| Body image | 30.00 | 7.09 | 33.40 | 6.50 | 3.46 | .00 | 0.61 |
| Social relationships | 29.91 | 5.81 | 28.72 | 5.70 | 1.4 | .14 | 0.21 |
| Morals | 31.14 | 7.32 | 28.78 | 6.05 | 2.48 | .01 | 0.35 |
| Sexual attitudes | 33.42 | 9.03 | 38.27 | 6.84 | 4.27 | .00 | 0.61 |
| Family relationships | 56.35 | 11.95 | 49.67 | 12.32 | 3.83 | .00 | 0.55 |
| Mastery | 29.66 | 7.59 | 29.08 | 7.15 | .55 | .58 | 0.08 |
| Voc and edu | 28.01 | 7.10 | 26.22 | 8.88 | 1.51 | .11 | 0.22 |
| Emotional health | 42.34 | 9.54 | 42.58 | 9.11 | .18 | .85 | 0.03 |
| Superior adjustment | 42.08 | 10.22 | 38.66 | 8.44 | 2.57 | .01 | 0.36 |
| Idealism | 8.37 | 4.85 | 17.27 | 5.75 | 1.46 | .14 | 1.67 |

Note: Voc and edu= Vocational and education

The table 3 shows significant gender differences in self-esteem i.e. body image, morals, sexual attitude, family relations and superior adjustment. Results revealed that girls were more concerned about their body image and sexual attitude whereas boys were more concerned about morals, family relations and superior adjustment.

**Discussion**

It was hypothesized that there will be a positive relationship between anger and self-esteem. In the present study, a significant positive relationship was found between family relationships, morals and adjustment with state anger. These findings are in line with the past researches as Arslan and Coşkun (2009) identified a significant positive relationship between self-esteem and the social support received from family and teachers. They also proposed that poor social support may be the cause of high state anger. Barkley, Fischer, Edelbrock and Smallish, (2006) suggested that conflict with family members may lead to higher state anger. Hence it could be inferred that as the family relations and adjustment gets disturbed the anger temperament and anger-out increases.

Furthermore, a positive relationship was found between emotional health, adjustment, family relations and anger-out. Wiggins (2009) in his study found that having low self-esteem is a cause of poor emotional health which leads to anger, depression and fear. Kernis, Michael, Grannemann, Bruce, Barclay and Lynda (1989) found that individuals with unstable high self-esteem would report especially high tendencies to experience anger and hostility than individuals with stable high self-

esteem.

The second hypothesis stated that there would be gender differences in anger and self-esteem among participants of the study. The present study revealed that boys had low self-esteem on the following scales of Offer Self Image Questionnaire namely family relations, emotional health, sexual attitudes and superior adjustment. Boys had high ratings on anger scales of state anger and trait anger temperament. Boys had low scores on the self-esteem subscales of family relationships, emotional health, sexual attitudes and adjustment which may be the leading cause of their state anger. In the present study, on anger scales boys had more state anger, which depicts that boys tend to react more on a particular situations. Similar results were also evident from another research which revealed that during late adolescence men are more aggressive than women (Riaz, Iqbal & Qureshi, 2006)

The present study also revealed that boys have higher score on trait anger temperament than girls. Correctional Service of Canada (2007) suggested that mostly girls suppress their anger as they are trained not to express their angry feelings because anger is considered as an unacceptable emotion for them. In Pakistani culture, male family members or boys are usually in dominating roles at homes as they are the only bread winners in family. They usually take all important decisions of the family which others have to follow. This may be a reason that the trait anger is observed more in boys than the girls.

Also it is evident from results that boys had more conflict with their family members which may lead to higher trait anger temperament. Results from the present research revealed that girls had high self-esteem than boys. These results are consistent with the research findings of study conducted by Maharjan (2008) who reported that female adolescents have slightly higher scores on self-esteem than male adolescents.

Rosenberg, Schooler, and Schoenbach (1989) revealed that adolescents with high self-esteem were more likely to perform well in school and will show socially acceptable behaviors (as cited in McCullough, Ashbridge & Pegg, 1994). If the relationships are working well then it will not lead to anger which will further help in increasing or maintaining stable self-esteem (as cited in Busch, 2009). The same results were revealed from present study that girls were well adjusted in family as they have more stable self-esteem.

The above stated results depicted more anger-in in girls as compared to boys which is also supported by past researchers. As Jana and Susan (1999) revealed that women respond with anger-in responses. Lamb, Puskar, Sereika, Patterson and Kaufmann (2003) also reported higher internal anger expression in girls.



**Limitations & Suggestions**

Permissions were not granted by a few schools due to their strict policies. Data from various schools could enhance the generalizability of the results. The questionnaires were lengthy which could have fatigued students at some point during data collection.

**Conclusion**

The present study showed that anger domains have significantly positive relationship with self-esteem domains specifically morals, family relations, idealism, superior adjustment, impulse control and body image. Moreover, significant gender differences were found with respect to sexual attitude, family relations, body image and idealism where no significant gender differences were found for different domains.

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# Internet Addiction: Its relationship with Computer Anxiety and Loneliness

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This study examined the relationship of Internet addiction with computer anxiety and loneliness. It was hypothesized that "Internet addiction would be negatively related with computer anxiety and positively related with loneliness". The sample comprised of 66 private and public sector university students (30 males; 36 females) from Karachi with the mean age of 22.05. Through purposive sampling only those student were selected who were Internet users and had internet facility available at home. After taking consent, they were requested to fill Respondent Profile Form followed by the administration of Compulsive Internet Use Scale, Computer Anxiety Rating Scale, and Differential Loneliness Scale- Short Student Version. Pearson product-moment correlation coefficient indicated that Internet addiction had a significant negative relationship with computer anxiety whereas non-significant positive relationship was found with loneliness. It indicates that computer anxiety may restrict one to become an Internet addict while loneliness doesn't seem to be a contributing factor for internet addiction. No significant gender differences were found in all three variables. However, computer anxiety was significantly higher in public sector university students.

**Keywords:** Internet addiction, computer anxiety, loneliness, university students, correlation.

Common and usually asked question related to internet addiction is whether computer anxiety and loneliness are associated with internet addiction or not? With this problem in mind, the present research was conducted to determine the possible relationship of internet addiction with loneliness and computer anxiety of adult university students. The review of literature for formulating hypothesis is as under:

The term Internet addiction is characterized by being dependent psychologically on Internet, without considering type of act performed while signed in (Kandell, 1998). It is a dangerous problem that can ruin an individual's health and relationships along with reducing one's overall functioning and productivity. Despite the fact that many people spend numerous hours online every day for various activities, the line between normal user and addict is crossed when one cannot stop spending time on the Internet, no matter even if he/she has to sacrifice or delay other things for it. However, if computer anxiety is high then there are chances that one may try to avoid the Internet.

Howard and Smith recognized that a person whose trait anxiety is elevated would

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express more computer anxiety as compared to the individual whose trait anxiety is low (as cited in Saade & Kira, 2009). There is also another view to it i.e. the higher the severity of Internet addiction, lower will be the severity of computer anxiety. Similarly, Akin and Iskender (2011) found that internet addiction is negatively correlated with anxiety. Thus, due to anxiety, a person may avoid use of computer and there are less chances of becoming internet addict. On the other hand, when a person has perception of loneliness then in order to reduce feelings of loneliness, the individual may take help of the internet and chances of internet addiction can increase.

Internet is something through which people can go anywhere, find out virtually anything, do what they want to and be anybody what others want. Although there are ethics to use internet and one should follow policies. Despite of it, majority of people feel that they are not answerable to any administrator and public reaction is missing or if it is present then it is not direct. A research mentioned by Conner (2008) depicted that internet use is a causative aspect in almost fifty percent of problems related to family and relationships.

Furthermore, over use of Internet can make a person socially isolated, increase anxiety, result in loss of affection from close ones and may lead to experience feelings of gloominess. With the wide availability of the researches, it is clear now that the behaviors that are associated with loneliness may add in to amplify the risk of Internet addiction. It has been observed that individuals who are lonely tend to use internet excessively because it provides a kind of social environment that is ideal and satisfactory for lonely people to interact with others (Whitty & McLaughlin, 2005). Also, since lonely individuals are more likely to be socially withdrawn therefore, developing social interactions can be fairly difficult for them in face-to-face social situations than in the world of online communication (Erdogan, 2008). On the other hand, the heavy use of Internet can also be a reason that leads an individual to cut off from normal social contacts and be limited to the life of the Internet thus leading one to become lonely (Kraut et al., 2002).

Moreover, Serin (2011) also found that Internet use can be predicted by personality traits, life satisfaction and loneliness. Also, many researchers suggested that university student's adaptation difficulties and underlying psychological problems also results in excessive internet usage (Koç, 2011; Şahin, Balta & Ercan, 2010 as cited in Serin, 2011).

Thus, it is to be taken into consideration that while Internet is facilitating and contributing positively in many people's lives, it is also bringing along several negative impacts on people's physical, psychological, social, and cognitive development. When individual experiences loneliness, then he/she might favor the vast and infinite world of the Internet over the non-virtual world in search of more satisfactory relationships. If this way of interaction persists then there is a high probability for such an individual to develop Internet Addiction. Furthermore, addiction, being an extreme habit, can leave a negative impact on the individuals' health, both mentally and physically. These negative impacts include anxiety among many others.

There also appear gender differences in the internet usage, perception of loneliness and computer anxiety. A study cited by Chou, Condron and Belland (2005) revealed that men tend to be more pathological users of the internet as compared to women. Similar findings were reported by Serin (2011) that men are more difficult users of internet than women. On the contrary, a study cited by Cao and Su (2007) indicated that men and women do not differ on the amount of time they spend online. Similarly, regarding computer anxiety Brosnan and Lee (1998) did not found any gender differences whereas Gilroy and Desai (1985) concluded that females tend to have higher computer anxiety as compared to their counter parts. Likewise, the perceived level of loneliness also differs with gender. Previous researches supported the notion that males tend to have high level of loneliness as compared to females (Borys & Perlman, 1985). While according to Victor, Scambler, Marston, Bond and Bowling (2006) sex differences with regard to the level of perceived loneliness depends more on other confounding factors like marital status and age etc. It is therefore important to consider that the relationship between these variables does not work in isolation rather various other factors also play a significant role.

The main objective of the current study is therefore to determine the relationship of Internet addiction with computer anxiety and loneliness especially with regard to Pakistani culture. The results of this study would help us to understand the role of internet addiction in loneliness and computer anxiety. It is essential to consider these factors as wide variety of researches indicate that Internet usage in Asia has been remarkably increased since last decade. In this current scenario, Young and Abreu (2010) found that a large number of people in Asian countries like South Korea, Singapore, Taiwan and China are prone to meet the diagnostic criteria of becoming Internet addicts and now Pakistan is also included in these countries (Niaz, 2008). Hence, this research would help us to understand that whether people in the city of Karachi, Pakistan also react to the internet usage in a similar way or not. Moreover, difference in gender and university sectors with reference to the internet addiction, computer anxiety and loneliness would also be taken as additional variable.

**It is hypothesized that:**

Internet addiction is likely to positively correlate with loneliness and negatively correlate with computer anxiety.

## Method

### Participants

The present study comprised of total 66 adults (30 males; 36 females). The age range of participants was between 19 to 25 years with mean age of 22.05 years (SD= 2.25). All the participants were approached from two private (n=26) and one public sector (n=40) educational institutes of Karachi.



***Inclusion criteria.***

Only those university students were selected as participants for data collection who were unmarried, whose ages were between 19 to 25 years and had Internet facility available at home.

***Exclusion Criteria.***

Those university students were excluded as participants for data collection who had a history of any psychiatric disorders.

### Measures

A respondent profile form along with three scales to measure the level of Internet addiction, Computer anxiety, and Loneliness were used.

The Respondent Profile form gathered information related to age, sex, residential area, marital status, economic status, name of university and faculty, education, birth order, family structure, any history of psychiatric disorders, siblings their sex and age, father, mother, occupation etc.

***Compulsive Internet Use Scale (CIUS; Meerkerk, Eijnden, Vermulst & Garretse, 2009).*** Compulsive Internet Use Scale (CIUS) is 14 items scale and it was used to assess the severity of internet addiction. It is based on the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria of dependence and pathological gambling as well as on the criteria for behavioral addictions proposed by Griffiths (as cited in Meerkerk, 2007). It is a 5-point rating scale (0= Never, 1= Seldom, 2=Sometimes, 4= Often, 5=Very Often). The participants were instructed to answer each statement according to their use of the internet. For scoring, all the scores were summed up to get a total score. CIUS has been found to have high reliability (Cronbach's alpha= .90) while construct validity has been found to be moderate (r = .52).

***Computer Anxiety Rating Scale (CARS; Heinssen, Glass & Knight, 1987).*** Computer Anxiety Rating Scale (CARS) was used to tap the strength of attitude of individuals when they are using computers. It consisted of 19 items, scored from 1-5 with "1" representing a reply of "strongly disagree" to "5" indicating a reply of "strongly agree". In this scale ten statements are positive and nine are negative. Hence items no. 2,4,5,6,7,9,10,17,19 are reversed coded with values of "1" carried "strongly agree" to "5" carried "strongly disagree". The minimum score is 19 and maximum score is 114. The score range of 19-50 classify no anxiety category, score of 51-82 indicates low anxiety category and score of 83-114 classify moderate/high level of anxiety. CARS accounted to have high internal consistency of the entire instrument with Cronbach alpha 0.87.

***Differential Loneliness Scale –Short student version (DLS; Schmidt & Sermat, 1983).*** Documentation of the scale indicates that it is a dichotomous scale which consists of total 20 items. This scale assesses the felt lack of, or dissatisfaction with four types of

social relationships: 1) romantic-sexual relationships (R/S), 2) friendships (Fr), 3) relationships with family (Fam), and 4) relationships with larger groups (Gr). Item number 2, 6, 11, 18, and 19 measure "R/S"; 8, 10, 13, 15, and 17 measure "Fr"; 1, 4, 5, 7, and 16 measure "Fam"; while 3, 9, 12, 14, and 20 measure "Gr". The participants are instructed to decide on each statement whether it describes their situation or not, and if it does then they are required to mark it "True" (T), if not then "False" (F). It is also mentioned that if any of the situations depicted in the statements is not applicable to them then they have to mark it as "False" (F). For scoring, the items without asterisk are given one point on each marking of "True" (T) whereas items with asterisk is given one point on each marking of False (F). The reliability of DLS - Short student version with Kuder-Richardson-20 coefficients was from .90 to .92 and test–retest coefficients were .85 and .97. The scale also has concurrent validity, substantive and structural validity (Schmidt & Sermat, 1983).

**Procedure**

Firstly, permission to conduct the research was taken from the heads of all the approached educational institutes. Then, potential participants were approached and only those participants who were Internet users and had the Internet facility available at home were included in the study. This was found through verbally asking the students. Then the Introduction to Participant form and Informed Consent Form was given to the selected participants. After taking their consent and making sure that they have understood the terms and conditions, they were given to fill the Respondent Profile Form followed by the three scales; Compulsive Internet Use Scale, Computer Anxiety Rating Scale, and Differential Loneliness Scale. Scoring was then made as per scoring method of each scale.

**Ethical Considerations**

Data was collected only from those individuals who voluntarily gave their consent to participate in the research. All the participants reserved the right to withdraw at any time during the administration of the questionnaires without any kind of penalty. Further, for data collection, application of statistics, interpretation of results, writing of discussion and references, all ethical principles of American Psychological Association were considered.

## Results

In the following section, firstly descriptive statistics of variable under study would be mentioned followed by inferential statistics of Pearson product moment correlation coefficient for analyzing data related to hypothesis. For additional variables of gender difference and university sectors, t-test was applied.



**Table 1**

*Mean Scores and Standard Deviations of the Internet Addiction, Computer Anxiety and Loneliness (N=66).*

| *Variables* | *M* | *SD* |
|---|---|---|
| Internet Addiction | 41.53 | 11.19 |
| Computer Anxiety | 42.17 | 16.43 |
| Loneliness | 8.30 | 3.93 |

Pearson product moment correlation was applied in order to evaluate the hypothesis. The results indicated that there was a significant negative correlation between Internet addiction and computer anxiety ($r = -.20$, $p < .05$). there was no significant correlation between Internet addiction and loneliness ($p > .05$).

**Table 2**

*Gender Difference in the levels of Compulsive Internet Use, Computer Anxiety, and Loneliness (N=66).*

| | Males | | Females | | | | |
|---|---|---|---|---|---|---|---|
| Variable | M | SD | M | SD | t(df) | p | Cohen's d |
| CIU | 41.33 | 13.27 | 41.69 | 9.36 | .12(64) | .89 | .03 |
| Loneliness | 8.00 | 3.89 | 8.67 | 4.00 | -.68(64) | .49 | .16 |
| CA | 40.75 | 18.25 | 43.87 | 14.06 | -.76(64) | . 44 | .19 |

Note: CIU= Compulsive Internet Use, CA= Computer Anxiety

Independent sample t-test was applied in order to determine gender differences in internet use, loneliness and computer anxiety. The results indicated that there was no significant gender difference in all three variables under study.

**Table 3**

*Independent Sample t Test for Mean Differences in Students from Public and Private Institutes (N=66).*

| | *Public* (n=40) | | *Private* (n=26) | | | | |
|---|---|---|---|---|---|---|---|
| Variables | *M* | *SD* | *M* | *SD* | *t(df)* | *p* | Cohen's d |
| CIU | 41.28 | 10.2 | 41.92 | 12.76 | -.22(64) | .82 | .05 |
| Loneliness | 8.50 | 3.87 | 8.00 | 4.06 | .50(64) | .61 | .12 |
| CA | 46.65 | 15.26 | 35.27 | 16.03 | 2.90(64) | .001 | .72 |

Note: CIU= Compulsive Internet Use, CA= Computer Anxiety

Table 3 indicates significant differences between private and public sector university students in computer anxiety. However, non-significant differences were noted in internet use and loneliness.

**Discussion**

The present study was aimed to determine relationship of Internet addiction with computer anxiety and loneliness.

Firstly, it was hypothesized that internet addiction would likely to be positively correlated with loneliness. The hypothesis was not supported as a non-significant positive correlation between internet addiction and loneliness was found in present study. Contradictory to this, Nalwa and Anand (2003) compared student Internet addicts with the non-addicts and found that Internet addicts are socially more isolated. Niemz, Griffiths and Banyard (2005) also found similar results. Anderson and Bushman (2001) observed that as the time spent on the Internet increases, emotional and behavioral problems such as loneliness and aggression also increase. Caplan (2002) also suggested that there is a direct relationship between an unusual Internet use and depression, social isolation, loneliness and decrease in home/school/job performance. However, our research was not supported by previous researches indicating negative intervention of internet addiction. This may possibly be due to prevalence of active social media websites these days, where young adults and students are quite active and they may feel belonging to groups of people. Further, easy availability of internet facilities these days on cell phones has also motivated internet users to participate in practical social functions and not to limit them at home, where there is internet connection. Hence, people need not to stick to one place only for the use of internet.

Our second hypothesis was that internet addiction would likely be negatively corelated with computer anxiety was supported. Results are also supported by a number of studies. A study conducted by Durndell and Haag (2002) indicated that people who had higher levels of computer anxiety had more negative attitudes towards the Internet and thus they tend to use the internet lesser. Contradictory results were found by Dalbudak et al. (2013) in a study on university students. They found a positive correlation between Internet addiction and anxiety levels.



Further analysis of the data revealed that there exists non-significant gender differences in the level of Internet addiction, computer anxiety, and loneliness (see Table 3). Similar findings were also mentioned by King-wa, Wincy, Paul and Paul (2010) that Internet addiction prevails equally among both men and women. Moreover, a study conducted by Havelka, Beasley, and Broome (2004) revealed that there is no gender difference in the level of computer anxiety. Similarly, Mahon, Yarcheski, and Yarcheski (1994) did not find any gender difference in loneliness.

Additional analysis was run to find out differences in internet use, computer anxiety and loneliness of university students of public and private university sectors. Results revealed that computer anxiety, although in normal range, was significantly higher in students belonging to public sector universities as compared to those from private sector. In our study this difference might be attributed to the fact that as the teaching pattern of private sector universities utilize computers more frequently as compared to the public sector, therefore the students at the private sector universities are not only taught through computer-based lectures but they are also required to do most of their work using computers. In the short fall of electricity, private sector students and teachers can also use computer because of availability of generators but this facility is usually non accessible in public sector universities. Hence, it seems that private sector students become more used to computers in their universities and are able to handle it more efficiently thus, they are expected to have much lower level of computer anxiety than public sector students.

**Limitations and Suggestions**

This study did not focus on the type of activities people engage in on the Internet which might have helped us in better analyzing the relation between the three main variables that are internet addiction, computer anxiety and loneliness. Moreover, a larger sample size, wider age group, and inclusion of non-student population would also be helpful for future researches.

**Implications**

The results of this research provided us with information that although internet addiction is harmful for people however if it is not extremely high, it may not always lead to perception of loneliness in university students. Our results did not depicted extreme internet addiction among our sample of university students. However, literature review of this research can facilitate mental health professionals of Pakistan to become aware of the need to spread knowledge about the dangers associated with excessive internet usage especially in the adolescents/young adults who are apparently at the greater risk from Internet addiction.

**Conclusion**

It is clear from the discussion that although researches indicate that internet addiction can promote loneliness or loneliness is a risk factor for internet addiction. However, from the present study it was not proved as non-significant relationship between internet addiction and loneliness was found. Further, it was found that any level of computer anxiety would play an important role in refraining individual from becoming internet addict.

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# Perfectionism, Self-Esteem, and Procrastination

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The present study was conducted to evaluate procrastination among students and its relationship with perfectionism and self-esteem. A sample of 100 college students comprising of 50 females from Kinnaird College for Women and 50 males from Forman Christian College a Chartered University Lahore were selected. Tuckman Procrastination Scale (TPS; Tuckman, 1991), Frost Multidimensional Perfectionism Scale (FMPS; Frost et al., 1990) and Rosenberg Self-Esteem Scale (SES; Rosenberg, 1965) were administered. Results of Pearson Product Moment Correlation revealed that perfectionism was positively correlated with procrastination. However, self-esteem was negatively correlated with procrastination and perfectionism. Independent Sample t-test analysis indicated that males scored higher on one dimension of perfectionism i.e. concern over mistakes and procrastination, whereas women had higher self-esteem. These findings highlighted the need for active measures to reduce the causes and consequences of procrastination for university students.

**Keywords:** Perfectionism, self-esteem, procrastination, Pakistani students

The current study was undertaken to evaluate the relationship between perfectionism, self-esteem and procrastination. Time is a valuable assert especially in educational sector but surprisingly there is a dearth of literature on procrastination related issues among students in Lahore. Ferrari, Johnson and McCown (1995) defined procrastination as a deliberate act of delaying on starting or completing a task, to the point that the person starts feeling uncomfortable. About 70% of the students procrastinate on activities regularly (Goode, 2008). Procrastination is quite prevalent in college students and it is associated with irritation, regret, self-condemnation, low self-esteem, despair, test anxiety, and lower GPAs (Burka & Yuen, 2008; Ferrari, Johnson, & McCown, 1995; Schraw, Wadkins & Olafson, 2007). Monchek and Muchnick (1988) summarized the consequences of procrastination in two domains including concrete and emotional consequences. The concrete consequences include missed deadlines, lost opportunities, lost income, lower productivity, waste of time, and loss of standing among associates.

The emotional consequences include lower morale, higher stress anger frustration,

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and lower motivation. The effect of procrastination on performance of an individual has great importance in an academic setting. Several studies have found a significant link between procrastination and unfavorable academic consequences represented variedly as poor grades, course withdrawal, delayed submission of assignments, decreased long-term learning, lower test scores, and lower grade point average (Solomon, & Rothblum, 1984; Johnson, & Bloom, 1995; Akinsola, & Tella, 2007). Students who possess perfectionist traits show more procrastination on academic activities (Solomon &

Rothblum, 1984; Akkaya, 2007) in attempts to produce best results (Ferrari, 1992). Perfectionism has been defined as the setting of extremely high and unrealistic standards for performance (Frost, Marten, Lahart, & Rosenblate, 1990). Perfectionism can be adaptive or maladaptive (Hamachek, 1978). Adaptive perfectionism includes characteristics such as; organization and order, high personal standards and fewer tendencies to procrastinate. In contrast, maladaptive perfectionism includes characteristics such as; excessive doubts about their actions, concern over mistakes and have higher tendency to procrastinate. Frost et al. (1990) suggested that perfectionism is multidimensional in nature i.e. concerns over mistakes, personal standards, parental expectations, parental criticism, doubting of actions and organization. Perfectionism has been found to be negatively correlated with self-esteem (Ferrari, 1991; Spatz, 2001). Perfectionists develop unrealistic expectations for themselves when they are unable to meet their set goals and they end up feeling like a failure and thus having low self-esteem. Coopersmith (1967) defined self-esteem as the evaluation one keeps of him or herself, good or bad, shows the extent to which one believes in him or herself as worthy, competent and successful. According to Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2004) low self-esteem has been identified as an associated feature of almost 24 mental disorders. Researchers have found a significant negative relationship of self-esteem with procrastination and perfectionism (Solomon & Rothblum, 1984; Dunkley, Berg, & Zuroff, 2011).

In the light of existing literature it was hypothesized that procrastination will be positively correlated with perfectionism and negatively with of self-esteem; there will be no significant gender difference in perfectionism however male students will be higher on self-esteem and procrastination than female college students.

## Method

### Participants

A sample of 100 college students comprising of 50 females from Kinnaird College for Women and 50 males from Forman Christian College a Chartered University participated. The participants were B.A. /B.Sc. (Honors) college students with an age range of 18-24 years.



### Measures

Tuckman procrastination scale (TPS; Tuckman, 1990).The Tuckman Procrastination Scale (Tuckman, 1991) is a 16 item scale which provides a general index of academic procrastination. The scale ranges from 1(strongly disagree) to 4 (strongly agree). Scores can range from 16 to 64 with higher scores indicating a greater tendency to procrastinate. Validity of this measure is based on a correlation of -.54 between scale scores and a behavioral measure of self-regulation, with a Cronbach alpha reliability coefficient of .86 to .90 (Tuckman, 1990).

***Frost multidimensional perfectionism scale (FMPS; Frost et al., 1990).*** The Multidimensional Perfectionism Scale is a 35 item questionnaire designed to measure perfectionism. The scale ranges from 1 (strongly disagree) to 5 (strongly agree). It has 6 subscales including Concern over Mistakes, Personal Standards, Parental Expectations, Parental Criticism, Doubts about Actions, and Organization. Each of the six subscales is scored by summing the items. There is an overall perfectionism score which is the sum of the subscales. The scales Internal consistency alpha is .77 to .93 and the construct validity is .42 to .87 (Frost et al., 1990).

***Rosenberg self-esteem scale (SES; Rosenberg, 1965).*** Rosenberg Self-Esteem Scale consists of 10 statements related to an overall feeling of self-worth or self-acceptance. The items are answered on a four-point scale from 0 (strongly disagree) to 3 (strongly agree). Scores on SES range from 0-30, between 15 and 25 are within normal range whereas a score below 15 suggest low self-esteem. The reliability of the instrument is .85 to .88 and the Internal consistency alpha is .67 to .83 (Rosenberg, 1965).

### Procedure

Permissions were sought from the authors of the instruments and then from the administration of Forman Christian College. First of all, consent from the participants was taken. The participants were informed about the purpose and aim of the study and the instructions regarding questionnaires were explained to them. Group administrations of the questionnaires were carried out while it took approximately 20-30 minutes to complete these forms.

### Results

The Mean, Standard deviation, Correlation and Independent Sample t-test were used to analyze data.

**Table 1**

*Pearson Product Moment Correlations, Mean and Standard Deviation between Subscales of Perfectionism, Self-Esteem and Procrastination in College Students (N=100).*

| | PER | CM | PS | PE | PC | D | O | PRO |
|---|---|---|---|---|---|---|---|---|
| P | 33** | .32** | -.08 | .21* | .39** | .42** | -.25* | -0.4 |
| SE | -.42** | -.42** | .05 | -.21* | -.47** | -.53** | .24* | -.46** |

Note: PER= Perfectionism CM=Concern Over Mistakes, PS=Personal Standards, PE=Parental Expectations, PC=Parental Criticism, D=Doubting of Actions, O=Organization, P=Procrastination, SE= Self-Esteem
** $p < 0.01$, * $p < 0.05$.

Table 1 depicted a significant positive correlation between procrastination and perfectionism and self-esteem was found to be negatively correlated with procrastination and perfectionism.

**Table 2**

*Independent Sample t-test for Gender Differences on Perfectionism, Self-esteem and Procrastination.*

| | Male | | Female | | | |
|---|---|---|---|---|---|---|
| *Measures* | *M* | *SD* | *M* | *SD* | *t* | *Cohen's d* |
| Perfectionism | 96.16 | 12.47 | 90.14 | 90.14 | 1.86 | .37 |
| COM | 28.22 | 5.22 | 25.54 | 25.54 | 2.08* | .41 |
| Personal standards | 24.08 | 5.04 | 23.58 | 23.58 | 4.91 | .09 |
| Parental expectations | 18.36 | 3.68 | 17.62 | 17.62 | 0.84 | .17 |
| Parental criticism | 12.02 | 2.78 | 11.14 | 11.14 | 1.26 | .25 |
| Doubting of actions | 12.98 | 3.34 | 12.06 | 12.06 | 1.28 | .25 |
| Organization | 21.16 | 4.84 | 22.68 | 22.68 | -1.92 | .38 |
| Self-esteem | 16.72 | 3.51 | 19.30 | 19.30 | -3.19** | .63 |
| Procrastination | 50.38 | 8.56 | 46.64 | 46.64 | 1.98* | .46 |

Note: df= 98, **p<0.01, *p<0.05, COM= Concern Over Mistakes.

Table 2 shows that there are no significant gender differences in perfectionism. However, females scored higher than males on only one dimension of perfectionism i.e. concern over mistakes. Significant gender differences were found in self-esteem and procrastination where females scored higher on self-esteem and males scored higher on procrastination.



**Discussion**

Findings of the current study revealed a positive correlation of procrastination with concern over mistakes, parental expectations, parental criticism, and doubts about actions. It has been suggested that individuals who possess maladaptive perfectionist traits were high on perfectionism dimensions including concern over mistakes, and doubts about actions (Frost, 1990). Moreover, it was indicated that high perfectionists were procrastinators since a positive relationship was found between procrastination and perfectionism.

It was hypothesized that there will be a negative relationship between procrastination and self-esteem. The hypotheses was partially supported as it was found that self-esteem was negatively correlated with procrastination, concern over mistakes, parental expectations, parental criticism, and doubts about actions. Hollender (1965) described perfectionists as excessively sensitive to rejection and overly concerned about social approval. Based on this suggestion, it was indicated that any negative disapproval from others will reduce self-esteem of maladaptive perfectionists (Rice, Ashby, & Slaney, 1998). Similarly, any negative evaluation about self will lead to procrastination on academic tasks. Hence, maladaptive perfectionism and high procrastination is associated with low self-esteem.

The researchers found a positive relationship between self-esteem and organization. As discussed earlier, adaptive perfectionists are high on self-esteem (Ashby and Rice, 2002) and organization a dimension of perfectionism (Frost et al., 1990). Since low self-esteem has been found among individuals in the present study, hence the positive relationship between self-esteem and organization indicates that individual were also low on organization.

Results of the current study depicted that males are high on procrastination and concern over mistakes which is consistent with the previous researches (Arslan, Hamarta, Üre & Özyesil, 2010; McArdle & Duda, 2007). Males engage in poor time management which is associated with high procrastination. Furthermore, authoritarian parenting style is mostly used with males associated with high perfectionism. Therefore males were high on procrastination and perfectionism in the current study.

The findings suggested that males were low on self-esteem than females which is consistent with the literature indicating that maladaptive perfectionism and high procrastination are contributing factors, leading to low self-esteem.

**Limitations and Recommendations**

The small sample size and age restrictions limit the generalizability of the findings. Moreover, a few studies have explored the relationship of procrastination with anxiety and depression (Senécal, Vallerand, & Robert, 1995; Akkaya, 2007). Also a little has

been known about relationship of procrastination with motivation, self-efficacy and self-concept etc. Therefore, further research needs to be conducted to explore the relationship of procrastination with anxiety, depression, motivation, self-efficacy, self-concept, perfectionism and self-esteem, to have a better understanding of procrastination behavior.

**Implications**

Several implications can be concluded from the findings of the present study. College counselors should be hired and they in collaboration with the teachers should enhance the level of frustration tolerance for imperfection and self-esteem among students. Moreover time management skills should be taught to individuals in growth groups for reducing procrastination.

**Conclusion**

In conclusion, college administration should develop and implement preventative, awareness and educational programs for factors that contribute to the high perfectionism, low self-esteem and high procrastination tendencies among college students.

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