# Neuroticism Extroversion Openness Personality Inventory: Translation and Validation in Pakistani Students

\* Dr. Shagufta Perveen, Assistant Professor (Corresponding Author)

\*\* Zainab Noor, Lecturer

\*\*\* Sidra Tul Muntaha, Clinical Psychologist

***Abstract***

*In the present study, the neuroticism extroversion openness personality inventory (IPIP NEO-PI) short form (Goldberg, 1992) was adapted and translated for the evaluation of personality dynamics of Madrassah students in Pakistan. Through factor analysis and back-translation technique, the IPIP-NEO personality inventory was validated and translated into Urdu. Further, on the sample of bilingual adolescents' linguistic equivalence of the scale was also determined. Madrassah students with the age ranging from 16 to 28 years (N = 350; $M_{age}$ = 12.98 years), with 175 males ($M_{age}$ = 12.98 years) and 175 females ($M_{age}$ = 12.97 years) evaluated themselves on the Urdu NEO personality inventory. Confirmatory and exploratory factor analyses were performed. To confirm the authors' model and findings of previous research, one, two, three, four, and five-factor models were analysed. In addition, the gender and education system of the participants were also investigated with their IPIP-NEO personality inventory scores. The IPIP-NEO personality inventory scores exhibited significant differences for these variables. It was revealed that males and females belonging to different education systems scored differently on IPIP-NEO sub-scales. The reported alpha coefficients for the Urdu IPIP-NEO personality inventory subscales ranging from .79 to .93. Exploratory Factor analysis generated a five-factor solution for the Urdu IPIP-NEO personality inventory.*

**Keywords**: Adaptation, Validation, Personality Dynamics, Gender, Exploratory Factor Analysis.

**Introduction**

Personality is taken to be an important element of identity formation depending on many factors i.e., life experiences, education, socialization, social expectations, and training. Education plays a vital role in the healthy development of a personality. Personality transformation is a perplexing component that has been examined resulting in two types of classes identified as dynamic and static-natured features of a personality. Static properties are fixed in nature for the course of life, on the other hand, the dynamic feature does go through alteration and adaptability in nature (Seagle, 2010). The structure the of personality dynamic comprises major aspects i.e., the way the problematic situation is managed and solved, the process of learning, utilization of communication skills along with the keeping high teamwork spirit which in turn is interconnected with task accomplishment of a team and the progressive course of action and demands (Seagle, 2010).

Generally, personality dynamics can easily be identified with five subsections. Each personality dynamic requires elements for knowledge (Read, Monroe, Brownstein, Yang, Chopra & Miller, 2010). Each personality dynamic is known to be comprised of a specific course of growth and development; several methods have been devised and used to assist adults and specifically children with each personality dynamic to develop along their line of development (Jakson, 1971). Francis and Kerr (2003) proved to inverse the relationship between religiosity and psychoticism while both neuroticism and extraversion are neither positively nor negatively related to religiosity. Duriez and Soenens (2004) have proved that the religiosity dimension i.e., openness to experience was associated with identity style and self-concept. Whereas a negative relationship between religiosity and psychoticism was well-established (Francis, Ziebertz & Lewis, 2003).

---

\*    Department of Psychology, Hazara University Mansehra
\*\*   Department of Psychology, University of Haripur
\*\*\* Certified CBT therapist, Psychosocial Officer in APLHIV

While another study assessing religiosity in relation to personality traits has demonstrated that religiosity is positively associated with agreeableness, conscientiousness, and extraversion, while openness was proved to be negatively correlated. An in-depth investigation has also indicated high neuroticism as a significant indicator of extrinsic religiosity (Saroglou, 2001). Another study by Lewis and Maltby (1999) revealed that adults with low scores on psychoticism were evaluated to be highly religious-minded. Similarly, Eysenck (1950) claims that out of the three fundamental personality aspects extroversion, psychoticism and neuroticism; psychoticism and extraversion are assumed to be inversely related to religiosity, similarly, neuroticism has a significant positive association with religiosity. Psychoticism is the core element predisposed to individual differences with reference to religiosity while neuroticism and extraversion are neither positively nor negatively associated with religiosity (Francis & Kerr, 2003).

Based on Five-Factor Model, Costa and McCrae (1992) devised the (NEO-PI-R) comprised of five major facets of personality i.e., conscientiousness, extraversion, openness, agreeableness, and neuroticism. Individuals with stable and well-established religious beliefs scored low scores on the (N) neuroticism scale, specifically among adolescents whose superior level of spirituality is significantly related to lower scores on psychoticism and elevated scores on Lie sub-scales of neuroticism. While analyzing gender base differences Lewis and Maltby (1999) claimed that among males higher level of religiosity was positively correlated with psychoticism, whereas females 'along with the lowered psychotic features, got higher scores on the Lie scale. Whereas non-significant gender base difference was found in neuroticism or extraversion scales.

Another study examining the relationship between religiosity and with five-factor model of personality assessed by the NEO Personality Inventory-Revised has demonstrated that agreeableness and conscientiousness NEO-PI-R sub-facets are highly related and are affected by religious beliefs. Whereas among females neuroticism was found to be of varying degrees as a function of affiliation with one's religion. Whereas extraversion and openness showed a non-significant relationship with religiosity (Taylor & MacDonald, 1999).

Religious-minded individuals generally show psychoticism tendencies with comparatively higher deceiving and fake behavior (Wilde & Joseph, 1998). On Eysenck's four-factor model of personality, religiosity is primarily related to low psychoticism while the higher the association is with agreeableness and conscientiousness (Jorm & Christensen, 2003).

Headey and Wearing (2009) have reported that a significant association exists among personality traits, religiosity, and psychological health. Interview-based research studies have revealed that highly persistent personality traits such as openness to experience, extravert, and neurotic tendencies are positively related to a certain constant level of psychological health. Along with other influential factors the educational institute is also known to be one of the key factors in the healthy development of personality.

Education has three fundamental elements (1) The material to be learned (2) the subjects' readiness (3) the environmental condition (Jeff & Smith, 1999). Primarily, two structure of education exists in Pakistan: the modern formal education system and the conventional religion-based education system (Memon, 2007). Pakistani education system comprised two sub-systems named madrassah and public schools are different education systems in context to the institution set-up, teaching mode, and taught curriculum. The resultant impact of a specific education system on personality development is well documented (Jeff & Smith, 1999).

A research study conducted by Smither and Khorandi (2009) proved that Islam as a religion has a strong impact on one's belief system, personality development, and overall psychological adjustment. Connection with God is an important determining factor of a promising effect of the spiritual aspect of life on behavior and character building (Wheeler & Hyland, 2008). Strict religious practices provide a shield against several stressors and anxiety on an individual's well-being (Linder, 2006). Similarly, another study has declared that individuals with lesser tendencies of agreeableness exhibit life patterns mainly involve being distanced from God (Rowatt & Kirkpatrick, 2002).

McCullough, Tsang, and Brion (2003) have also suggested that a strong association exists between the Big Five personality factors and spirituality. Williams, Robbins, and Francis (2005) concluded that religious-minded students were found to be an extrovert. Whereas religiosity has a robust relationship with psychoticism (Robbins, Francis & Gibbs, 1995). Similarly, another study has

reported that individuals with strong conscientiousness and a higher degree of agreeableness display a higher level of religiosity (French et al., 2008).

Based on (the FEM) model of personality Costa and McCrae's revised and devised (NEO-PI-R; 1992) comprised five main facets of personality such as neuroticism, openness, extraversion, agreeableness, and conscientiousness. Using factor analysis number of studies have verified the reliability and validity of the (NEO-PI) inventory for studying personality dynamics (Endler, Rutherford & Denisoff, 1996).

The NEO personality inventory comprising of 26 items with a 5-point Likert scale the response classifications range from *strongly agree =5, to strongly disagree =1*. The IPIP-NEO inventory is further subdivided into subscales of neuroticism comprising six facets i.e., anxiety, anger, depression, self-perception, extravagance, and helplessness (Items number 02, 15, 07, 20, 22, and 24). A major dimension of personality dynamic; extroversion was measured under the seven facets of openness, sociability, decisiveness, activity level, excitement seeking, and cheerfulness (items number 04, 08, 12, 13, 14, and 25).

Personality dynamic: Openness was determined with the help of six facets creativity, artistic interest, emotionality, adventurousness, intellect, and tolerance (items number 09,11,16,18, and 26). Dimension of Agreeableness was evaluated with the help of six facets i.e., responsibility, honesty, selflessness, cooperation, modesty, and sympathy (items number 17, 05, 06, and 23). Whereas the personality dynamic of conscientiousness was measured with the facets of self-worth, tidiness, dutifulness, achievement orientation, self-control, and thoughtfulness (items number 01,3,19,10, and 21). The dominance of personality dynamics depends on the range of scores obtained in the sub-domain of the NEO personality inventory such as neuroticism, openness, extroversion, agreeableness, and conscientiousness.

## Objectives of the study

The current study was intended with three main objectives:
1. To translate Neo Extroversion, Openness (IPIP NEO) personality inventory (Goldberg, 1992) into the Urdu language.
2. To establish the psychometric properties of the Urdu NEO personality inventory.
3. To establish Varimax rotation Principal component analysis of NEO-PI -Urdu version.
4. To evaluate education-system and gender base differences with reference to major personality dynamics between Madrassah and Public-school students.

## Research Methodology

## Participant and Design

To verify the linguistic equivalence and internal consistency of 50 adolescents was taken the psychometric properties of the measure were carried out on a randomly selected sample of 350 students with ages ranging from 12 to 28 years ($M_{age}$ = 12.98 years). The sample consisted of 175 males ($M_{age}$ = 12.98 years) and 175 females ($M_{age}$ = 12.97 years) from Madrassah and Public schools respectively. The sample was selected from six Madrassahs and public schools (3 Female and 3 Male institutes) of Haripur, Abbottabad, Havelian, and Mansehra cities.

The current study comprised of two-fold procedure: the **first phase** relates to the translation of neuroticism, extroversion, and openness personality inventory. The **second phase** comprised data collection to examine the psychometric properties and factor analysis of the Urdu NEO personality scale and to find out the education system and gender base differences in personality dynamics among students.

## Part: I

## Step1: Translation of  IPIP NEO personality inventory

In this phase translation of the IPIP NEO personality scale was done by eight bilingual experts There were two MPhil Psychology and three MPhil English and Urdu respectively. These translators were instructed to translate items as precisely as they can do that it bears the same connotations.

## Step 2: Assessment of translated items by Committee Experts

A Group of experts comprised of one Ph.D. Psychology and two MPhil Psychology evaluated the Urdu translated items ensuring that translated items convey the exact meaning as the items in the original version. Keeping in view items that bore true feelings and the meaning of the original words were selected. A Group of experts also revised the translated items in contextual background, sentence structure, and phrasing.

**Step 3: Back translation of NEO personality inventory**

Eight bilingual experts Three MPhil English, three Urdu, and Two MPhil Psychology were requested to translate the items back into Urdu. Instructions for the back translation were similar to those provided for the translation segment. All inventory items were forwarded to the committee for the final selection.

**Phase II Psychometric properties Urdu NEO personality inventory**

The obtained data were examined in terms of factorial validity SPSS alpha reliability, t scores, and item-total correlation with the help of (SPSS) the Statistical Package of Social Science.

**Procedure**

The **phase-I** of the study involved translation and language validation of a scale for which formal approval was obtained. Using the forward-back translation method independent translations were obtained from eight bilingual experts which were reviewed by a committee of subject experts. In **Phase II** the finalized Urdu version of the scale was then once again back-translated into English by eight bilingual experts. The language validity for the NEO-PI Urdu version was established by using a sample of bilinguals (N=350) comprising male (n=175) and (n =175) female adolescents. For the data, collection respondents were instructed to go through the general guidelines and to give their responses on each statement honestly. Randomly, the questionnaire was disseminated by requesting subjects to complete it taking as much time as they like. The cooperation from establishment staff teachers and students was remarkable.

**Results**

**Table 1**

*Eigenvalues and percentage of variance explained by five factors attained through principal component analysis (N=350)*

| Factors | Eigenvalue | Percentage of variance | Cumulative frequencies |
|---|---|---|---|
| Extroversion | 12.64 | 25.54 | 25.54 |
| Openness | 2.89 | 6.38 | 40.56 |
| Neuroticism | 3.80 | 8.64 | 34.18 |
| Agreeableness | 2.01 | 4.12 | 44.68 |
| Consciousness | 2.30 | 63.01 | 47.69 |

Eigenvalues given in the Table 1 displayed that the first five factors reported 47.69 percent of the variance. Factor 1 explained 25.54 percent of the variance. On the hand factor 2, 3and 4 reported 34.18, 40.56, and 44.68 percent of the variance respectively Factor 5 with an Eigenvalue of 2.30 and accounted for 47.69 percent of the variance respectively.

**Table 2**

*Factor loading of 26 items IPIP NEO personality inventory in the Urdu language on the factor solution found through Varimax Rotation (N=350)*

| S. No. | Item No. | Factor I (N) | Factor II (E) | Factor III (O) | Factor IV (C) | Factor v (A) |
|---|---|---|---|---|---|---|
| 1 | 22 | **.77** | .20 | .16 | .06 | .02 |
| 2 | 02 | **.74** | .03 | .17 | .18 | .33 |
| 3 | 20 | **.61** | .23 | .02 | .34 | .08 |
| 4 | 07 | **.77** | .31 | .18 | .29 | **.55** |
| 5 | 24 | **.59** | .02 | .10 | .37 | .26 |
| 6 | 15 | **.75** | .11 | .05 | .04 | **.45** |
| 7 | 04 | .09 | **.59** | .39 | .11 | .09 |
| 8 | 08 | .22 | **.45** | .02 | .05 | .15 |
| 9 | 13 | .16 | **.76** | .12 | .11 | .21 |
| 10 | 25 | .13 | **.66** | .33 | .27 | .13 |
| 11 | 14 | .33 | **.70** | .33 | .39 | .22 |
| 12 | 12 | .21 | **.74** | .39 | .20 | .30 |
| 13 | 09 | .18 | .12 | **.83** | .37 | .22 |
| 14 | 11 | .15 | .22 | **.69** | .33 | .31 |
| 15 | 18 | .15 | .12 | **.69** | .29 | .19 |
| 16 | 16 | .02 | .23 | **.66** | .37 | .10 |
| 17 | 26 | .18 | .16 | **.70** | **.45** | .01 |
| 18 | 03 | .23 | .39 | .02 | **.69** | .06 |
| 19 | 19 | .08 | .11 | .23 | **.63** | .11 |

| S. No. | Item No. | Factor I (N) | Factor II (E) | Factor III (O) | Factor IV (C) | Factor v (A) |
|--------|----------|--------------|---------------|----------------|---------------|--------------|
| *20* | 10 | .22 | .43 | .12 | **.71** | .29 |
| *21* | 21 | .33 | .09 | .10 | **.67** | .36 |
| *22* | 01 | .16 | .29 | .02 | **.65** | .37 |
| *23* | 23 | .55 | .33 | .12 | .30 | **.70** |
| *24* | 06 | .49 | .21 | .18 | .11 | **.68** |
| *25* | 05 | .39 | .10 | .26 | .38 | **.79** |
| *26* | 17 | .28 | .04 | .31 | .22 | **.57** |

*Note. C = Conscientiousness; A = Agreeableness; E = Extroversion; O = Openness; N = Neuroticism.*

The Varimax rotation Principal component analysis on the 26 items IPIP NEO personality scale in the Urdu language produced a five-factor solution A total number of 06 items loaded on the first factor which comprised of items associated with traits such as anxiety, anger, hostility, depression, self-consciousness, and Impulsiveness. It was categorized as neuroticism. Six items loading on the second factor illustrated the quantity and intensity of energy directed outwards into the social world known as extraversion. The third factor consisted of 05 items exhibiting the domain of openness to experience it includes the attributes of aesthetics, temperaments, activities, beliefs, and fantasy. The fourth factor consisted of 05 items characterizing conscientiousness depicting the features of achievement striving, competence, dutifulness, and Orderliness. The total number of 04 items loaded on the fifth factor labeled as agreeableness includes the ability to be strict, trust, compliance, tender-mindedness, and Altruism. The total 26 items factor loading of 26 items with their respective dimension is presented straightforwardness Table 2.

Besides the small number of items, most of the items are loaded on relevant factors. It is notable that some of the items were loaded on more than one factor and were loaded on 40 and above. On the bases of a detailed study, it was these items were included for the factor for which it was formerly constructed. Items no 07 and 15 loaded on factor I (N) instead of factor V (A). Item 07constructed for factor V (A) phrased as "feels difficulty in keeping my mind clear about things "was primarily constructed for factor V (A) but it was loaded on factor I (N).

**Linguistic equivalence of IPIP NEO personality inventory**

The linguistic equivalence of the translated version was calculated after the procedure of test translation and adaptation to find out the equivalence between the original and the Urdu versions of the inventory. Results show a significant correlation *(r=.757)* between the original and the Urdu version of the IPIP NEO personality inventory.

**Table 3**

*Linguistic equivalence of (Correlation between the English version and Urdu version) of NEO PI*

| Test administered | *M* | *r* | *Significance* |
|-------------------|-----|-----|----------------|
| Original version | 42.65 | | |
| | | .757 | .001 |
| Urdu version | 42.05 | | |

*Note.* N = 50; 4-days inter test intervals.

**Table 4**

| Subscales | No of items | Alpha coefficient of IPIP NEO PI | |
|-----------|-------------|-----------------------------------|---|
| | | Urdu IPIP NEO PI | English IPIP NEO PI |
| Neuroticism | 06 | .80 | .85 |
| Extroversion | 06 | .82 | .91 |
| Openness | 05 | .79 | .78 |
| Agreeableness | 05 | .81 | .80 |
| Consciousness | 04 | .85 | .95 |
| Total IPIP NEO PI | 26 | .93 | _* |

*Alpha Reliability coefficient of Total and subscales of Urdu and English IPIP-NEO personality inventory*

*Note. C = Conscientiousness; A = Agreeableness; E = Extroversion; O = Openness; N =Neuroticism.*

*English version of the IPIP NEO personality inventory does not provide a total score reliability figure.

Table 4 shows the initial psychometric assessment using the Cronbach alpha coefficient produced an internal consistency coefficient of .93 for the entire 26 items of the IPIP-NEO personality inventory.

**Table 5**

*The split-half coefficient for IPIP NEO personality inventory and its subscales (N=350)*

| Subscales | No. of items | Split-half Correlation | Spearman-Brown correlation |
|---|---|---|---|
| Neuroticism | 06 | .79 | .80 |
| Extroversion | 06 | .71 | .71 |
| Openness | 05 | .69 | .69 |
| Agreeableness | 05 | .79 | .79 |
| Conscientiousness | 04 | .80 | .80 |
| Total  IPIP NEO PI | 26 | .91 | .91 |

*Note. C = Conscientiousness; A = Agreeableness; E = Extroversion; O = Openness; N = Neuroticism*

Table 5 shows split-half reliability for the Urdu IPIP NEO personality inventory and its subscales. Urdu IPIP NEO personality inventory produced split-half reliability of .91which persisted unaltered by the Spearman-Brown formula. The internal reliability was further tested out by computing inter-correlation among total and subscales of the Urdu IPIP NEO personality inventory.

**Table 6**

*Mean Standard Deviation and Correlation coefficient of Urdu IPIP NEO personality inventory (N= 350)*

| | Subscales | M | SD | I | II | III | IV | V | VI |
|---|---|---|---|---|---|---|---|---|---|
| I | Neuroticism | 83.74 | 13.81 | - | | | | | |
| II | Extroversion | 51.82 | 8.96 | .48** | - | | | | |
| III | Openness | 55.32 | 9.675 | .85** | .82** | - | | | |
| IV | Agreeableness | 43.06 | 9.79 | .46** | .48** | .58** | - | | |
| V | Conscientiousness | 31.18 | 8.17 | .58** | .69** | .71** | .82** | - | |
| VI | Total  IPIP NEO | 230.13 | 28.04 | .78** | .81** | .88** | .88** | .81** | - |

**p<.01*

*Note. C = Conscientiousness; A = Agreeableness; E = Extroversion; O = Openness; N = Neuroticism*

Table 6 shows the inter-correlation among subscales of the Urdu IPIP NEO personality scale. There was a positive and significant inter-scale relationship among neuroticism,
extroversion, openness, agreeableness, conscientiousness, and total IPIP NEO significant at *(p<. 01)* level. The item's total correlation ranged from .48 to.81.

**Table 7**

*Mean, SD, and t value of scores Madrassah and Public-school students on IPIP NEO PI (N=350)*

| | Madrassah (n= 175) | | Public school (n=175) | | | | 95%C I | |
|---|---|---|---|---|---|---|---|---|
| Scale | M | SD | M | SD | t(348) | p | Cohen's d | LL UL |
| Neuroticism | 79.88 | 10.75 | 88.13 | 10.15 | 7.88 | .000 | 0.79 | -2.38 0.71 |
| Extroversion | 49.77 | 07.44 | 56.69 | 6.04 | 10.2 | 000 | 1.02 | 0.13 2.31 |
| Openness | 31.59 | 05.78 | 34.22 | 7.75 | 3.84 | 000 | 0.39 | 0.76 1.24 |
| Agreeableness | 57.75 | 06.41 | 52.94 | 6.95 | 7.19 | 000 | 0.72 | 1.75 0.23 |
| Consciousness | 46.38 | 05.81 | 42.13 | 7.05 | 6.56 | 000 | 0.66 | 1.70 0.20 |
| Total IPIP NEO | 273.6 | 16.02 | 265.85 | 17.63 | 4.60 | 000 | 0.46 | 1.91 3.07 |

The result in Table 7 exhibits a large effect size for Neuroticism and Extroversion of Madrassah students (Cohen's d = 0.79 and 1.02 respectively). Moderate effect size is exhibited for conscientiousness and agreeableness (Cohen's d = 0.66 and 0.72 respectively). Relatively small significance is shown in openness and total personality dynamics, having a small effect size (Cohen's d = 0.39 and 0.46 respectively).

**Discussion**

Previously limited number of research has been conducted on the topic of the personality of Madrassah students. Therefore, there was a dire need for an adequate personality assessment inventory in Urdu to measure personality dynamics in a standardized manner. The present study was carried out to translate the neuroticism, extroversion, and openness IPIP-NEO personality inventory (Goldberg, 1992) into the Urdu language and to establish its psychometric properties. The translated IPIP-NEO personality inventory in the Urdu language can be used in the clinical and educational setting and for future researchers in the areas of personality measurement The Urdu IPIP-NEO personality inventory will prove useful in the assessment of personality dynamics of subjects.

NEO personality inventory comprises 26 items with subscales of Neuroticism comprising six facets of anxiety, anger, depression, self-consciousness, immoderation, and vulnerability. A major dimension of personality dynamic; extroversion was measured under the seven facets of friendliness, gregariousness, assertiveness, activity level, excitement seeking, and cheerfulness. Personality dynamic: openness was determined with the help of five facets imagination, artistic interest, emotionality, adventurousness, and liberalism.

Dimension of Agreeableness was evaluated with the help of four facets i.e., trust, honesty, altruism, teamwork, and empathy. Whereas the personality dynamic of conscientiousness; was measured with the facets of orderliness, dutifulness, self-discipline, and cautiousness. The strength of personality dynamic depends on the range of scores obtained on sub-dimensions of the NEO personality inventory i.e., extroversion, openness, agreeableness, and conscientiousness.

**Conclusion and implications**

The present study is specifically conducted to prepare a personality inventory for measuring the personality dynamics among students belonging to different school systems. To explore the psychometric properties of the Urdu version of NEO factorial validity was evaluated. The alpha internal consistency, item-total correlation, and split-half reliability of the scale were examined. Moreover, gender and education system-wise difference in personality dynamics was determined. Results of the present study proved that gender and education system-wise personality dynamics significant differences exist.

Urdu NEO is a reliable tool for identifying personality dynamics. This inventory will prove helpful for researchers measuring and identifying the personality dynamics of subjects in Pakistan.

**References**

Costa, P.T., & McCrae, R. R. (1992). Four ways five factors are basic. *Personality and Individual Differences*, *13*(6), 653-665.

Duriez, B., & Soenens, B. (2006). Personality, identity styles, and religiosity: An integrative study among late and middle adolescents. *Journal of Adolescence, 29*(1), 119-135.

Dwelle, T.L. (2000). Personality trait profiles of missionary adolescents. *Journal of travel Mdicine,* 7(9), 187-188.

Endler, N.S., Rutherford, A., & Denisoff, E. (1998). Neuroticism: how does one slice the PI (e)? *European Journal of Personality*. *11*(2), 133 – 145.

Eysenck, H. J. (1950). Readings in Extraversion-Introversion. New York: Wiley.

Francis, L. J., & Kerr, S. (2003). Secondary School Pupils in South Africa in the Early 1990S. *Journal of Religion and Theology*, *10*(2), 224-236.

Francis, L. J., Ziebertz, H.-G., & Lewis, C. A. (2003). The relationship between personality and religion among undergraduate students in Germany. *Archive for the Psychology of Religion/ArchivfürReligionspsychologie*,*24*(1),121-127.

French, d. C., Eisenberg, N., Vaughan, J. Purwono, U., & Suryanti, T. A. (2008). Religious Involvement and the social competence and adjustment of Indonesian Muslim adolescent. *Developmental Psychology*, *44*, 597-611. PMID: 18331147.

Goldberg, L. (1993). The structure of phenotypic personality traits. *American Psychologist, 48,* 26-34.

Headey, B., & Wearing, A. (2002). Personality, Life Events, and Subjective Well-Being: Toward a Dynamic Equilibrium Model. *Journal of Personality and Social Psychology. 57*(4), 731-739.

Jackson, D. N. (1971). *The dynamics of structured personality tests. Psychological Review*, *78*(3), 229-248. Jeff, T., & Smith, M. K. (1999). *What is education*?

Jorm, A.F., & Christensen, H. (2003). Religiosity and personality: evidence for non-linear associations. *Personality and Individual Differences, 36*(6), 1433-1441.

Kleinfeld, J., & Bloom, J. (1977). Boarding schools: effects on the mental health of Eskimo adolescents. *American Journal of Psychiatry*, *134*, 411-417.

Lewis, C.A., & Maltby, J. (1999). Religiosity and personality among U.S. adults. *Personality and Individual Differences. 18*(2), 293-295.

Linder, C.N. (2006). Stress among black women in a South African township: The protective role of religion. *Journal of Community Psychology. 34* (5), 577 – 599.

McCullough, M.E., Tsang, J.A., & Brion, S. (2003). Personality Traits in Adolescence as Predictors of Religiousness in Early Adulthood: Findings from the Terman Longitudinal Study. *Personality and Social Psychology Bulletin*, *29*(8), 980-991.

Memon, G.R. (2007). Education in Pakistan: The Key Issues, Problem and The New Challenges. *Journal of Management and Social Sciences*, *3*(1), 47-55.

Mishra, A.N. (1994). *Students and Hostel life: a study of university students*. Retrieved from http://books.google.com./books?.

Read, S.J., Monroe, B.M., Brownstein, A.L., Yang, Y., Chopra, G., & Miller, L.C. (2010). *A Neural Network Model of the Structure and Dynamics of Human Personality. Psychological Review*, *117*(1), 61–92.

Robbins, M., Francis, J. L., & Gibbs, D. (1995). *Personality and Religion a study among 8-11 year olds. 16*(1), 1-6.

Rowatt, W., & Kirkpatrick, L. A. (2002). Two Dimensions of Attachment to God and Their Relation to Affect, Religiosity, and Personality Constructs. *Journal for the Scientific Study of Religion*, *41*(4), 637 – 651.

Rutter, M. (1985). Family and school influences on behavioral development. *Journal of Child Psychology and Psychiatry, 26*(3), 349–368.

Saroglou, V. (2001). Religion and the five factors of personality: a meta analytic review. *Personality and Individual Differences, 32*(1), 15-25.

Seagal, S. (2010). *What is Human Dynamics*? Retrieved from http://www.humand ynamics.com/index.php/about-human-dynamics? Name=Value.

Smither, R., & Khorsandi, A. (2009). The Implicit Personality Theory of Islam. *Journal Psychology of Religion and spirituality*, *1*(2), 81-96.

Taylor, A., & MacDonald, D.A. (1999). Religion and the five factor model of personality: An exploratory investigation using a Canadian university sample. *Personality and Individual Differences. 27*(6), 1243-1259.

Wheeler, P., & Hyland, M.E. (2008). The development of a scale to measure the experience of spiritual connection and the correlation between this experience and values. *Spirituality and Health International. 9*(4), 193 – 217.

Williams, E., Robbins, M., & Francis, L. (2005). When introverts ceased to be more religious: a study among 12- to 16-year-old pupils. *Journal of Beliefs and Values*, *26*(1), 77-79.

Wilde, A., & Joseph, S. (1998). Religiosity and personality in a Moslem context. *Personality and Individual Differences, 23*(5), 899-900.