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Literacy Rate and Fertility Behavior: Gender Focused Study of South Asian Countries

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This study aims to understand the relationship between Fertility Rate (FR) and Literacy Rate (LR). The objective of the study is to find out the impact of male and female literacy rate on fertility rate. It has been assumed that the female literacy rate can have a negative impact on fertility rate, ultimately controlling the population growth. For testing this assumption, data from three South Asian countries, including Pakistan, India and Bangladesh have been taken for conducting this study focused on the year 1999-2015. Secondary data analysis was conducted using regression analysis for estimating the impact of variables on fertility rate. Fixed Effect Model was also applied to draw results. The major findings of the study show that female Literacy Rate has negative impact on fertility rate as compared to Male Literacy Rate. It is suggested that female education should be encouraged in order to control the fertility rate, which ultimately decreases population growth in result.

Keywords: Literacy Rate, Fertility Behavior, Gender, Pakistan, India, Bangladesh

Introduction

Among the South Asian countries, Pakistan, India, and Bangladesh are in the second phase of development; characterized by a high birth rate and decreasing death rates. This second phase of development is named as Demographic Transition (Thompson, 1929; Notestein, 1945; Younger, 2006).

It has been argued that rapid population growth may likely to bring various issues for developing countries like disaster effects on the

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environment, GDP, GNP, per capita income, inflation, unemployment as well as multiple social problems (Eswaran, 2004). So far, various researches have been conducted to study population growth in these countries and various factors have been identified for rapid population growth. Among the other factors, the fertility rate is one important factor that may affect population growth.

Various determinants of fertility have been researched so far, which significantly affect fertility. Among various important determinants of fertility, women's education is usually associated with lower fertility at both the population and the individual levels (Bongaarts, 2003). Women's education helps them in a number of ways to limit family size. There have also been arguments that the association between females' education and their fertility rate is a complex one and various intervening variables may affect this association. For example, with higher number of schooling years that females spend in educational institutions, they may remain away from marriage institution. Eventually they lose a number of conjugal years that ultimately decrease the chances of high fertility. It is also argued that educational change is associated with a range of economic and social changes which can alter the link between education and childbearing and/or the intensity of the link. For instance migration from rural to urban area has negative impact on fertility (Kwon, 2001). There have also been differential effects of fertility on falling birth rates. For example, data of Brazil between the 1935–1939 and 1951–1953 birth cohorts showed that change in educational level brought 70% decline in Fertility but between 1980 and 2000 in Iran there was only one-third decline in fertility (Lam and Duryea 1999; Abbasi-Shavazi et al. 2008). The importance of fertility differentials by level of education are based on the underlying assumption that educated women may likely to be more inclined towards innovations such as small family norm and use of contraceptives (Cleland, 2002).

It is pertinent to mention here that although studies have been conducted with respect to females' education and its effects on fertility, very few studies have been conducted to examine differentials of male and females' education and its effects on fertility. The present study is an attempt to explore the effects of female's education on their fertility and also to examine that if there are differentials with respect to male and females' education's effect on fertility of women. This study will help in bridging the gap by focusing on gender dimension of literacy as it has been mentioned that previous researches were conducted in area of female literacy but current study will analyze net effect of males and females' literacy and its effect on fertility.

Literature Review

Researchers interested in fertility decline in most developing countries try to argue that changing gender relationships and improvement of women's status are important determinants of fertility decline (Mason, 1987). In same vein education of women and their labor force participation predominantly influence women's socioeconomic status. It has also been observed that now in developing countries trend of seeking education is relatively higher for women than men and similarly gender gaps in schooling is also shrinking (Buchmann and Hannum, 2001). Based on these trends female labor force participation has increased in most of the countries and women have gained more economic independence over time (Brinton, Lee, and Parish, 1995; Buchmann, DiPrete, and Anne McDaniel 2008; Yu, 2005). Empirical research has also supported that fertility has been negatively associated with women's education and employment (Axinn and Barber, 2001; Mason 1987), the reason being that women's improved education not only make them aware about modern values and bring change in their attitude and orientation towards individualism and gender egalitarianism (Inglehart and Norris, 2003), but also women's economic independence gives them capacity to decide about their family size (Mason, 1987). It has also been supported by some other researchers that women's empowerment--as measured by their increasing educational attainment and labor force participation has contributed to fertility decline (Jejeebhoy, 1995; Lam & Duryea, 1999).

Conceptual Framework

Based on literature review following conceptual model was developed to explain association between females' education and their fertility. This model explains that female education leads primarily to delayed marriages. As they are engaged in getting an education, this will definitely reduce the chances of their early marriages. With the reduction of early age marriages, leading to delayed marriages will decrease the number of years available for child bearing. So this factor may help in reducing fertility rates.

Another important intervening factor that seems important is use of contraceptives. It is assumed that with the increased education, there is an increased awareness about the use of contraception. Education makes them aware of different population controlling mechanisms with the use of contraceptives. This will contribute toward decreasing the fertility rate.

Once females are educated, they will possess the traits and skills required by the job market. So their chances for participating in paid job market will increase dramatically, pushing them in paid labor force. This

involvement in paid labor force will increase the cost of childrearing and may lead to the adoption of small family norm.

Conceptual Model

All these factors act as intervening variables that work together in reducing the fertility rate and the base for all these factors may be female's education.

Materials & Methods

Pakistan, India, and Bangladesh were the target countries on which this panel study has been conducted as all these countries are in the same stage of demographic transition. Our main concern in this study is to delineate the impact caused by female literacy and male literacy on fertility rate separately.

The hypothesis has been developed in order to meet the above stated objective. It states that the female literacy rate has a significant negative impact on total fertility rates. This study estimates the unit contribution of both male and female literacy rates in changing fertility rate using regression equation modeling. The following model will be followed.

$$FR = \alpha_0 + \alpha_1 ML + \alpha_2 FL + \mu$$

Here, FR refers to Fertility rate, ML is Male Literacy and FM is Female Literacy. Data for Fertility rate, literacy rate for male and female have been retrieved from World Bank's data base for the period of 1999 to 2015 for India, Pakistan and Bangladesh. Analysis was done in Eviews 7 software to draw results and conclusion.

Results

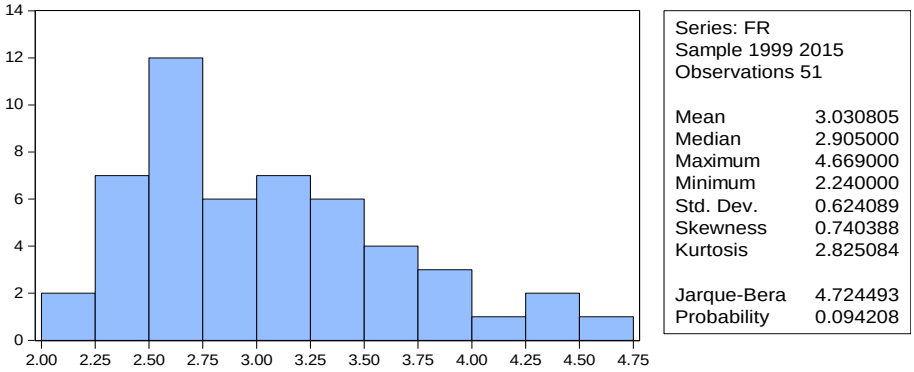
Table # 1: Distribution of Gender Literacy Rate and Fertility Rate

	ML	FL	FR
Mean	47.29340	46.74652	3.030805
Median	48.02845	47.84210	2.905000
Maximum	60.64299	60.64299	4.669000
Minimum	35.36752	34.00020	2.240000
Std. Dev.	7.261662	7.565510	0.624089
Skewness	0.078494	-0.054721	0.740388
Kurtosis	1.825082	2.005799	2.825084
Jarque-Bera	2.985791	2.125877	4.724493
Probability	0.224721	0.345439	0.094208
Observations	51	51	51

Source: World Bank, 2015

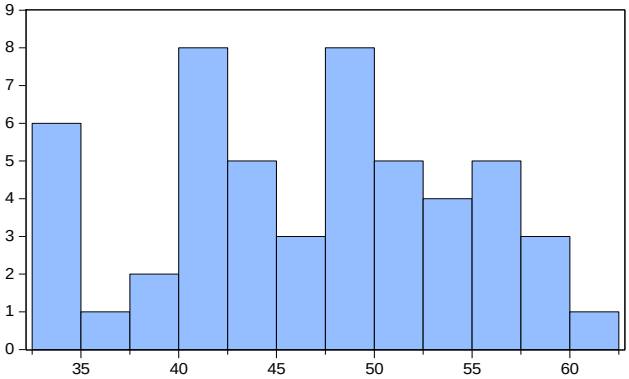
Table # 1 depicts the distribution of Literacy Rate with reference to male and female along with the fertility rates. The table also has the values of mean, median, minimum, maximum values of 51 observations collected in Pakistan, India and Bangladesh.

Figure # 1: Graphical Representation of Fertility Rate (FR)



Source: World Bank, 2015

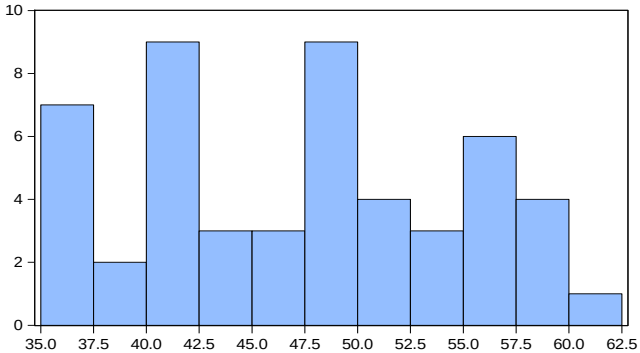
Figure # 2: Graphical Representation of Female Literacy (FL)



Series: FL	
Sample 1999 2015	
Observations 51	
Mean	46.74652
Median	47.84210
Maximum	60.64299
Minimum	34.00020
Std. Dev.	7.565510
Skewness	-0.054721
Kurtosis	2.005799
Jarque-Bera	2.125877
Probability	0.345439

Source: World Bank, 2015

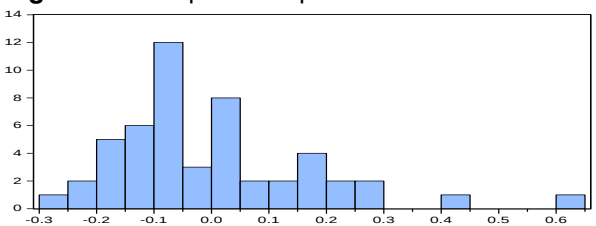
Figure # 3: Graphical Representation of Male Literacy (ML)



Series: ML	
Sample 1999 2015	
Observations 51	
Mean	47.29340
Median	48.02845
Maximum	60.64299
Minimum	35.36752
Std. Dev.	7.261662
Skewness	0.078494
Kurtosis	1.825082
Jarque-Bera	2.985791
Probability	0.224721

Source: World Bank, 2015

Figure #4: Graphical Representation Standard Residuals



Series: Standardized Residuals	
Sample 1999 2015	
Observations 51	
Mean	4.35e-18
Median	-0.051101
Maximum	0.602448
Minimum	-0.258344
Std. Dev.	0.169120
Skewness	1.199913
Kurtosis	4.839009
Jarque-Bera	19.42488
Probability	0.000061

Source: World Bank, 2015

Figure # 5: Graphical Representations of Mean Residuals

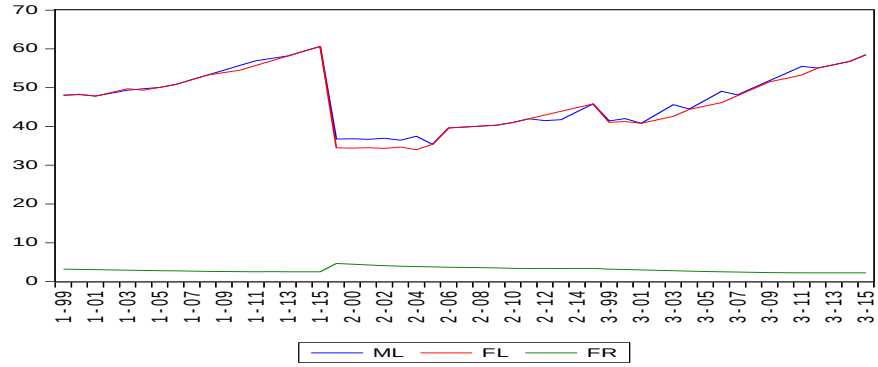
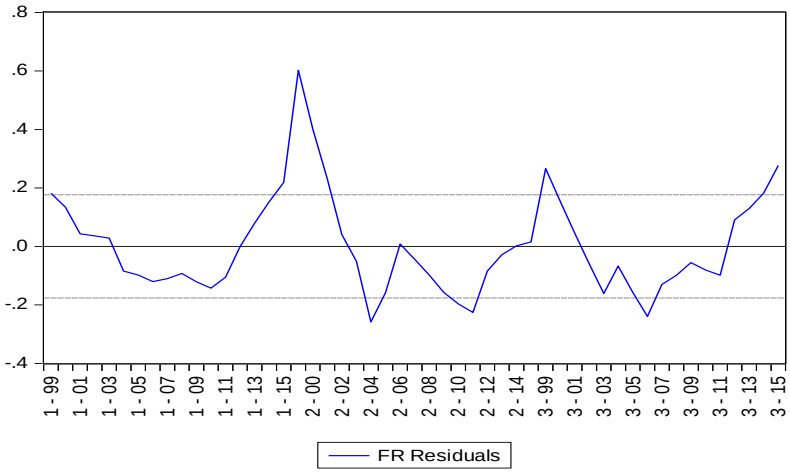


Figure # 6:
Graphical Representation of Mean Residuals for Independent Variable (FR)



Source: World Bank, 2015

Figure # 4, 5, 6 shows the mean residuals for these variables which are found as zero, which was a prerequisite for running regression analysis.

Table # 2: Structure Equation Modelling Predicting Fertility Rate

Variable	Coefficient	Std. Error	t-Statistics	Prob.
C	5.633062	0.275076	20.47818	0.0000
FL	-0.088092	0.023177	-3.800874	0.0004
ML	0.032049	0.025016	1.281135	0.2066
Adjusted R-squared		0.920181		
Prob(F-statistic)		0.000000		

Source: World Bank, 2015

By putting the values of coefficients from the above table our regression equation model is;

$$FR = \text{-}5.633062 - \text{-}0.088092FL + 0.032049ML$$

The Prob. values for all these variables are 0.0004, 0.2066 which are close to 0, shows that these variables are highly significant. Above values also show that female literacy is playing more significant role as compared to male literacy. And these are important regressors for Fertility Rate. This shows that the fertility rate is affected by male literacy positively, while literacy rate affected by female negatively for three countries, Pakistan, India and Bangladesh for the years 1999 to 2015. This equation shows that one unit increase in male literacy causes 0.032049 unit increases in fertility rate and one unit increase in female literacy causes 0.088092 unit decreases in fertility rate.

The value of Adjusted R Square shows that the model is explaining 92% of the variation in the fertility behavior with these two variables. The value of prop (F-Statistics) is 0.000000 which is showing the model is significant overall. The value of Durbin Watson is not in desired range showing that data has the problem of autocorrelation, which can be neglected in the panel studies.

Discussion & Conclusion

Controlled population growth is very important for country's developers. The high growth rate can impede the development process. So it is always recommended by the experts that population growth rate must be decreased, it should be brought in pace with the resources of the country,

only then a country can achieve development and progress. The UN also stresses upon controlling population growth for achieving its MDGs (UN, 2010). As fertility is a logical determinant of the population growth so efforts are being made to control population growth. Besides it, there are many determinants of fertility including social, economic, and biological determinants which affect fertility behavior. (Zebalous, 1994).

The literacy rate is a very important determinant of Fertility rate, which has higher chances to reduce fertility. It is a continuous process where people get an education, in that situation; there is an increased awareness about a managed family size having sufficient resources for itself. People have knowledge about contraception, so there is an increased chance of a decrease in population growth. With reference to this, female education has a more significant, important impact on Fertility decline. As females are directly involved in reproduction process so educating females bring more durable changes in fertility behavior of the people. By realizing its importance world's experts talk about female education more enthusiastically than that of male education.

Present study concludes that FL has a negative impact on Fertility rate in India, Pakistan and Bangladesh. Interventions for population growth must strive for educating females, which can significantly decrease the fertility rate ultimately decreasing the population growth. The present study recommended that;

- Women education must be made compulsory.
- Necessary steps should be taken for providing them with education; and cultural stereotypes must be removed linked with female's education.

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An Empirical Analysis of Fiscal Sustainability for Case of Pakistan

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Present study assesses the sustainability of public finances of Pakistan for the time span of 1976-2014. For the empirical investigation, we employ ARDL bound testing approach to test for the presence of cointegration among variables. Fiscal sustainability is governed by the presence of diverse institutional elements. For this purpose, the study evaluates the role of political cycles, political structure and legislative acts in varying fiscal rules. Findings reveal that mounting public debt-GDP ratios tend to increase the primary deficit-GDP ratios. This confirms that the government is violating its intertemporal budget constraint. Further, institutional arrangements (FRDL Act, 2005) tend to widen fiscal gaps, indicating an ineffective implementation of the act. Moreover, political cycles and alternative political regimes play no role in determining the budgetary position of the country. Our findings highlight the need for the democratic leadership to complete its tenure of service. Further, Pakistan needs to formulate a comprehensive debt reduction strategy that must be in line with broad economic spectrum.

Keywords: Fiscal Sustainability, Autoregressive Distributed Lag model, Debt, Budget Deficit

Introduction

Escalating persistent fiscal deficit and public debt have been one of the most controversial and deliberated matters among academicians and policy makers over the last two decades (Vieira, 1999). Historical data asserts that since the mid - 1980s, quite a few countries have confronted debt crisis. The financial crisis of 2007 made fiscal accounts of the governments even more vulnerable. Public debt as a proportion of GDP surged from 70 percent in 2000 to almost 100 percent in 2009 in advance economies (Finance &

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Development, 2011). Government's inability to repay the principle amount of debt and the interest payments opened new doors for imminent crisis.

Pakistan, an emerging economy, has been striving to attain a balanced fiscal posture since its independence. Confined revenue collection along with massive expenditures resulted in huge fiscal deficits over the years. Pakistan had to knock the IMF doors repeatedly to attain the solvency. Therefore, international policy institutions have always posed questions on the alarming debt levels and fiscal imbalances of Pakistan (Zaidi, 2005).

In Pakistan, debt issue received the attention of policy makers' during1980's, but the debt trajectory became even worse in 1990's. The ratio of public debt to GDP grew from 82.6 percent in 1989-90 to more than 100 percent in 1998-99. Similarly, debt to revenue ratio increased from over 400 percent to 600 percent during the same period as the share of interest payments to revenues increased over 40 percent (Hassan, 1998). The Fiscal Responsibility and Debt Limitation Act, 2005 helped to limit the debt trajectory and assured the sound fiscal discipline for the short run. Pakistan's External debt (both rupee and foreign currency) decreased from 79 percent in 2000 to 21.2 percent of GDP by 2013.

Debt sustainability is often considered as the core of fiscal sustainability because debt is the ultimate outcome of fiscal policy stance. Sustainable fiscal stance requires government to abide by its intertemporal budget constraint. If the government fails to have a balanced fiscal position, it is likely to have severe macroeconomic implications. Currently, Pakistan is striving to attain a balanced fiscal posture. Pakistan's gross debt to GDP ratio is beyond the threshold level and its total debt servicing to revenue ratio is exceeding the sustainable limits. These trends suggest that Pakistan is likely to face a vicious debt trap situation in the coming years. Therefore, the present study attempts to assess the sustainability of public finances of Pakistan for the time span of 1976-2014.

The existing research regarding the sustainable fiscal position in Pakistan is just confined to test whether the primary budget deficit and public debt are cointegrated or not (Mehmood and Rauf, 2012; Ejaz and Javid, 2011; Mahmood et al., 2009; Fan, 2007; Pasha and Ghaus, 1997). However, fiscal sustainability is observed in the presence of diverse institutional elements. Therefore, this study contributes in existing literature by empirically evaluating the role of political cycles, structure and legislative acts in varying fiscal rules.

The major objectives of the study are as follows:

1. To determine the sustainability of public finances of Pakistan over time.
2. To analyze the impact of Fiscal Responsibility and Debt Limitation (FRDL) Act, 2005 on the fiscal position of Pakistan.
3. To estimate the impact of political cycles on fiscal discipline in Pakistan.
4. To assess the impact of political structures (form of government) on fiscal balances in Pakistan.

The rest of the paper is organized as follows. Section 2 encompasses the underlying theoretical framework. Section 3 presents the data and empirical strategy while section 4 discusses the major empirical findings. Section 5 concludes the paper with relevant policy recommendations.

Theoretical Framework

A strand of literature pertaining to sustainability of fiscal policy is grounded in the inter-temporal budget constraint. A government is considered solvent, if it is sustaining its inter-temporal budget constraint. If budgetary deficits are supposed to be only bond financed (Raju, 2008), then the government budget restraint is defined as:

$$(1)\quad G_t + (1+i_t)B_{t-1} = R_t + B_t$$

Where but stands for the stock of public debt, it represents the ex-post interest rate on the public debt; Rt donates the government revenue, containing the revenue seignorage, and got is government spending excluding interest payments. Government budget constraint can be defined in terms of GDP-ratios, by rewriting equation (1) as:

$$(2)\quad \frac{G_t}{Y_t} + \frac{(1+i_t)}{(1+\sigma_t)}\frac{B_{t-1}}{Y_{t-1}} = \frac{R_t}{Y_t} + \frac{B_t}{Y_t}$$

Y presents nominal GDP and σ represents the nominal GDP-growth rate. Lower-case letters present the ratios of corresponding upper-case variables to the nominal GDP. It can be simplified as;

$$(3)\quad g_t + (1+i_t^*)b_{t-1} = r_t + b_t$$

i_t^* symbolizes interest rate adjusted for growth rate, prearranged as it* = ((1+I, t) / (1+ σ) – 1). Holding equation (3) for every period and conjecturing constant interest rate, intertemporal budget constraint can be rewritten for the time span τ= t to τ= T

(4) $$b_{t-1} = \sum_{\tau=t+1}^{\infty}\left[\frac{1}{(1+i^*)^{\tau-t}} S_{\tau-1}\right] + \lim_{\tau\to\infty}\left[\frac{1}{(1+i^*)^{\tau-t}} b_{\tau-1}\right]$$

S_t designates the primary budget surplus i.e. $s_t = r_t - g_t$.

5a: $$\lim_{\tau\to\infty}\left[\frac{1}{(1+i^*)^{\tau-t}} b_{\tau-1}\right] = 0$$

5b: $$b_{t-1} = \sum_{\tau=t+1}^{\infty}\left[\frac{1}{(1+i^*)^{\tau-t}} S_{\tau-1}\right]$$

If the conditions (5a & 5b) are violated, it indicates the unsustainable fiscal posture (Hamilton and Flavin, 1986). Equation (5a) is termed as 'no Ponzi game rule' which entails that the growth of public debt should be lower than the interest rate. Thus, if the limit does not approach to zero in (5a), government confronts Ponzi finance.

Empirical literature puts forward numerous approaches to test the sustainability of public finances. Hamilton and Flavin (1986) assume the constant real interest rate in relation (5), and indicate the violation of the budget constraint (i.e., am I, 0>). Thus, it suggests a testable hypothesis as;

(6) $$b_{t-1} = \sum_{\tau=t+1}^{\infty}\left[\frac{1}{(1+i^*)^{\tau-t}} S_{\tau-1}\right] + \left[\frac{1}{(1+i^*)^{-t}} A_{i,0}\right]$$

So, the null hypothesis of holding intertemporal budget constraint is satisfied if A I, 0 = 0. For the sustainable fiscal stance, stationarity of the primary budget deficit is termed as a sufficient condition. Hakkio and Rush (1991) recommend the investigation of the cointegration relation between the series of revenue and expenditure having a cointegrating vector (1, -1).

(7) $$g_{t-1}^r = r_{t-1} \sum_{\tau=t+1}^{\infty}\left[\frac{1}{(1+i^*)^{\tau-t}} (\Delta r_{\tau-1} - \Delta g_{\tau-1})\right] + \lim_{\tau\to\infty}\left[\frac{1}{(1+i^*)^{\tau-t}} \Delta b_{\tau-1}\right]$$

Δrτ and Δgτ are supposed to follow a stationary path. Under condition (7), and holding transversality condition, Quintos (1995) stated that series of revenue rot and expenditure great form a cointegrating relationship and their coefficient is equal to one i.e. =1, provided that both series have the same order of integration. This is regarded as necessary and sufficient condition for the validity of the present value of budget constraint whereas, if the value of cointegrating coefficient lies between 0 and 1, it ensures only sufficient condition i.e. $0 < \hat{\beta} < 1$.

Another method to determine whether inter-temporal budget constraint holds or not, requires testing the cointegration relation between the series of primary budget deficit and public debt assuming that both series follow a unit root process. If l-1 s t-1 is subtracted from both sides of the equation (5b) as suggested by (MacDonald, 1992), we get following expression:

(8) $$b_{t-1} - \frac{1}{i^*} S_{t-1} = \sum_{\tau=t+1}^{\infty} \left[\frac{1}{(1+i^*)^{\tau-t}} (S_{\tau-1} - S_{\tau-2}) \right]$$

The terms τ-1 - s τ-2 is referred to as the sum of weights on Δ s τ -1. In lines with Granger representation theorem (Engle and Granger, 1987) the cointegration among public debt and budget deficit can be written as by employing error-correction representation.

(9) $$\Delta s_t = \alpha + \lambda (s_{t-1} - i^* b_{t-1}) + \delta_s \Delta s_t + \delta_b \Delta b_t + u_t$$

Here λ exhibits the speed of the adjustment; it is the white noise error that may have contemporaneous correlation. It is proposed that if public debt and primary surplus are cointegrated then λ must be statistically significant. The error correction model indicates that primary deficit and public debt can deviate in the short time period, but in long run convergence will take place.

Data and Methodology

The present study applies a bound testing approach to cointegration introduced by Pesaran et al. (2001). ARDL method does not necessitate pre-testing of stationary of variables, pointing that existing relation amid variables in larval form is valid regardless of the fact that series are integrated of order one or zero, or having a combination of both (Pesaran et

al., 2001 and Bahmani-Oskooee, 2001). ARDL approach is suitable for limited sample data set, i.e. 30 to 80 observations (Haug, 2002). The ARDL bound testing approach allows different variables to opt varying number of optimal lags. Furthermore, the unrestricted ECM model considers appropriate lags that apprehend data generating procedure in general to specific contexts (Laurenceson and Chai, 2003). ARDL approach differentiates explained and explanatory variables, thereby obtained estimates are generally supposed to be efficient and unbiased as complications originating from endogeneity and serial correlation can be averted.

ARDL approach involves a two-step procedure for determining the long-run relationship. Step one examines the existence of a long-term relationship. Second stage contains the estimation of short and long-run parameters. In order to test long-term relation between variables, i.e. public debt and primary budget deficit, ARDL approach to cointergration based on unrestricted error correction model (UECM) has been given us:

$$(10)\quad \Delta Logd_t = \alpha + \sum_{i=1}^{\rho} \phi_i \Delta Logd_{t-i} + \sum_{i=0}^{q} \lambda_i \Delta Logb_{t-i} + \delta_1 Logd_{t-1} + \delta_2 Logb_{t-1} + \mu_t$$

Where dt designates primary budget deficit-GDP ratio and bit is the public debt-GDP ratio, Δ is the first difference operator whereas represents the number of optimal lags. The null hypothesis of 'no co-integration' among variables can be stated as;

$$H_0 = \delta_1 = \delta_2 = 0$$

Whereas the alternative hypothesis postulating the existence of a long-term relationship can be specified as;

$$H_1 = \delta_1 \neq \delta_2 \neq 0$$

F-test is used to evaluate the null hypothesis of no cointegration among variables in the question. There are two groups of critical values that have been reported by Pesaran et al. (2001). One corresponds to my (1) series, i.e. upper-bound critical values, whereas another set relates to the series that are my (0) i.e. lower-bound critical values (Pesaran and Smith, 1998). In determining the order of integration of the particular series, Phillips and Perron (1988) unit root test and Dickey-Fuller test (Dickey and Fuller, 1981) are generally used. If calculated F-statistics turn out to be greater than the upper bound value, the null hypothesis of no cointegration among variables is rejected. If the value of the F - test statistic remains less than the

lower bound critical value, it demonstrates the non-existence of a long-term relation. If test statistics lie within the values of the upper and lower critical bound, then the result is inconclusive.
If stable long-term relationship exists between the series, then step two involves estimation of long-run and short-run coefficient. Long-run model is estimated below:

$$(11)\quad Logd_t = \alpha + \sum_{i=1}^{\rho} \phi_i Logd_{t-i} + \sum_{i=0}^{\rho} \lambda_i Logb_{t-i} + \mu_t$$

Optimal lag length (ρ) is determined through Akaike Information Criterion (AIC) or Schwartz Bayesian Criterion (SBC). Subsequently, for estimating the long-term parameters, the final step requires the estimation of the short-term coefficients through Vector Error Correction Model (VECM), which is as follows:

$$(12)\quad \Delta Logd_t = \alpha + \sum_{i=1}^{\rho} \phi_i \Delta Logd_{t-i} + \sum_{i=0}^{\rho} \lambda_i \Delta Logb_{t-i} + \psi ECM_{t-1} + \upsilon_t$$

ECM_{t-1} refers to the error correction component that results from the tested long-term equilibrium relation where ψ displays the speed of adjustment to restore the long-run equilibrium following a short-term shock. Its sign must be negative and statistically significant to ensure convergence to the long run equilibrium relationship. The coefficient of ψ takes the value between -1 and 0. -1 implies instantaneous and pure convergence while 0 signifies no convergence.

The Determinants of Sustainable Fiscal Stance

To assess the impact of FRDL Act on debt sustainability in the long run, a dummy variable has been introduced in regression (11). The dummy variable opts the value one in the years when the Fiscal Responsibility and Debt Limitation (FRDL) Act was approved and implemented. In order to test the impact of political cycles on the debt sustainability, a dummy variable having the value one in the years of parliamentary elections has been added. Elections were held during 1977, 1985, 1988, 1990, 1993, 1997, 2002, 2008 and 2013. Finally, for testing the role of political structure on fiscal stance, we have included a dummy variable in the equation (11) that takes the value of 1 during the years of dictatorship and zero otherwise. The equations to be tested in this regard can be represented as;

Impact of FRDL on primary deficit in Long-run and Short-run

(12) $Logd_t = \alpha + \theta_i DU(FRDL)_t + \sum_{i=1}^{\rho} \phi_i Logd_{t-i} + \sum_{i=0}^{\rho} \lambda_i Logb_{t-i} + \mu_t$

(13) $\Delta Logd_t = \alpha + \theta_i DU(FRDL)_t + \sum_{i=1}^{\rho} \phi_i \Delta Logd_{t-i} + \sum_{i=0}^{\rho} \lambda_i \Delta Logb_{t-i} + \psi ECM_{t-1} + \upsilon_t$

Impact of political cycles on primary deficit in Long-run and Short-run

(14) $Logd_t = \alpha + \theta_i DU(pol-cycle)_t + \sum_{i=1}^{\rho} \phi_i Logd_{t-i} + \sum_{i=0}^{\rho} \lambda_i Logb_{t-i} + \mu_t$

(15) $\Delta Logd_t = \alpha + \theta_i DU(pol-cycle)_t + \sum_{i=1}^{\rho} \phi_i \Delta Logd_{t-i} + \sum_{i=0}^{\rho} \lambda_i \Delta Logb_{t-i} + \psi ECM_{t-1} + \upsilon_t$

Impact of political structure on primary deficit in Long-run and Short-run

(16) $Logd_t = \alpha + \theta_i DU(pol-structure)_t + \sum_{i=1}^{\rho} \phi_i Logd_{t-i} + \sum_{i=0}^{\rho} \lambda_i Logb_{t-i} + \mu_t$

(17) $\Delta Logd_t = \alpha + \theta_i DU(pol-structure)_t + \sum_{i=1}^{\rho} \phi_i \Delta Logd_{t-i} + \sum_{i=0}^{\rho} \lambda_i \Delta Logb_{t-i} + \psi ECM_{t-1} + \upsilon_t$

Equations (18) and (19) take into account the effect of all variables incorporated in various individual models that are likely to influence the budget deficit as a whole in long-run and short-term respectively.

(18) $Logd_t = \alpha + \theta_1 DU(pol-structure)_t + \theta_2 DU(pol-cycle)_t + \theta_3 DU(FRDL)_t + \sum_{i=1}^{\rho} \phi_i Logd_{t-i} + \sum_{i=0}^{\rho} \lambda_i Logb_{t-i} + \mu_t$

(19) $\Delta Logd_t = \alpha + \theta_i DU(pol-structure)_t + \theta_2 DU(pol-cycle)_t + \theta_3 DU(FRDL)_t + \sum_{i=1}^{\rho} \phi_i \Delta Logd_{t-i} + \sum_{i=0}^{\rho} \lambda_i \Delta Logb_{t-i} + \psi ECM_{t-1} + \upsilon_t$

Study employs the time series data spanning time from 1976 to 2014. Public debt and primary budget deficit are expressed in terms of percentage of GDP. The data of the required variables has been obtained from various issues of Economic Survey of Pakistan.

Results and Discussion

1.1. Results of Unit root tests and optimal lag selection

Firstly, the stationarity status of the variables was determined by using unit root test. To test the unit root among the variables a standard Augmented Dickey and Fuller (ADF) test was employed.

Table # 1: Augmented Dickey Fuller Test of Unit Root

Series in the model	At level		At Ist difference	
	With intercept	With intercept and trend	With intercept	With intercept and trend
Debt/GDP	**-1.52**	**-1.47**	**-6.32**	**-6.33**
PD/GDP	**-2.37**	**-1.29**	**-9.03**	**-9.12**

Table 1 depicts the ADF results with intercept and with the trend and intercept. Results indicate that both series turn out to be stationary after first difference. In step one, the leg length of the first difference series is found using the unrestricted model by employing Akaike Information Criterion (AIC).

Table # 2: Lag Length selection based on VAR Model

Lag Order	Final prediction error	Akaike Information Criterion	Schwarz Information Criterion	Hannan-Quinn Criterion
0	402.1697	11.67260	11.76147	11.70328
1	38.27377	9.319676	9.586307*	9.411717
2	34.33616*	9.208018*	9.652403	9.361419*
3	35.21383	9.226263	9.848402	9.441025
4	42.46259	9.400763	10.20066	9.676886

Based upon the lag selection criterion and estimates presented in table 2, we use and optimal lag order of 2 to test for the presence of cointegration among variables.

1.2. ARDL test for cointegration and the Long run relationship among variables

Results in table 3 are based upon an equation (10) and confirm the presence of co-integration, relation as proposed in the model at 1 percent, 5 percent, and 10 percent significance level. As a stable long-term relationship exists between the variables, step two requires the estimation of long-run and short-run coefficients.

Table # 3: Bound Test for Co-integration Analysis

Dependent Variables			
Debt/GDP			
Critical Values	Peasran et al. (2001)		
	Lower bound Values	Upper bound Values	K=3
1%	6.34	7.52	F-Statistics 10.83
5%	4.87	5.85	
10%	4.19	5.06	
Critical values are obtained from Pesaran et al. (2001), Table CI (V): Unrestricted Intercept and Unrestricted Trend.			

Estimates of long-run model using equation (11) are presented in table 4. The results reflect the existence of a negative and statistically significant relationship between debt/GDP ratio and primary deficit to GDP ratio in the long run, indicating an unsustainable fiscal stance. The parameters at lag 1 and 2 are not statistically significant, therefore their results have not been reported.

Table # 4: Long run Relationship among Variables

	Coefficient	**Std. Error**	**t-statistics**
C	-7.624439	2.3455	-3.2506
Debt/GDP	0.085377	0.0331	2.5779

Jarque–Bera Chi2(2) =0.6297 (0.7298)
Breusch-Pagan-Godfrey test= 2.1851 (0.1394)

We have used robust standard errors, in order to take care of any possible autocorrelation present in the long run equation. The findings of the study are compatible with the findings of previous empirical studies, i.e., Mehmood and Rauf, (2012), Ejaz and Javid, (2011), Fan (2007), and Pasha and Ghaus(1997).
The results of all long-run determinants of fiscal sustainability are reported in table 5.

Table # 5:
Long run Relationship among Budget Deficit and its Determinants

Dependent Variable	**Equation 13**	**Equation 15**	**Equation 17**	**Equation 19**
C	-10.1708 (2.8738)	-7.7982 (2.3553)	-8.4225 (3.5519)	-14.9540 (4.1263)
DEBT	0.1175 (0.0386)	0.0946 (0.0349)	0.0946 (0.0470)	0.1820 (0.0541)
DUMFRDL	1.6961 (0.8959)	-	-	-
DUMPOL	-	-0.9478 (0.8255)	-	-
DUMDIC	-	-	0.3502 (1.0335)	-
DUMDIC	-	-	-	1.4977 (1.0073)
DUMPOL	-	-	-	-1.0030 (0.7723)
DUMFRDL	-	-	-	2.4868 (0.8805)
Note: Values in parentheses represent standard errors.				
Diagnostics	Jarque–Bera = 0.3997 (0.8188) Breusch-Pagan-	Jarque–Bera = 0.3126 (0.8552) Breusch-Pagan-	Jarque–Bera = 0.9413 (0.6245) Breusch-	Jarque–Bera = 0.1308 (0.9366) Breusch-

	Godfrey $Chi^2(2)$ = 5.2278 (.0733) Ramsey RESET $Chi^2(1)$ = 0159 (.8994)	Godfrey $Chi^2(2)$ = 2.3210 (.3133) Ramsey RESET $Chi^2(1)$ = .0109 (.9167)	Pagan-Godfrey $Chi^2(2)$ = 4.8460 (.0887) Ramsey RESET $Chi^2(1)$ = .5851 (.4443)	Pagan-Godfrey $Chi^2(2)$ = 7.9887 (.0920) Ramsey RESET $Chi^2(1)$ = 0.4031 (.5255)

It is noticeable that debt has a robust and positive impact in all the models. The analysis of long run equilibrium shows that none of the variables have a significant influence in determining the fiscal balance except FRDL Act of 2005, which positively affects the primary deficit to GDP ratio. This indicates the ineffective implementation of the Act.

As far as other determinants are concerned, political cycles play no role in determining budget deficits in Pakistan. As democratic political dynamics of Pakistan are characterized by short lived governments, none of the civilian governments except one (2008-2013) got the chance to complete its tenure of service. Therefore, the elections were not pre-planned, and governments could not fully implement their fiscal agenda.

In the similar manner, the form of the government does not matter for fiscal discipline in Pakistan. As far as democratic governments are concerned, they remained in power for few years. The interruptions in the political process couldn't exert a favorable impact on the economic performance. Political economy collapsed the continuous and consistent policy formation, management and implementation. Whenever a new government took charge, it rolled back and postponed the policy of the foreign government. Nonetheless, inconsistent policies have not been the issue of dictatorial regimes, yet the country couldn't attain a balanced fiscal posture despite having an average growth rate of 6 percent per annum. Even in an authoritarian regime, debt levels remained high which contributed to increasing fiscal gaps.

1.3. Impact of structural variables on short run fiscal stance

The impact of structural variables on short run fiscal stance has been estimated through Vector Error Correction Model (VECM) and the results are presented in table 6. Results indicate that the error term is negative and statistically significant in each of the models. For eq(13), coefficient of ECM reflects a 30 percent error correction towards equilibrium in a period of

one year. Whereas FRDL Act of 2005 improved the budget deficit by 1.175 units during short-run. The ECM coefficient for eq (15) reflects a negative sign and has a significant convergence path by 0.4492 units and in eq (17) by 0.3428 units. Dummies of political cycle and political structure are both insignificant in the short run as well. As far as overall model is concerned, political structure and FRDL act both exert a positive influence on the fiscal gap in the short run. This model shows an inverted convergence toward equilibrium with the adjustment speed of 0.4012 units. Short-run dynamics reveal that debt in larval form and its previous lags do not hurt the fiscal discipline.

Diagnostics for long-run and short-run dynamics confirm that residual are normally distributed, disturbance term is not heteroscedastic, and each model has the correct functional form.

Table # 6: Error correction representation for the selected ARDL model

Dependent Variable	Equation 14	Equation 16	Equation 18	Equation 20
C	0.584904 (0.228548)	0.449073 (0.275191)	0.505874 (0.273558)	1.374067 (0.371104)
DPD(-1)	-0.549253 (0.156783)	-0.453510 (0.148984)	-0.366023 (0.133682)	-0.532974 (0.156978)
DPD(-2)	-0.287871 (0.154976)	-0.273289 (0.165032)	-	-0.409401 (0.161191)
DDEBT	-0.072103 (0.038785)	-0.073208 (0.041079)	-0.075970 (0.040540)	-0.067001 (0.036603)
DDEBT(-1)	-	-0.103122 (0.046346)	-0.084242 (0.043819)	-0.111841 (0.042949)
DDEBT(-2)	-	-0.065153 (0.046350)	-	-0.075731 (0.043973)
DUMFRDL	-1.175326 (0.460696)	-	-	-1.431206 (0.447785)
DUMPOL	-	-0.251585 (0.408921)	-	-0.584708 (0.375666)
DUMDIC	-	-	-0.493057 (0.374720)	-0.726160 (0.349425)
ECMFRDL(-1)	-0.296435 (0.097613)	-	-	-
ECMPOL(-1)	-	-0.449211 (0.108889)	-	-

ECMDIC(-1)	-	-	-0.342807 (0.086715)	-
ECMALL(-1)	-	-	-	-0.401246 (0.110903)
Note: Values in parentheses represent standard errors.				
Diagnostics	Jarque-Bera= .3754(0.8288) Breusch-Pagan-Godfrey $Chi^2(2)$ =6.4276 (.2668) Breusch Godfrey LM test $Chi^2(2)$ = 5.7715 (.0558) Ramsey RESET $Chi^2(1)$= .1346 (.7136)	Jarque–Bera= .0126(0.9936) Breusch-Pagan-Godfrey $Chi^2(2)$ =7.3054 (.3978) Breusch Godfrey LM test $Chi^2(2)$= 2.9322 (.2308) Ramsey RESET $Chi^2(1)$= 1.3679 (.2422)	Jarque–Bera = 4.3857(0.1115) Breusch-Pagan-Godfrey $Chi^2(2)$= 1.4618 (.9174) Breusch Godfrey LM test $Chi^2(2)$= 3.6141 (.1641) Ramsey RESET $Chi^2(1)$= .0166 (.8972)	Jarque–Bera = 2.3946 (0.3019) Breusch-Pagan-Godfrey $Chi^2(2)$= 10.4435 (.3158) Breusch Godfrey LM test $Chi^2(2)$= 4.2331 (.1204) Ramsey RESET $Chi^2(1)$= .5056 (.4770)

Conclusion

This paper analyzes the sustainability of public finances of Pakistan for the time span of 1976 to 2014. Our study contributes in existing literature by empirically evaluating the role of political cycles, structure and legislative acts i.e, Fiscal Responsibility and Debt Limitation (FRDL) Act, 2005 in varying fiscal rules. For this purpose, the study employed Autoregressive Distributed Lag model to estimate the various hypothesizes.

Our results confirm that the fiscal position in Pakistan is unsustainable. Institutional arrangements like Fiscal Responsibility and Debt Limitation Act, 2005 increased the primary deficit to GDP ratio in the long-run. This indicates that the implementation of the Act was ineffective as Debt-to-GDP ratio in Pakistan is higher than 60 percent of the GDP and debt servicing to revenue ratio is beyond the threshold levels. However, error-correction findings indicate that the introduction of the FRDL Act is inversely related to the variations in the fiscal position. Moreover, political cycles play no role in determining budgetary imbalances in long-run and short-run. As democratic political governments couldn't get the chance to complete their

tenure, the elections were not pre-planned and ruling political parties couldn't avail the opportunity to exercise their legitimate powers to use the government's financial resources to correct the fiscal position. Authoritarian and democratic governments both have been failed to resolve the issue of fiscal deficit as the form of the government has an insignificant impact on the deficit to GDP ratio in short run and long run. The findings of the study highlight the need for the democratic leadership to complete its tenure of service. An uninterrupted, continuous democratic regime is able to ensure good governance and encourage accountability via new elections. Further, Pakistan needs to formulate a comprehensive debt reduction strategy that must be in line with broader economic spectrum.

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Asymmetric, Persistent and Non Linear Modeling of Unemployment Rate in Case of Pakistan

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The purpose of this study is to make a comparison between linear against nonlinear univariate modeling and forecasting of unemployment gap. This study shows that the unemployment gap is non-linear and it is better to get a more fitted and accurate model to use nonlinear Threshold autoregressive (TAR) model instead of traditional autoregressive (AR (p)) model by means of the variance ratio test. Furthermore, by use of TAR model the unemployment gap divided into two regimes, one is more persistent and other is less persistent and threshold parameter is detected by Chan (1993) method. The forecasting accuracy of the TAR model over linear model is shown by the ratio of root mean square error (RMSE).

Keywords: Unemployment gap, GAR, BL, TAR, LSTAR, Forecasting.
JEL classification code: E24, C22, E27.

Introduction

Economic theory proposes that a plenty of important time-series variables show nonlinear patterns. There are always happening to see the downward rigidity in wages that is a vital feature of a number of macroeconomic models. It can be analyzed that due to asymmetry the downturn phase in business cycles is prolonged than recoveries in most of the important macroeconomic variables, for-instance unemployment and output, these are falling more abruptly than increase. Time series data require considering the linearity or nonlinearity, along with threshold level, if any, before processing it to include in any model and further policy recommendations.

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Since the traditional linear ARMA model depends on linear differencing of equations, a dynamic and new specification is necessary to capture nonlinear pattern. The significance of this problem has been focused by a number of papers in the current empirical literature over asymmetry in business cycles that is stated in a seminal research paper by. (Neftic, 1984; Skalin and Terasvirta, 2000; Cancelo, 2007), further, the reaction of unemployment due to output fluctuation also helps to formulate the dis-inflation policy (Haris and Silverstone, 2001; Khalil et al. 2011). Unemployment is founded of plenty of costs to unemployed people as well as their families, society and government too (Ahmed, et al. 2011). The unemployment carries a transitivity stuffed like when the idle labors cut short their spending, it would result to diminish the demand for output growth and which further become reasons for the unemployment of others labors (Bardsen, et al 2011). One of the important features is the forecasting error increases by use of linear models in the presence of asymmetry (Harris, et al 2001; Palley, 1993; Rothman, 1988; Hassan, 2012).

In the last decade a number of researchers like Neftic (1984), Palley (1993), Skalin and Terasvirta (2000), Harris, et al, (2001), Cancelo (2007) showed significance indication of the existence of nonlinearity in unemployment rates are occurring. It is too difficult to find out even a single paper which has examined the foremost practical problem which attributes the asymmetric unemployment rate. It is also a too difficult task to find any paper which uses to make a comparison of the out-of-sample forecasting performance between traditional linear model and nonlinear models of time series analysis in case of Pakistan. Furthermore, this study assists to conclude that how the asymmetry in unemployment rate modeled more efficiently.

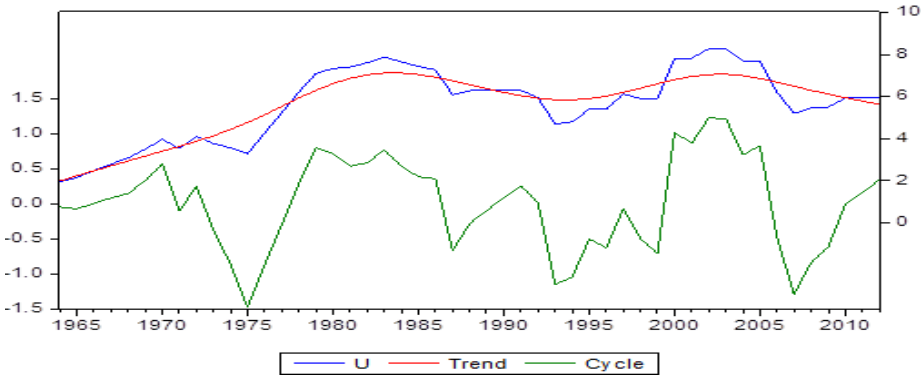
Further, this study is arranged as follows that next section (2) gives data and methodology relating to the linear and nonlinear models. Section (3) presents the estimation and results and section (4) explains conclusions and summary with a policy recommendation.

Data and Methodology

1.1 Data

The data on unemployment rate are collected from Economic Survey of Pakistan (various issues) for the period of 1964-2014 for Pakistan. The unemployment Gap is calculated by Hodrick and Prescott (HP) (1980) algorithm. The estimate of cyclical and secular components yield by the HP filter is also plotted in Figure 1.

Fig.1: Unemployment Gap



Above in fig. 1, a combined graph of actual unemployment rate, its trend and cyclical unemployment depicted. The unemployment gap is the difference between actual unemployment rate and its trend which is equal to the cyclical unemployment.

2.2 Model

A set of four nonlinear models and a single linear autoregressive model of time-series have been used in order to make a forecasting comparison. The under study nonlinear models include threshold auto-regressive model (TAR), generalized autoregressive model (GAR), bilinear model (BL), logistic Smooth transition Autoregressive model (LSTAR). These models have state dependent dynamics in the case that dynamics vary with the previous behavior process.

In this section linear model and nonlinear models are presented regarding the estimation of the study in order to single out a model that captures the behavior of unemployment gap.

2.2.1 Linear Model

The autoregressive model has been used solely as a linear model. This model has been applied to capture the linear dynamics of the unemployment gap.

2.2.1.1 Autoregressive Order *P* (Ar (P)) Model

The linear autoregressive of order *p* model is defined as;

$$Y_t = a + \sum_{i=1}^{p} \varphi_i X_{t-i} + \varepsilon_t \qquad (1)$$

In above model $\varphi_1 \ldots\ldots\ldots\ldots, \varphi_p$ are parameters of above model (1), *a* is constant and $\varepsilon_t \sim$iid(0, σ^2).

2.2.2 Nonlinear Model

In order to capture the nonlinear dynamics in unemployment gap series, different nonlinear model have been used such as generalized autoregressive model, bilinear model, logistics smooth transition autoregressive model and threshold autoregressive model. Among all these nonlinear models, a single model will be figured out on the basis of the low residual sum of square or variance ratio.

2.2.2.1 Generalized Autoregressive (Gar) Model

Mittnik (1991) introduced the class of GAR models as an auto-regressive analogue. It is used to detect the nonlinear form of time series by considering a large number of higher order terms of AR as well as their cross products.

The general form of nonlinear autoregressive (NALR) model of order (p) under GAR model is as:

$$Y_t = \alpha_0 + \sum_{i=1}^{p} a_i y_{t-i} + \sum_{i=1}^{p}\sum_{j=1}^{p}\sum_{k=1}^{r}\sum_{l=1}^{s} \alpha_{ijkl}\, y_{t-i}^{k} y_{t-j}^{l} + \varepsilon_t \qquad (2)$$

Where

p is order of AR process. *r* and *s* are integers and greater than or equal to 1.

The underlying null hypothesis of linearity is that all across terms are not significantly different from zero i.e., $\alpha_{ijkl} = 0$ against the alternative hypothesis that is at least one of them is equal to zero.

2.2.2.2 Bilinear (Bl) Model

Rao and Gabr (1984) have extensively discussed bilinear model. Bilinear (BL) model is a powerful and a parsimonious asymmetric model. The standard form of BL (*p,q,r,s*) model for stationary Y_t series is as:

$$Y_t = a_0 + \sum_{i=1}^{p} a_i y_{t-i} + \varepsilon_t + \sum_{i=1}^{q} \beta_i \varepsilon_{t-i} + \sum_{i=1}^{r}\sum_{j=1}^{s} c_{ij} y_{t-i}\, \varepsilon_{t-j} \qquad (3)$$

P and *q* are order of AR, MA process. *r* and *s* are integers greater then and equal to one.

The rejection of null hypothesis $c_{ij} = 0$ leads to conclude that the series is not linear and having the BL form. Traditional F-test is used to test the null hypothesis of linearity.

2.2.2.3 Threshold Autoregressive Model (Tar)

Tong (1983, 1990) introduced threshold autoregressive (TAR) model. It is extensively used to confirm the nonlinearity in the univariate models by the mean of the threshold value. A general form of the TAR model in case of two regimes on AR (p) is as;

$$Y_t = \begin{cases} a_{10} + \sum_{i=1}^{p} a_{1i} y_{t-i} + \varepsilon_{1t} & if\ y_{t-1} > \tau \\ a_{20} + \sum_{i=1}^{R} a_{2i} y_{t-i} + \varepsilon_{2t} & if\ y_{t-1} \leq \tau \end{cases} \qquad (4)$$

τ = threshold level. P is order of AR process in higher regime.

Chan (1993) described the procedure to get a super-consistent estimate of τ. The first rearrange the series either ascending or descending order and this 15% or 10% values from the both ends of the series. The true value of unknown threshold "τ" must occur within the interval of $\tau \in (\tau L, \tau U)$. Each observation within the interval has the potential to be thrashed. Therefore, considering the first data point as a threshold value i.e τ = y1 and estimating TAR model (4) to obtain the residual sum of square (SSR).

$$\hat{\sigma}_2(\tau) = T^{-1} \sum_{1}^{-T} \hat{e}_t^2(\tau^2) \qquad (4.1)$$

According to Chan (1993) the least square estimate of the threshold level would be at that observation where $\hat{\sigma}_2$ minimum i.e is;

$$\hat{\tau} = \arg \min_{\tau \in (\tau L, \tau U)} \hat{\sigma}^2(\tau) \qquad (4.2)$$

2.2.2.4 Logistic Smooth Transition Autoregresive (Lstar) Model

Logistic smooth transition autoregressive (LSTAR) model can be examined through the generalization of TAR model;

$$X_{t+s} = \left(\emptyset_1 + \emptyset_{10} X_t + \emptyset_{11} X_{t-d} + \ldots\ldots + \emptyset_{1L} X_{t-(L-1)d}\right)\left(1 - G(Z_t, \gamma, c)\right) + \left(\emptyset_2 + \emptyset_{20} X_t + \emptyset_{21} X_{t-d} + \cdots \ldots\ldots + \emptyset_{2H} X_{t-(H-1)d}\right) G(Z_t, \gamma, c) + \varepsilon_{t+s}$$

Here, G is logistic function and Z_t is threshold variable. In LSTAR model the starting values of γ, c and $\emptyset$ parameters should be specify in other case the starting values are chosen from the TAR model estimation.

Estimation and Results

In this section the linear and nonlinear models of unemployment gap are estimated. The univariate model on unemployment gap is identified by

implementing Box and Jenkin (1976) methodology on the stationary series. The ACF and PACF of unemployment gap series checked by adopting the general to specific procedures of Hendry (1995). The specific model is selected by dropping the insignificant regressors and satisfying by means Schwarz Bayesian criterion (SBC) and Akaike information criterion (AIC) for optimal lag selection. Further, the diagnostic test such as Ljung-Box (LB) Q-statistics (Ljung and Box, 1979), serial correlation LM test, ARCH test and JB test are applied to check the adequacy of the parsimonious models.

Stationarity of Data

The stationarity of the unemployment gap series is tested by applying the Dicky-fuller (1979, 1981) unit-root test. At level with drift the test statistics is -2.94 which is significant at the 1 % level of significance and reject the null hypothesis of unit-root against the alternative hypothesis of stationarity at level.

Univariate Model of Unemployment Gap

In order to regress the univariate model for unemployment gap the autoregressive order (p) model has been used as stated in the methodology section. The unemployment gap series is stationary at level, and the autocorrelation function is showing one lag as having one spike and after one all are dying out, similarly the partial autocorrelation function showing no lag by means of correlogram. The drift term is found insignificant, so the final form of the unemployment gap model is as given below:

$$Y_t = \underset{(6.3684)}{0.6864 Y_{t-1}} \qquad (6)$$

$$R^2 = 0.46 \quad Norm\ \chi^2_{(1)} = 0.11 \quad Auto\chi^2_{(1)} = 0.11 \quad Hetro\chi^2_{(1)} = 0.89$$

$$F - statistics = 41.42 \quad RSS = 11.09$$

Here Y_t is unemployment gap. This model is statistically significant it satisfies the diagnostic test of serial correlation LM test for unemployment gap at lag first, ARCH test at lag first and JB normality test and t-statistics are in the parenthesis. The estimated AR (1) model is supported by literature [Freeman (2000), Knoted (2007), Montgomery et al., (1998)].

In order to detect the nonlinear pattern in AR(1) model (6) for this the Ramsey regression equation specification (RESET) test. In case of linearity, the residuals of AR (1) model (6) should be independent and don't correlate with the regressors (Y_{t-1}, Y^2, Y^3). The results of RESET test are in equation (7) and the t-statistics are in parenthesis. The coefficient of higher order of

unemployment gap variable i.e., Y^2, Y^3 are highly significant and presented below as;

$$\varepsilon_t = \underset{(0.1121)}{0.0064} - \underset{(-4.8593)}{0.3781}Y_{t-1} + \underset{(0.7608)}{0.0692}Y^2 + \underset{(8.7166)}{0.6042}Y^3 \qquad (7)$$

$$F - statistic = 27.26$$

The F-statistics are quite high which reject the null hypothesis of linearity against the nonlinearity and higher order variable is significant. The t-statistics are in parenthesis. Model (7) has a high explanatory power which also indicates for nonlinearity.

Tar Model

The threshold auto-regressive model has been applied to unemployment gap series. As, stated in the methodology section, the first threshold level has to find. To find out the threshold level the unemployment gap series is put in ascending order and 15% of the observation at both ends of the series has been excluded. Next, the general form of the TAR model (4) has been regressed on the remaining observation of the unemployment gap series by considering every value threshold level one by one and take down the residual sum of square of each model. Where the residual sum of square minimum that is threshold level. Here, it is found at value -0.6127.

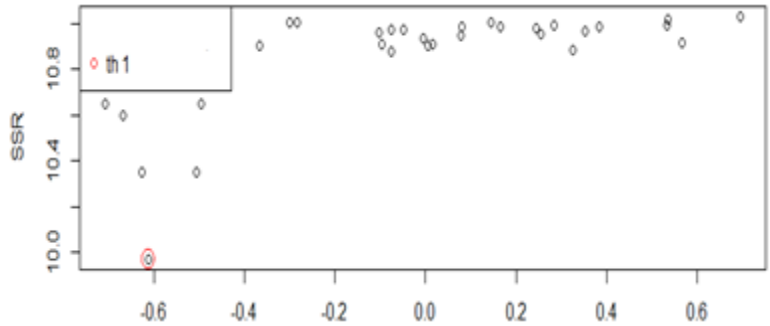
$$Y_t = \begin{cases} \underset{(5.3331)}{0.7837}Y_{t-1} & if\ \ Y_{t-1} \geq -0.6127 \\ \underset{(3.7215)}{0.5777}Y_{t-1} & if\ \ Y_{t-1} < -0.6127 \end{cases} \qquad (9)$$

$$R^2 = 0.46 \quad Norm\,\chi^2_{(1)} = 0.13 \quad Auto\chi^2_{(1)} = 0.08 \quad Hetro\chi^2_{(1)} = 0.89$$

$$F - statistics = 21.14 \quad RSS = 10.87$$

There is a low and high-unemployment rate that is separated by threshold value $Y_{t-1} = -0.6127$. This model is statistically significant and clears all the diagnostic tests. The threshold figure is given below where threshold level is shown where RSS is minimum among all the other observations.

Fig.1a: Threshold Value for Unemployment Gap:



In above fig. 1a the sum of square residuals are plotted after running OLS regression for each observation as mentioned above in the methodology. In order to select a threshold in the SSR series is only one and circled above in the fig. 1a.

LSTAR Model

The logistic smooth transition autoregressive model considers the threshold level has a smooth transition. It has a smooth transition parameter, i.e., G as stated in the methodology. The estimated LSTAR model is as;

$$Y_t = 0.7402 + 1.2939Y_{t-1} + (-0.8446 - 0.3857Y_{t-1})[1 + \exp\big(-100\,(Y_{t-1} + 0.5668)\big)]^{-1}$$
$$(1.5201)\quad (2.5689)\quad (-1.7085)\quad (-0.7298)\quad (0.3394)\quad (-3.1962)$$
$$RSS = 9.03\;\; F - statistics = 0.3296 \qquad (10)$$

This model statistically is not significant. The F-statistics is very low. The variables are not significant through t-statistics *(which are given in parenthesis)* only auto-regressive variables and threshold value.

GAR Model

The generalized autoregressive model shows the cross product of different and same auto-regressive lag of the unemployment gap series. Only the significant cross product has been reported for unemployment gap series are presented as;

$$Y_t = 0.3677Y_{t-1}.Y_{t-2} - 0.2875Y_{t-1}.Y_{t-3} + 0.5798Y_{t-1}^3 \qquad (11)$$
$$(1.8472)\quad (0.2415)\quad (5.1256)$$
$$R^2 = 0.39\;\; Norm\;\chi^2_{(1)} = 0.37\quad Auto\chi^2_{(1)} = 0.12\quad Hetro\chi^2_{(1)} = 0.56$$
$$F - statistics = 9.42\quad RSS = 12.$$

This model is statistically significant, all diagnostic tests are cleared. The t-statistics are given in parenthesis. The cross-product term is insignificant but, the higher order term of regressors lags term is significant. The null hypothesis of linearity i.e, $\alpha_{ijkl} = 0$ coefficient of Y have been rejected by the high value of F-statistics 9.42 against nonlinearity.

Bilinear Model

The bilinear model captured the nonlinearity by cross product of regressors and error term i.e., $Y_{t-1}.\varepsilon_{t-1}$. Only the significant cross product has been reported below with the standard error in parenthesis. The results are:

$$
\begin{aligned}
&Y_t \\
&= 0.6819 Y_{t-1} \\
&- 0.0588 Y_{t-1}.\varepsilon_{t-1} \qquad (12) \\
&\quad (6.1643) \quad (-0.2198) \\
&R^2 = 0.46 \;\; Norm\, \chi^2_{(1)} = 0.14 \quad Auto\chi^2_{(1)} = 0.11 \quad Hetro\chi^2_{(1)} = 0.90 \\
&F - statistics = 19.48 \quad RSS = 11.06
\end{aligned}
$$

All the diagnostic tests are significant and BL model (12) is statistically significant. The cross-product term of error and dependent variable $Y_{t-1}.\varepsilon_{t-1}$ is significant and the null of linearity i.e, $c_{ij} = 0$ is rejected through high F-statistics against the alternative of nonlinearity.

All the nonlinear models and nonlinear detection tests (significance of cross term and highly ordered regressors) are identifying the nonlinearity in the unemployment gap. Now, between linear model and nonlinear model the best fitted model is selected by the comparison of residual sum of square (RSS) and variance ratio.

Variance Ratio Test

To select a best model between linear AR (1) and nonlinear model, the ratio of residual sum of square of nonlinear model to AR (1) examined.

Table 1: VARIANCE RATIO AR(1) TO NONLINEAR MODELS

Model	**RSS**	**RSS_N/RSS_L**
AR(1)	11.09	----
GAR	12.59	1.1352
BILINEAR	10.89	0.9972
LSTAR	10.93	0.9856
TAR	10.87	0.9801

Note: RSS_N/RSS_L the ratio of RSS from nonlinear model to RSS of Linear model.

In above ratios, for GAR model ratio is 1.14 which means that by using GAR model instead of AR (1) there will be 14 % more residuals, unexplained part as compared to the AR (1) model. Therefore, AR (1) model is preferred over GAR model. Bilinear to AR(1) model ratio 99% shows that there would be 1% decrease in the residual sum of squares by using BL model instead of AR (1). In case of LSTAR to AR (1) ratio, which is 81% indicates that there may be cut off of 19% in residual sum of squares if LSTAR model is used instead of AR (1). At the end, the ratio of TAR to AR (1) model is 98%, which shows that there is a 2 % decrease in the residual sum of square if the unemployment rate is estimated through TAR model instead of AR(1). As, it is analyzed that the maximum cut off in residual sum of square in modeling the unemployment rate is LSTAR model in above Table 1, but LSTAR is not a significant nonlinear model, so that is why this model could not be used to model the unemployment gap series. The other model which reduces the maximum residual sum of square is TAR model, and it is statistically significant. So, TAR model is chosen as a best fitted model to model the unemployment gap of Pakistan.

For researchers and policy makers the parameter constancy is extremely important. The parameter constancy is highly important, to confirm the parameter constancy of the TAR model (9), the estimation of recursive least squares has been used. By this approach CUSUM as well as CUSUMQ statistics are rightly constructed [Brown,. et al. (1975)]. Similarly, the recursive coefficient estimate for TAR model (9) has been plotted below in Figures 4, 5, 6 and 7:

Fig.2: Plot of Cumulative Sum of Recursive Residual and 5% Significane Level Critical Bands.

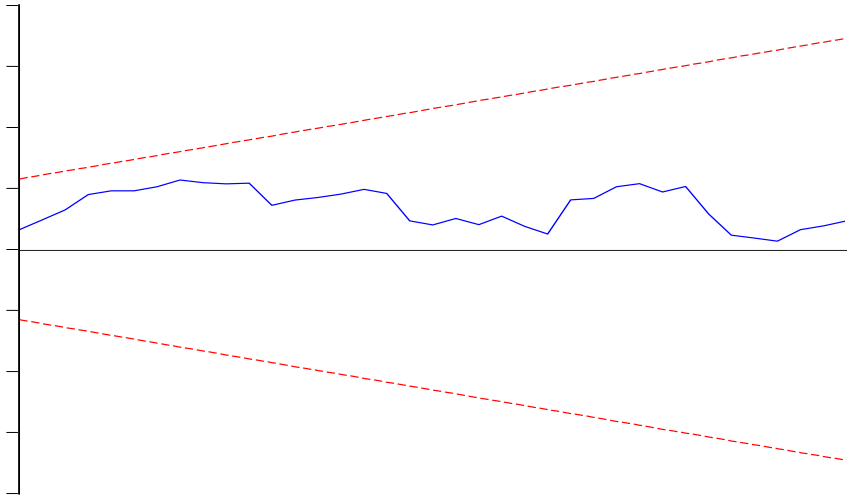


Fig.3: Plot of Cumulative Sum of Squares of Recursive Residual and 5% crititcal Significane Critical Bands.

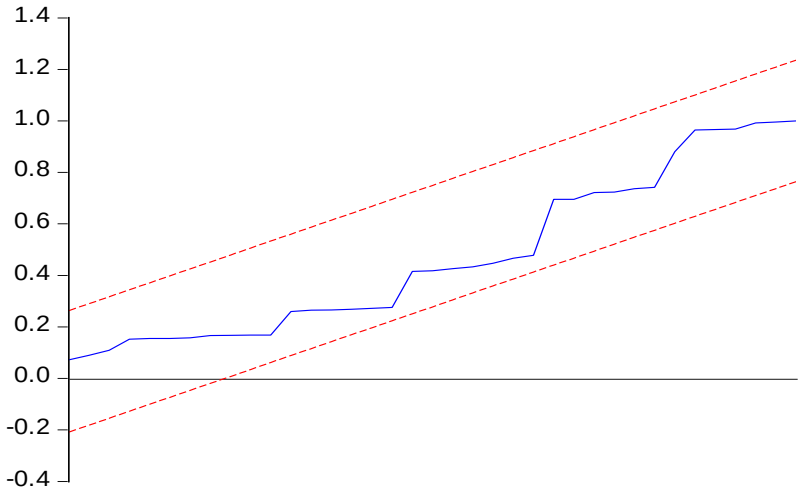
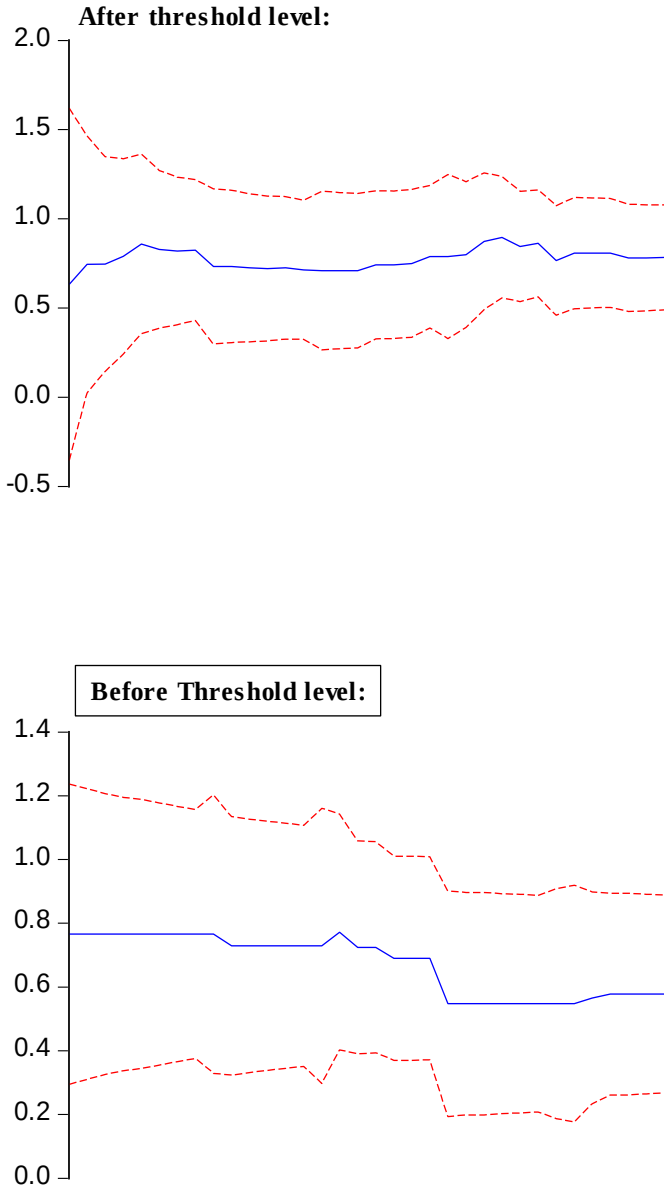


Fig.4: TAR's Coefficient and It's 2 Standard Error Bands.



Out-Of-Sample Forecast

It is analyzed in the above section that the nonlinear TAR model is best fitted model among other nonlinear and linear model. Now, if it is true, then there would be less root mean square error by using the TAR model instead of all other models. Out-of-sample forecasting has been done, at first the model are regressed on the full data except last six, five, two and one values one by one in order to analyze the forecasting results for a short period, say I, e, 1-2 year and for a longer period I, e, 5-6 year. The results are given below in the table as:

Table 2:--MRSE Ratios For *Ar(1)* To Nonlinear Models Out-Of-Sample Forecasts Of Unemployment Rates, 1964-2012

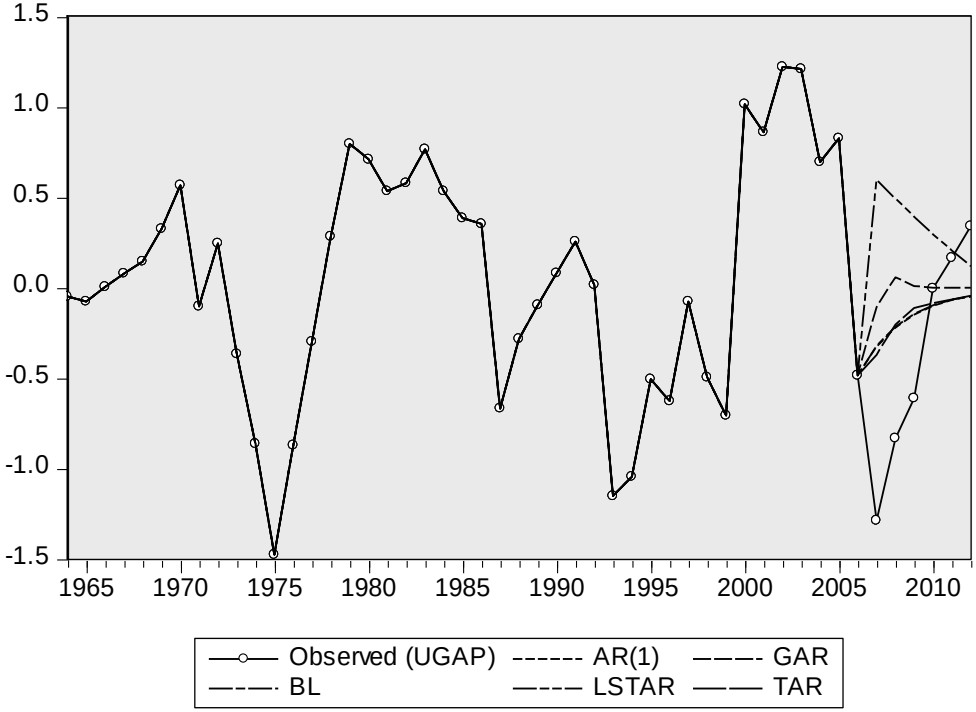
SHORT PERIOD (1-2 YEAR)				
FORECAST STEP	**AR(1)**	**GAR**	**BL**	**TAR**
1	**-------**	1.3603	1.0073	0.9306
2		0.9792	0.9871	0.9926
LONG PERIOD (5-6 YEAR)				
5	**-------**	1.0385	1.0290	0.9296
6	**-------**	1.2545	1.0045	0.9923

In the above table, the upper part is forecast for 1-2 year. The out of sample forecasting RMSE ratio of GAR to linear model is 1.36. This indicates 36% more RMSE occurred by use of GAR model instead linear model. Further, in case of two years forecasting the RMSE ratio is 0.98 which shows that 2% RMSE can be reduced by use of GAR model. Furthermore RMSE for 5 and 6 year forecasting are 3% and 25% more. So, it's better to use a linear model instead of GAR model for forecasting.

The RMSE ratio for BL to the linear model for 1, 2, 5 and 6 years are 1.00, 0.98, 1.03 and 1.01. Only for two years forecasting the RMSE may be reduced by 2% and except this it is better to use a linear model rather than BL. In case of LSTAR model the RMSE is minimum among all, but it cannot be used for forecasting as this model is not significant and has a very low F-statistics which don't reject the linear hypothesis. At the end the RMSE ratios for TAR model are less than one for all year. Which shows forecasted through TAR model instead of linear model either for a short period or long period would reduce the RMSE as 7%, 1%, 8% and 1% fore 1, 2, 5 and 6 year periods.

The forecasted value graph of the last 6 years is given below (Fig.1). It can be analyzed by the graph that only linear AR (1) model and nonlinear linear TAR model forecasted are going in the same direction with the observed values. Further, between TAR and a linear model, the forecasted values of TAR model is more as similar to as observed (unemployment gap) series.

Fig.5: Out-Of-Sample Forecasted Values of AR (1) and Nonlinear Models for 2006-2012:



From the above graph it can be examined that only AR (1) and TAR model forecasted values are in the same direction as the original values (UGAP). But between TAR and AR (1) model TAR forecasted values are closer to observed values and give a better fit as compare to the AR (1) [Rothman (1998)].

Conclusion

The main purpose of this study is to examine and model the pattern of the unemployment gap through linear and nonlinear time series model for the

period of 1964-2014. The nonlinearity in the unemployment rate is ignored by previous studies in case of Pakistan. In order to get the model which possesses the least RSS and reduce the RMSE and that might be used by policy makers for forecasting analysis.

The analysis of this paper indicates nonlinearity in unemployment gap and a threshold level, which separated the TAR model into two regions one is more persistent than others. Among all nonlinear models which are estimated in this paper TAR model is the best fitted model in comparison of RSS and RMSE. The key finding of this paper is to use TAR model while forecasts unemployment gap instead of the linear model, as it will cut off in RMSE and make more accurate forecasting. And while modeling the unemployment gap threshold level should be considered as it will give a clearer picture of the behavior of unemployment gap.

Policy Implication

The key finding of this study is that in order to get better and more accurate forecasting results the policy maker should first check nonlinearity in the series of data. And if the nonlinearity exists, then policy maker should use nonlinear models instead of linear model because nonlinear models explain more as compare to linear model the nonlinear data
and possess less forecasting error.

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Women's Access and Satisfaction with Public Sector Health Services in Punjab (Pakistan)

Saif-ur-Rehman Saif Abbasi [6] & Adeela Rehman[2]

The provision of health care is considered significant responsibility of any state or government to provide equitable and effective services for ensuring patients' satisfaction. Women's access to health care services is deemed important for the maternal health outcomes. The study was designed to explore the women's access and utilization of health care services and its barriers towards these services utilization in Punjab province, Pakistan. For this purpose, a cross-sectional survey was conducted in six DHQ hospitals and one Federal government hospital and 210 women patients were surveyed from three departments namely; surgery, medicine and gynecology. The findings of the study confirmed that women had access to health care services but satisfaction seems still deficient in this regard. Nevertheless, patients had to face numerous problems, among others, during their visit to hospital such as long waiting time for the turn, lack of availability of beds and seating areas. However, the researchers suggest that Government needs to improve the public health care services in terms of its functioning, monitoring and evaluation, so that it could help stimulate the needs of patients particularly maternal health needs.

Keywords: Public sector health services, Women access to health services, Satisfaction with health services

Introduction

The health care service is determined by both the availability and accessibility of health services. The ease of use of health services is usually

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indentified as the distance from the availability of health services as well as the financial stability to bear the expenditure of those services. The physical accessibility of health services is determined as access to health services within 2 to 5 km or 20 to 60 minutes walking distance. In case of women social acceptability is also very important to access health services which include religious, tribal, and cultural barriers (Pappas et al., 2009). The target of health care delivery system is not just to improve the structure of governance but also to deal with the patient's satisfaction with the health services (Donabedian, 1988). Patient's opinion regarding health services is one of the indicators to check the quality of services provided by medical care system as well as by medical practitioners. Patient's satisfaction can be measured by the experiences of patients toward the treatment and level of cooperation provided by the health providers (Durieux et al., 2004).

The satisfaction of health services users is based on the efficient working of health system, based on the effective formulation of health policy. As the study by Hakim, (1997) mentioned that health policy mainly classifies the procedures and guideline to achieve the goals and targets of health sector. The process of formulating health policies is based on the establishment of working bodies form different departments such as Ministry of Health, Planning and Finance Division, Chief and Director General of Health as well as directors of specific health programs like, Family Planning, Malaria Control, and AIDs etc. Although the policy formulation is the key concern of federal government but the responsibility of implementing health policy lies on provinces (Hakim, 1997). Women's health need is given priority at the state level and the issues related to women's health are discussed as fourth out of ten key areas highlighted in National Health Policy of Pakistan 2001. To achieve the target every year, health budget may try to improve be meet the critical needs of women's health (Shehzad, 2006).

In order to discuss the health policy and services for women, the government of Pakistan is working hard towards the improvement of health care services to improve the quality of care for all people. To improve maternal health status is one of the major concerns of government and it is making its efforts to provide health services at the doorsteps of women. For this many programmes including Lady Health Workers, Maternal health centers, and Family planning services have been introduced for catering the needs of women's health. The specification of better health services can be achieved by efficient allocation of resources and budget which is unfortunately not enough to meet the current demands of health sector (Pakistan economic survey 2005-2006).

The status of mother and child health in Pakistan is still an immense challenge for the government. It is estimated that an average woman gives birth to four children in her reproductive life span in which every fifth birth is in the mother's age group of 15-19 years. It's also indicated that in rural areas specially, three out of every four mothers do not feed their child after delivery because of less education, and unrealistic socio-cultural superstitions (MoPW, 2005). Many social and cultural obstacles prevent the access to health care services by women such as girl's status is considered inferior and do not pay much attention to improve her health as the boy received (MDG's 2006).

In Pakistan, the circumstances of low health budget, enormous population, poor health care system, rapidly increasing poor quality medical schools and fragile training structure are the major hindrances for poor governance structure in health system. Due to lack and mismanagement of resources, government is not able to provide the quality basic healthy living conditions to the population (Shiwani, 2006). Unfortunately, due to poor governance, mismanagement, inefficiencies and corruption in health system of Pakistan, the women's health status is still at low grade as compared to other Asian countries (Danida, 2008). Because of complications in pregnancy, it is estimated that about thirty thousand women lose their life in a year in Pakistan. Due to malnutrition and common infections, premature deaths and disabilities among women also reduce the status of women's health. Another major aspect of decline of women's health condition is high rate of fertility which also increases the population growth rate (Fikree & Omrana, 2004).

Many social-cultural gender discriminatory practices also play a complementary role to establish gender disparities in health system. Due to certain gender segregated roles assigned to men and women, pattern of diseases and access to health services create hindrance for women to take steps for the betterment of their own health. Women usually are not allowed visiting health services alone and sometimes she also may not easily go for the treatment due to disturbance in her daily routine activities of household chores (ADBG, 2009).

Gender difference in access and utilization of health resources is also due to patriarchal structure of Pakistan which has assigned different roles to both men and women. In health sector women always depend upon male members of family and face social and cultural barriers while accessing the service delivery that results to increase maternity issues which leads to the death of both mother and children during the time of pregnancy. In rural areas particularly the main cause of women's death are negligence, ignorance regarding health issues and diseases, social barriers, lack of awareness about health issues, lack of education, lack of hospitals, lady

doctors, female staff, nurses, LHWs and lack of proper medical infrastructure.

Aside the social cultural practice which create impediments to improve women's health status, the gender inequalities and gender differences are also prevailing in health care services functioning in Pakistan. Women's health is to some extent be ignored because of specific gender stereotypical roles and duties assigned to men and women. The socioeconomic structure also often limits women's mobility to accessing the health care services. By considering the different and special health needs of men and women , attention ought to be given to the health of girls and women not for today but also for future generations as women's health matters are not only related with the women themselves but it is also linked to the health of the children they will bear (UNESCAP, 2010).

In spite of giving far reaching concentration to women health needs all over the world, the maternal mortality ratio has been a very critical issue. One major reason identified behind that is lack of provision of adequate medical services during pregnancy and at the time of birth in most of developing countries. A research on utilization and expenditure of health care services to women in India conducted by Balaji *et al,* (2003) indicated that the major problem of growing ratio of maternal mortality is lack of women's access to basic and adequate health care services that is governed by their age, education, economic status as well the role and position in the family. The study also found the positive relationship between economic conditions of women with the access to health care services.

Despite the efforts going on to overcome the hindrances faced for improving women's health status in Pakistan, the progress graph is not upgrading to a great extent. Regarding the women's health needs and concerns, the analysis of health policy of Pakistan highlighted that women's health is given priority in health policy and emphasized on the more equitable promotion of health. But this also is not fulfilling the needs of women's health due to fewer resources including lack of female health care providers as well as women's lack of authority to take decision about their own wellbeing (Nishtar & Rizvi, 2008).

A research by Butt, (2004) identified that government of Pakistan has established many maternal health centers to provide free of cost health services to women but still some women are hesitant to utilize these services due to impolite behavior of doctors, presence of male doctors while examining the patient or the fear of crowds of medical students present at the time of examination.

Method

This study is based on a survey conducted in order to find out women's access to and satisfaction with health services. District Headquarters hospitals from six major districts of Punjab were randomly selected and one Federal Government Hospital from Federal area was also included in the study. For the selection of districts, Punjab has been divided in three circles on the basis of its geographical and climatic division. The three circles are Central Punjab, Southern Punjab and Northern Punjab. The selected district were; Rawalpindi, Multan, Bhawalpur, Sialkot, Khushab and Lahore. Three departments namely; surgery, medicines and gynecology were selected for the study from each district hospital. The sample size was two hundred and ten women (thirty from each hospital, including ten from each department), who visited the particular department at the time of researcher's visit to hospital for data collection. A semi-structured questionnaire based on open and close ended items was designed to collect the information from the patients related to the provision of facilities to the patient, their satisfaction with services and relationship with the doctors.

The data was analyzed by performing uni-variate and bi-variate test on SPSS

Results & Discussion

Socio-Demographics of the Patients

Table # 1: Age, Martial Status, Income and Education of the Respondents (female patients) at District Headquarter Hospital of Punjab and Federal Hospital.

Socio-Demographics	Bhawal-Pur	Khush-ab	Sial-kot	Rawal-Pindi	Multan	Lahore	Islam-abad	
	% (N)	% (N)	% (N)	% (N)	% (N)	% (N)	% (N)	Total
Age of patients (Year)								
Up to 20	0(0)	20(5)	24.0 (6)	36.0 (9)	0(0)	16.0 (4)	4(1)	**11.9 (25)**
21-30	11.3(14)	13.7 (17)	11.3 (14)	13.7 (17)	12.4 (16)	15.3 (19)	21.8 (27)	**59.0 (124)**

31-40	28.3 (13)	13(6)	15.2 (7)	8.7 (4)	21.7 (10)	13.0 (6)	0(0)	**21.9 (46)**
Above 40	20.0 (3)	13.3 (2)	20.0 (3)	0(0)	26.7 (4)	7.0 (1)	13.5 (2)	**7.1 (15)**
Total	14.3 (30)	14.3 (30)	14.3 (30)	14.3 (30)	14.3 (30)	14.3 (30)	14.3 (30)	**100 (210)**
Marital Status								
Single	21.9 (7)	12.5 (4)	21.9 (7)	9.4 (3)	3.12 (1)	21.9 (7)	9.4(3)	**15.2 (32)**
Married	12.9 (23)	14.6 (26)	12.9 (23)	15.2 (27)	16.3 (29)	12.9 (23)	15.2 (27)	**84.7 (178)**
Total	14.3 (30)	14.3 (30)	14.3 (30)	14.3 (30)	14.3 (30)	14.3 (30)	14.3 (30)	**100 (210)**
Monthly Family Income (Rupees)								
Upto 5000	4.5(2)	25.0 (11)	(4.5)2	29.5 (13)	14.6 (7)	13.3 (6)	9.1(4)	**20.9 (45)**
50001 - 25000	13.1 (16)	12.3 (15)	16.4 (20)	11.5 (14)	15.8 (19)	12.3 (15)	17.5 (21)	**57.1 (120)**
25001 - 40000	37.5 (9)	12.0 (3)	16.0 (4)	4.2 (1)	4.2 (2)	25.0 (6)	4.2 (1)	**11.9 (25)**
Above 40000	15.0 (3)	5.0 (1)	20.0 (4)	10.0 (2)	15.0 (3)	15.0 (3)	20.0 (4)	**9.5 (20)**
Total	14.3 (30)	14.3 (30)	14.3 (30)	14.3 (30)	14.3 (30)	14.3 (30)	14.3 (30)	**100 (210)**
Education								
Illiterate	7.9 (3)	13.2 (5)	15.8 (6)	18.4 (7)	18.4 (7)	13.2 (5)	13.2 (5)	**18.0 (38)**
Up to Middle	10.1 (9)	12.4 (11)	19.1 (17)	7.9(7)	19.1 (17)	14.6 (13)	16.9 (15)	**42.3 (89)**
Up to Metric	19.5 (8)	19.5 (8)	12.2 (5)	12.2 (5)	14.6 (6)	14.6 (6)	7.3 (3)	**19.5 (41)**

Above Metric	23.8 (10)	14.3 (6)	4.8(2)	26.2 (11)	0(0)	14.3 (6)	16.7 (7)	**20.0 (42)**
Total	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**100 (210)**

The above table shows that majority of the respondents belong to the 21 to 30 years of age group which is 59% followed by 22% of respondents, who fall in age group of 31-40 years and 12% of the women patients were below than 20 years of age. (20% in DHQ hospital Khushab; 24% in Sailkot, 36% in Rawalpindi 16% in Lahore and 4% of the respondents from FGS services hospital were in lower age category i.e. upto 20 years of age group. Eleven percent of the respondents in DHQ hospital Bahawalpur, almost 14% in Khushab, 11% in Sialkot, 14% in Rawalpindi, 12% in Multan, 15% in Lahore and 22% in federal government service hospital, Islamabad were members of the second category of age group (21-30 years). Further it is also indicated that 20% of the respondents in DHQ hospital Bhawalpur, 13% in Khushab, 26% in Multan, 7% in Lahore and 13% of the respondents in FGS hospital Islamabad were above than 40 years old.

The information related to the marital status of patients, indicated that 85% of the respondents were married and rest of 15% were unmarried. The district wise distribution of the data shows that among 15% of unmarried respondents, 22% belonged to DHQ, hospital Bahawalpur, 12% to Khushab, 22% to DHQ hospital Sialkot and Lahore, 9% to Rawalpindi, 3% to Multan and 9% of the respondents in FGS hospital Islamabad were unmarried. Among 85% of married respondents, 13% in DHQ hospital Bahawalpur, Sialkot and Lahore, 15% in DHQ hospital Khushab, 15% in DHQ hospital Rawalpindi and FGS Hospital Islamabad and 16% of the respondents in DHQ hospital Multan were married.

Further table indicated the monthly income of the respondents, The under discussion table indicted that 21% of the respondents were in the income category of upto 5000, 57% having income of 5001-25000 Rs, 12% belonged to third category (25001-400000) and 9% of the respondents had more than 40000 monthly income. Among the respondents having upto 5000 of monthly income, 4% of the respondents in DHQ hospital Bahawalpur and Sialkot, 25% in Khushab, 29% in Rawalpindi, 15% in Multan, 13% in Lahore and 9% in FGS hospital. Among 57% of the respondents having income between 5000 to 25000, 13% of the respondent belongs to DHQ Hospital Bahawalpur, 12% in Khushab and Lahore, 16% in

Sialkot, 15% in Multan, 11% in Rawalpindi, and 17% of the respondents belonged to FGS hospital Islamabad. Among 12% of the respondents having monthly income of Rs/-25000 to 40000, 37% of the respondents were in DHQ hospital Bahawalpur, 12% in DHQ hospital Khushab, 16% in Sialkot, 4% in Rawalpindi Multan and FGS hospital and 25% of the respondents were in DHQ hospital Lahore. Among 9% of the respondents having monthly income of more than 40000, 15% of the respondents belonged to DHQ hospital Bahawalpur and Multan, 5% in DHQ hospital Khushab, 20% in Sialkot, 10% in Rawalpindi, 15% in Lahore and 20% of the respondents were in FGS service hospital Islamabad.

Regarding the education of the respondents, the table indicated that 42% of the respondents had education up to middle, followed by 20% who were above metric, 19% were having education up to metric level and 18% of the respondents were illiterate. The district wise analysis of the respondent's education revealed that among 18% of the illiterate respondents, 8% were in DHQ hospital Bahawalpur, 13% in DHQ hospital Khushab, Lahore and FGS hospital Islamabad, 16% were in DHQ hospital Sialkot and 18% of the respondents were in DHQ hospital Rawalpindi and Multan. Among 42% of the respondent having education up to middle, 10% belonged to DHQ hospital Bahawalpur, 12% to Khushab, 19% belongs to DHQ hospital Sialkot and Multan, 7% to DHQ hospital Rawalpindi, 15% to Lahore and 17% of the respondents belongs to FGS hospital Islamabad. Among 19% of the respondents who were having education up to Metric level, 19% were in DHQ hospital Bahawalpur and Khushab, 12% in DHQ hospital Sialkot and Rawalpindi, almost 15% in Multan and Lahore, and 7% of the respondents were in FGS hospital Islamabad. 20% of the respondents who were having education up to metric, 24% were in DHQ hospital Bahawalpur, 14% in Khushab and Lahore, 5% in Sialkot, 26% in Rawalpindi, and 17% of the respondents in FGS hospital were having education up to metric.

Table # 2: Information Related to Visits of Female Patients at District Headquarter Hospitals of Punjab and Federal Hospital

Access to Hospital	Bha wal-pur	Khus h-Ab	Sial-kot	Raw al-Pind i	Multa n	Laho re	Islam - abad	
	% (N)	% (N)	% (N)	% (N)	% (N)	% (N)	% (N)	Total
Preference to Hospital								
Easy accessible	12.0 (10)	13.3 (11)	21.7 (18)	14.5 (12)	12.0 (10)	16.9 (14)	9.6 (8)	**39.5 (83)**
Availability of Qualifies doctors &Staff	33.3 (8)	16.7 (4)	0(0)	4.2 (1)	12.5 (3)	8.3 (2)	25.2 (6)	**11.4 (24)**
Availability of good health services	18.2 (2)	9.1 (1)	27.3 (3)	9.1 (1)	9.1 (1)	27.3 (3)	0(0)	**5.2 (11)**
Family Hospital	17.9 (7)	7.7 (3)	23.1 (9)	0(0)	20.5 (8)	17.9 (7)	12.8 (5)	**18.5 (39)**
Refer to this Hospital	6.7 (3)	20.0 (9)	0(0)	26.7 (12)	15.6 (7)	8.9 (4)	22.2 (10)	**21.4 (45)**
Free on panel	0(0)	25.0 (2)	0(0)	50.0 (4)	12.5 (1)	0(0)	12.5 (1)	**3.8 (8)**
Total	14.3 (30)	14.3 (30)	14.3 (30)	14.3 (30)	14.3 (30)	14.3 (30)	14.3 (30)	**100 (210)**
Distance of Hospital in time								
Less than half hour	22.0 (13)	20.3 (12)	8.5 (5)	6.8 (4)	15.2 (9)	8.5 (5)	18.6 (11)	**28.0 (59)**
More than half to one hour	17.9 (17)	7.4 (7)	18.9 (18)	9.5 (9)	15.8 (15)	18.9 (18)	11.6 (11)	**45.2 (95)**
1 to 2 hours	0(0)	24.3 (9)	16.2 (6)	35.2 (13)	8.1 (3)	13.5 (5)	2.7 (1)	**17.6 (37)**
More than 2 hour	0(0)	10.5 (2)	5.3 (1)	21.1 (4)	15.8 (3)	10.5 (2)	36.8 (7)	**9.0 (19)**
Total	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**100 (210)**

Table 2 shows that regarding the patient's preference to visit a particular hospital 39% of the respondents visited the particular hospital because of it being easily accessible, 11% visited due to availability of Qualified doctors and staff, 5% of the respondents visited due to availability of good health services, 18% of the respondents visited the particular hospital considering it as family hospital, 21% of the respondents were referred to that hospital, and 4% of the respondents visited as free on panel. Among 39% of the respondents who visited the particular hospital due to easy access, 12% of the respondents were in DHQ hospital Bahawalpur and Multan, 13% in Khushab, 22% in Sialkot, 14% in Rawalpindi, 17% in Lahore and 7% were in FGS hospital Islamabad. Out of 11% of the respondents who visited the hospital due to availability of qualified and experienced doctors, 33% belong to DHQ hospital Bahawalpur, 17% to Khushab, 4% to Rawalpindi, 12% to Multan, 8% to Lahore and 25% of the respondents belonged to FGS Service hospital Islamabad. Among 5% of the respondents who indicated their preference to visit particular hospital because of the availability of good health services, including medicines and other laboratory facilities, 18% of the respondents belonged to DHQ Hospital Bahawalpur, 9% to DHQ hospital Khushab, Rawalpindi and Multan, and 27% were in DHQ hospital Sialkot and Lahore. Further table also indicated that 18% of the respondents visited the hospital because of their family hospital because they always visited the same hospital for every type of treatment. Among these, 17% of the respondents were from DHQ Bahawalpur, 7% of the respondents were in DHQ hospital Khushab, 23% in DHQ hospital Sialkot, 20% in Multan, almost 18% in Lahore and 13% of the respondents were in FGS hospital Islamabad.

Among 21% of the respondents who visited the hospital because they were being referred to that hospital due to availability of qualified doctors and better health services, almost 7% of the respondents were in DHQ hospital Bahawalpur, 20% in Khushab, 27% in Rawalpindi, 15% in Multan, 9% in DHQ Hospital Lahore, and 22% of the respondents were in FGS hospital Islamabad. Almost 4% of the respondents who visited hospitals due to free of cost health services on panel of their husbands, as the organization where they do job bear the financial cost of availing health services. Among these, 25% of the respondents belonged to DHQ Hospital Bahawalpur, 50% were in DHQ hospital Rawalpindi and 12% were in DHQ hospital Multan and FGS hospital Islamabad.

In public hospitals patients do not have to pay for specific treatment such as normal checkup and delivery of child is also free of cost as well as to some extent free medicines. Some medicines were provided by the hospital and some had to be borne by the patients themselves. In case of the patients who visited on husband's panel, the company paid the charges if they exceed form the free cost (Hassan & Rehman, 2007). Another

research by Kadir et al (2000) also indicated that at public hospitals the delivery of women is free of costs and they only have to pay if there is any surgery or for expensive medicines.

Further table also indicated the distance the patients' covered to visit to the hospital in terms of time taken in hours. The data revealed that for 28% of the respondents, it took less than half an hour, 45% of the respondents indicated that it took more than half an hour to an hour to reach to the hospital, that is followed by 17% who took one to two hours and 9% of the respondents covered the distance in more than two hours. Among 28% of the respondents who covered the distance in less than half an hour, 22% belonged DHQ hospital Bahawalpur, 20% to Khushab, 8% to Sialkot and Lahore, 7% to Rawalpindi and 18% of the respondents belonged to FGS hospital Islamabad. Among 45% of the respondents who covered the distance in more than half to one hour of time, 18% of the respondents were in DHQ hospital Bahawalpur, 7% in Khushab, 19% were in DHQ hospital Sialkot and Lahore, 9% were in DHQ hospital Rawalpindi, 16% in Multan, and 11% of the respondents were in FGS hospital Islamabad. Among 17% of the respondents who traveled the distance in one to two hours, 24% belonged to DHQ hospital Khushab, 16% to Sialkot, 35% to Rawalpindi, 8% to Multan, 13% to Lahore and almost 3% of the respondents belonged to FGS hospital Islamabad. Nine percent of the respondents covered the distance in more than two hours to reach the hospital, among them 10% of the respondents were in DHQ hospital Khushab, 5% in Sialkot, 21% in Rawalpindi, 15% in Multan, 10% in Lahore and almost 37% of the respondents were in FGS hospital Islamabad. The analysis indicated that majority of the respondents who visited FGS service hospital covered the distance of more than two hours to reach to the hospital, the reason behind it was the availability of better health services and qualified doctors, most of the patients were referred to Islamabad from other cities such as Chakwal, Sargodha, Murre, Abbotabad etc.

Table # 3: Information Related to Visits of Female Patients at District Headquarter Hospitals of Punjab and Federal Hospital

Access to Hospital	Bha wal-pur	Khu sh-ab	Sial-kot	Raw al-pind i	Mult an	Lah ore	Isla m-aba d	
	% (N)	% (N)	% (N)	% (N)	% (N)	% (N)	% (N)	Total
Number of Visits by patients								
Once	21.8 (19)	13.8 (12)	21.8 (19)	4.6 (4)	10.5 (10)	20.1 (18)	5.6 (5)5	**41.4 (87)**
Twice	11.5 (6)	15.4 (8)	15.5 (8)	19.2 (10)	21.2 (11)	13.5 (7)	2.2 (1)	**24.2 (51)**
More than Two Times	18.2 (4)	17.2 (3)	9.1 (2)	27.2 (6)	13.6 (3)	9.1 (2)	5.4 (2)	**10.4 (22)**
Frequently	2.1 (1)	14.0 (7)	2.1 (1)	20.4 (10)	12.2 (6)	6.0 (3)	44.0 (22)	**23.3 (50)**
Total	14.3 (30)	14.3 (30)	14.3 (30)	14.3 (30)	14.3 (30)	14.3 (30)	14.3 (30)	**100 (210)**
Accompany to Visit								
Husband	9.9 (8)	9.9 (8)	17.3 (14)	9.9 (8)	18.5 (15)	11.1 (9)	23.5 (19)	**38.5 (81)**
Mother in Law	20.0 (8)	12.5 (5)	7.5 (3)	17.5 (7)	17.5 (7)	12.5 (5)	12.5 (5)	**19.0(40)**
Mother	14.5 (10)	17.4 (12)	15.9 (11)	17.4 (12)	10.1 (7)	17.4 (12)	7.2 (5)	**32.8 (69)**
Father	33.3 (3)	22.2 (2)	11.1 (1)	0(0)	0(0)	22.2 (2)	11.1 (1)	**4.2(9)**
Alone	9.2 (1)	27.2 (3)	9.1 (1)	27.2 (3)	9.1 (1)	18.2 (2)	0(0)	**5.2 (11)**
Total	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**100 (210)**

The above table indicated the number of visits by the patients to the particular hospital and the persons who accompanied her during visits. Regarding the number of visits among 41% of the respondents once visited hospital, 22% were in DHQ Hospital Bahawalpur, almost 14% were in Khushab, 21% in Sialkot, 4% in Rawalpindi, 10% in Multan, 20% in Lahore and 5% of the respondents were in FGS hospital Islamabad. Among 24% of the respondents who visited the hospital twice, 11% of them belonged to

DHQ hospital Bahawalpur, 15% to DHQ hospital Khushab and Sialkot, 19% to Rawalpindi, 21% to Multan, 13% to Lahore and 2% of the respondent belonged to FGS Hospital Islamabad. Among 10% of the respondents who visited more than two times, 18% were in DHQ hospital Bahawalpur, 17% were in DHQ hospital Khushab, 9% in Sialkot and Lahore, 27% were in DHQ hospital Rawalpindi, 13% in Multan and almost 5% of the respondents were in FGS hospital Islamabad. Twenty three percent of the respondents who frequently visited to hospital, 2% were in DHQ hospital Bahawalpur and Sialkot, 12% in Khushab and Multan, 2% in DHQ Hospital Sialkot, 20% in Rawalpindi, 4% in Lahore and 46% of the respondents were in FGS hospital Islamabad.

Further table indicated the findings of female patients accompanied with any family member or come alone to visit the hospital. Among 38% of the respondents visited hospital accompanying their husband, 19% with mother in Law, 32% with mothers, 4% with fathers and only 5% of the respondents reported to visit alone. Among thirty eight percent who visited with their husbands, almost 10% of them belonged to DHQ hospital Bahawalpur, Khushab and Rawalpindi, 17% belonged to DHQ hospital Sialkot, 18% to Multan, 11% to Lahore and 23% of the respondents belonged to FGS hospital Islamabad. Among 19% of the respondents who were accompanied by their mothers in law to visit the hospital, 20% were in DHQ hospital Bahawalpur, 12% in Khushab, Lahore and FGS hospital Islamabad, 7% of the respondents were in DHQ hospital Sialkot, and 17% were in DHQ hospital Rawalpindi and Multan. Among 33% of the respondents who were accompanied by their mothers to visit the hospital, 14% were in DHQ hospital Bahawalpur, 17% in Khushab, Rawalpindi, and Lahore, 16% were in DHQ hospital Sialkot, 10% in Multan, and 7% of the respondents were in FGS hospital Islamabad. 4% of the respondents who visited hospital accompany with father, among those 33% belonged to DHQ Hospital Bahawalpur, 22% to Khushab and Lahore, and 11% of the respondents belongs to DHQ Hospital Sialkot and FGS hospital Islamabad. Among 5% of the respondents who visited alone to hospitals, 9% belonged to DHQ Hospital Bahawalpur, Sialkot and Multan 27% to Khushab and Rawalpindi, and 18% of the respondents in DHQ hospital Lahore visited hospital alone.

The data indicated very important findings that only 5% of the respondent visited hospital alone to seek health care services while remaining 95% needed any of the family members to accompany them. The reason behind anyone to be with patient is due to our social-cultural norms and setup which may not allow female to go outside the home alone especially for health seeking.

Due to patriarchal society of Pakistan, gender differences in roles and access to resources are obvious. Because of social and cultural barriers and stereotypes women always depend on others to have access to health services.[7] This is one of the major reasons that in Pakistan maternity issues are major cause for the death of both mother and children during the time of pregnancy.

Satisfaction of Patients with Services Provided By Doctors and Staff at Hospital

To measure the satisfaction of patients with services provided by the doctors and staffs at DHQ hospitals matrix question based on13 items related to check the level of satisfaction of patients with services was developed by using five points of likert scale.

Table # 4: Level of Satisfaction about the Services Available Among Female Patients at District Headquarter Hospitals of Punjab and Federal Hospital

Satisfaction with availability of services	Bhawal-Pur	Khush-ab	Sial-Kot	Rawal-pindi	Multan	Lahore	Islam-abad	Total
	% (N)	% (N)	% (N)	% (N)	% (N)	% (N)	% (N)	**% (N)**
Low	23.3 (14)	10.0 (6)	0(0)	18.3 (11)	13.3 (8)	11.7 (7)	23.3 (14)	**28.5 (60)**
Medium	14.2 (16)	17.7 (20)	13.3 (15)	13.3 (15)	15.0 (17)	12.4 (14)	14.2 (16)	**53.8 (113)**
High	0(0)	10.8 (4)	40.5 (15)	10.8 (4)	13.5 (5)	24.3 (9)	0(0)	**17.6 (37)**
Total	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**100 (210)**

The table indicated that 54% of the respondents were at medium level of satisfaction with the health services followed by the 28% of low and almost

[7]Report on the state of women in urban local Government in Pakistan. Retrieved from the web 20th May, 2010.
http://www.unescap.org/huset/women/reports/pakistan.pdf

18% of high level of satisfaction. The district wise analysis revealed that among 28% of respondents having low level of satisfaction, 23% were in DHQ Hospital Bahawalpur and FGS service Hospital Islamabad, 10% in Khushab, 18% in Rawalpindi,13% in Multan and almost 12% in DHQ hospital Lahore. Among 54% of the respondent having medium level of satisfaction with the health services, 14% belongs to DHQ hospital Bahawalpur and FGS hospital Islamabad, almost 18% to DHQ hospital Khushab, 13% to DHQ Hospital Sialkot and Rawalpindi, 15% to Multan and 12% of the respondent belongs to DHQ hospital Lahore. Among 17% of the respondents having high level of satisfaction with the health services, almost 11% were in DHQ hospital Khushab and Rawalpindi, 40% in Sialkot, 13% in Multan, and 24% of the respondents were in DHQ hospital Lahore.

A study conducted by Fournier & Haddad (1995) supported the findings by indicated that quality of health services in public sector has often been over sighted. There is no strict policy and plan to monitor the delivery of services to check and maintain the quality of services.

Problems Faced by Patients

To measure the problems faced by patients at hospital regarding the provision and utilization of health services, a matrix questions based on seven items (See annexure) was developed to measure the level of the problems faced by patients.

Table # 5: Level of Problems Faced by Female Patients at District Headquarter Hospitals of Punjab and Federal Hospital

Problems faced by patients	Bahawal-pur	Khush-ab	Sial-kot	Rawal-pindi	Multan	Lahore	Islam-abad	Total
	% (N)	% (N)	% (N)	% (N)	% (N)	% (N)	% (N)	**% (N)**
High	5.7 (5)	20.7 (18)	2.3 (2)	28.7 (25)	14.9 (13)	8.0 (7)	19.5 (17)	**41.4 (87)**
Medium	21.5 (20)	9.7 (9)	19.4 (18)	5.4 (5)	15.1 (14)	16.2 (15)	12.9 (12)	**44.2 (93)**
Low	16.7 (5)	10.0 (3)	33.3 (10)	0(0)	10.0 (3)	26.7 (8)	3.3 (1)	**14.2 (30)**
Total	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**14.3 (30)**	**100 (210)**

The table indicated that 41% of the respondents faced high level of problems at hospital followed by 44% faced medium level and 14% faced low level of problems at hospitals during the access and utilization of health services. The district wise analysis indicated that among 41% of the respondents facing high level of problems, almost 6% belonged to DHQ hospital Bahawalpur, 21% to Khushab, 2% to Sialkot, 28% to Rawalpindi, 15% to Multan, 8% to Lahore and 19% of the respondents belonged to FGS Hospital Islamabad. Among 44% of the respondents who were facing medium level of problems, 21% of the respondents were in DHQ Hospital Bahawalpur, almost 10% in Khushab, 19% in Sialkot, 5% in Rawalpindi, 15% in Multan, 16% in Lahore and almost 13% of the respondents were in FGS hospital Islamabad. Among 14% of the respondents facing low level of problems, almost 17% belonged to DHQ hospital Bahawalpur, 10% to Khushab and Multan, 33% to Sialkot, 26% to Lahore and 3% of the respondents belonged to FGS hospital Islamabad.

In most of the studies of hospitals, the major problem which has been indicated by the patients was lack of beds and seating facility for themselves and their attendants. It was noted that in MCH department, there were three women lying on one bed along with their newborn babies and no seating was available for their attendants. The other problem highlighted by the patient was non-providence of food and water by the hospital, due to which they had to bring it from home no matter how far their home, was or else they had to purchase it from the cafeteria of hospital or from market. The findings of this study has been supported by another research study conducted by Hassan & Rehman (2007) which indicated that in public hospitals patients often complain about the lack of seating as well as the quality of these seating also increased their problems especially for patients who have to stay long in the hospital with their attendants. In public hospitals, the seating available to patients and their attendants were mostly the plastic chairs and wooden benches. The study also finds out the problems of lack of food and water faced by the patients in public hospitals.

Bivariate

Table # 6: Distance Covered by Number of Visits to Hospital

Distance (KM)	Number of visits made by patients.			Total
	Less (1-2)	Moderate (3-4)	More (>4)	
	Percentage(Number)			
<5	6.2(6)	16.7(10)	65.0(35)	24.3 (51)

6-10	20.3(11)	43.3(26)	29.2(28)	31.0 (65)
>10	64.6(62)	40.0(24)	14.7(8)	44.7 (94)
	25.7(54)	28.6(60)	45.7(96)	100 (210)
Chi-square:29.17 DF: 14 Significance level (SL): 0.01				
Gamma: .594 Standard Error: .128 Approx. T: 3.96SL: .002				

The table indicated that distance of health care services affects the number of visits made by the patients. The distance in km was measured as independent variable with the dependent variable the number of visits made by patients. The distance was measure in three categories of: less than five km, six to ten km and more than ten km. The dependent variable was measured at three level of less, moderate and more against the independent variable of three levels which was low, medium and high level of availability of treatment services. The patients who visited the hospital for one to five times were taken in the category of less visits, those who visited six to ten times were taken as moderate visits and the patients visited more than ten times to the hospital were taken under the category of more visits made by patients.

The table indicated that 65% of the patients visited more than ten times on average because of less distance of hospital from their home which was approximately 5 km. As the distance increased, the number of visits made by patients became less. The patients who had to travel more than ten km to reach the hospital, the number of visits reduced. The Chi-square value at one percent level of significance also indicated a significant difference but positive relation between distance and number of visits by patients.

Table # 7: Proper Check up by Doctors and Patient's Satisfaction with Health Services Provided by Doctors

Doctors Checked Properly	**Patient's satisfaction with Health services provided by doctors**		**Total**
	Highly satisfied	**Satisfied**	
	Percentage (Number)		
To great Extent	86.0(116)	73.3(55)	81.4 (171)

To some Extent	9.6(13)	16.0(12)	11.9(25)
Not at all	4.4(6)	10.6(8)	6.7(14)
	100.0(135)	100.0(75)	100.0 (210)
Chi-square: 14.817 DF: 8 Significance level (SL): 0.03			
Lambda: 0.15 Standard Error: 0.35 Approx. T: .427 SL: .000			
Gamma: -.254 Standard Error: .131 Approx. T: -1.817SL: .069			

The behavior and treatment given to patients at hospitals by the doctors is one of the very important determinants to measure the patient's satisfaction with the provision of health care services (Sinclair, 2007). The above table indicated that variable of proper check up by doctors was measure at three levels; to great extent, to some extent and not at all and patient's satisfaction was measure in two categories; highly satisfied and satisfied. The results indicated that 86% of the patients respondent that doctor checked them properly and due to that they were highly satisfied with the health services provided by the doctors at hospital. It is indicated that based on the proper treatment and time given by the doctors to check the patient, the patient became highly satisfied with the health services. The Chi-square value (14.817 at 0.03 level of significance revealed that there is a significant and positive relation with the variable proper checked by doctors and patient's satisfaction with health services to doctors. What do you mean by the statement—Doctors checked properly? This is a very ambiguous statement. Explain.

Table # 8: Patient's Waiting Time for Doctor's Visit and their Satisfaction about Consultation

Time to wait for Doctor's Visit	**Patient's satisfaction about consultation**			**Total**
	Not Satisfied	**Satisfied**	**Highly Satisfied**	
	Percentage(Number)			
Less than one hour	10.0(6)	20.9(14)	84.3(70)	42.9 (90)
One to two hour	16.7(10)	68.7(46)	9.6(8)	30.4 (64)

More than two hour	73.3(44)	10.4(7)	6.1(5)	26.7 (56)
	28.6(60)	32.0(67)	39.4(83)	100 (210)
Chi-square:32.85 DF: 4 Significance level (SL): 0.000				
Gamma: .594 Standard Error: .128 Approx. T: 3.96SL: .000				

The above table indicated the difference between patients' waiting time for doctor's visit and their satisfaction about consultation. The waiting time by the patients for doctor's visit was measured in three level of; less than one hour, one to two hour and more than two hour. The patient's satisfaction about the consultation was also measured in three categories: Not satisfied, satisfied and highly satisfied. The results indicated that 84% of the respondents who had to wait less than one hour for the doctor visit to treat them were highly satisfied with the consultation provided by doctor. On the other hand 73% of the respondents who had to wait more than two hour for doctor's visit were not satisfied with the consultation provided. The Chi-square value (32.85) at 0.000 level of significance indicted that as the waiting time increased patient's satisfaction level with consultation became less. There is highly significance relation between these variables.

Regression Analysis

Table # 9: Linear Relationships between Issues Related to Access and Utilization of Health Care Services Received with Patient's (women) Satisfaction

Independent Variables (IV)	Beta	R Square	Adj. R square	P. value
Waiting for turn at hospital	0.397	0.157	0.153	0.001**
Sanitary conditions at hospital	0.229	0.051	0.049	0.003**
Indication boards for directing the patients	0.142	0.029	0.024	0.031*
Cleanliness at hospital	0.129	0.027	0.022	0.043*

Quality Food at hospital	0.243	0.059	0.055	0.013*
Transportation Facilities	0.022	0.003	0.001	0.420 ns

Note: (ns) mean not significant, DV=Dependent variable
P=<0.01**, P=<0.05*

Table depicts the linear relationship between utilization of health care services (IV) received with patients' level of satisfaction (DV) to measure the regression coefficient (beta). Beta was used to determine whether utilization of health care services received has a controlling effect on patients' level of satisfaction. The result shows that waiting for turn at hospital (1st sub-variable of IV) regression coefficient was 0.397 and sanitary conditions (IV2) was 0.229, indication boards for directing patients (IV3) was 0.142, cleanliness at hospital (IV4) was 0.129, food quality (IV5) was 0.243, and transportation facilities (IV6) with 0.022 respectively. The coefficient of determination (R-square) of waiting turn at hospital indicated 0.157 or 15.7% which imply that waiting for turn as an independent variable accounts for 15.7% variations in patients' satisfaction. The computation of sanitary conditions explains the variations of dependent variable by 5.1% (R-sqaure equals 0.051 or 5.1%). Food Quality as a predictor explains 5.9% variation while cleanliness at hospital computed variation of 2.7% and indication boards for directing the patients explained variation 0f 2.9%, respectively. The findings suggest that above discussed five predictors (waiting for turn at hospital, cleanliness, sanitary conditions, indication boards for directing patients, and food quality) are positively related to patients' level of satisfaction. Hence, by implication, these five predictors, among others, have a significant effect on patients' level of satisfaction. Contrary to these five predictors, transportation facilities were not significantly related to patients' level of satisfaction.

Conclusion

The study concluded that women visited district hospital due to number of factors such as; easy access for them, availability of qualified and experience doctors and affordability as well as referred by other doctors. Their preferences to visit particular hospital were also due to the availability of good health services, including medicines and other laboratory facilities and consider it as their family hospital.

Although women are availing the public hospital's health services but to have access to these services, they have to face many socio-cultural

problems such as they cannot come to hospital alone, and due to lack of financial resources as well. They are dependent on other members of family especially husband. The data indicated that the most common problem faced by majority of women to have access to hospital in Districts Bahawalpur and Khushab was the lack of female staff for treating specific health needs of women. The level of satisfaction with services was low because of some problems faced by the patients at hospital, such as poor sanitation, lack of seating, cafeteria, and beds etc.

The study findings suggest that the functioning of the hospital may be organized and re-organized to serve the patients most efficiently. Moreover, public sector management capacity may be strengthened by making better use of available resources.

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Role of Capacity Building and Emotional Intelligence on Counterproductive Work Behavior

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This study aims the capacity building practices intrusion on emotional intelligence and counterproductive work behavior about the staff members of FATA Secretariat, Pakistan. The study incorporated questionnaires as a survey tool for data collection among the individual respondents on cross-sectional basis. Two statistical softwares namely SPSS and Liseral were utilized to analyze the collected data. Reliability and validity of the survey tool was checked through confirmatory factor analysis and found ideal. Structure equation modeling was integrated to tartan 3 devotee variables and was also found good. Result of the study depicts that there exists direct positive path among predictors and response variable. Study finds that capacity building practices have direct significant effect on reduction in counterproductive work behaviour and improving individual's emotional intelligence whereas emotional intelligence was also found the significant predictor of counterproductive work behaviour. Study exhibits that the CB and EI are very much beneficial and have direct effect on CWB. Suggestions and future research indications are also included in the study.

Keywords: Capacity Building, Emotional Intelligence, Counterproductive Behaviour, SEM

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Introduction

Counter productive work behavior (CWB) is the employee feature that leads to destruct organizational productivity (Sackett, Berry, Wiemann and Laczo, 2006). Particularly CWB moves up in those individuals who have imperfectly treated through others. CBW is fitted behavioral of harmful tendency which drives employee performance negatively. CWB can be verified by dissimilar actions such as performance deviance is the aspect of CBW which is done knowingly by performing the work imperfectly or preservation of effort. In the similar element cyber loafing is a further matter in CWB that is internet usage in the official timing which have no relation with the office work (Sackett et al., 2006). Sometime at working place some employees engages in wrongly usage of other employees through degrading, disrespecting, neglecting and seldom spreading wrong rumors beside workers, which is clearly known as there is discrimination at workplace (Hauge, Skogstad & Einarsen, 2009).

In recent era, organizations become more realistic and performance oriented. The decline of organizational success is due to negative employee performance within the organization which is known as Counterproductive Work Behavior (CWB) and is harmful for organization (Kelloway et al., 2002). The CWB is against the legal interests of an organization (Sackett et al., 2000). These sorts of behaviors tarnish the image of organization and are very detrimental for organizational employees, customers and success. Some scholars depict the facets of CWB which are workplace deviance (violation of norms), retaliation (vengeance), and workplace aggression (belligerence behavior) and are harmful for organization (Neuman & Baron, 1997). The reason why individuals subsist in CWB is lack of skilled labor, emptiness, insufficient skilled managerial staff, quality control and emotional inconsistency. For organizational sustainability and enduring success CWB should be diminished or trim down. There is a great need of Capacity Building (CB) and Emotional Intelligence (EI) practices in order to overcome CWB at workplace. CB practices focus on the development of skills, knowledge and information through training, mentoring and technical education which aim at performing tasks accurately and precisely (Awan, 2008). Capacity development of an organization needs to be made people centered through individuals who must be given information, resources and skills to carry out their work (Cheema, 1997). EI is an ability to discriminate between individual emotions at workplace i.e. good or bad. EI also works as a guide for individual thinking and behavior. To the best of researchers knowledge in Pakistan there is no any research study has been found which encounters three variables together namely (CB and EI and CWB). So the

contemporary study overcomes the existing gap by measuring CB and EI practices effect towards CWB in Pakistan.

Research Objectives

This research study will endeavor to examine how much CB practices improve EI of individuals and control CWB at workplace and how EI of individual reduces CWB. Following are the objectives of the study

- To find out the impact of CB practice i.e. (training, mentoring/coaching, technical education and skills and knowledge) towards controlling CWB including (performance deviance, workplace bullying, cyber loafing, property sabotage).
- To find out the impact of CB practice i.e. (training, mentoring/coaching, technical education and skills and knowledge) towards EI including (self-regulation, self-awareness, empathy/motivation, social skills).
- To find out the impact of EI on controlling CWB.

Literature Review

2.1 Capacity Building and Counterproductive Work Behavior

Capacity Building (CB) focuses on the development of individual job skills, knowledge, information through training, coaching/mentoring and education (Awan, 2008). Whereas, Counterproductive Work Behavior (CWB) is described as a behavior of a workforce that contravene organizational regulations and rules which leads to detrimental effect for organization and its member's well-being (Bennett & Robinson, 2000). Training and education are different in nature as education is the process of transferring information and knowledge whereas training specifically designed to improve individual job skills which further leads towards enhancement in performance and productivity (Maharajj, Moodley & Reddy, 2000). CB practices enhance employee's potential skills and reduce performance deviance (Cascio, 1998). Study depicts that when challenges are harmonized to skill and capability, the individual experiences job satisfaction and focused attention (Cheema, 1997). Trained workforce is a vital source of the firm efficiency (Clark, 2000) because all the companies studied by Vakola (2000) reported an urgent need of training in order to use the existing skills and competencies efficiently. The major benefit infatuated by Japan and South East Asian countries were extremely trained technical workforce. A strapping mechanism was needed to translate the available expertise into economically productive output (Fransman, 1995).

2.2 Emotional Intelligence (EI) and Counterproductive Work Behavior (CWB)

The EI came from the idea of social intelligence that was presented by (Thorndike, 1920). The idea of EI was firstly produced by Salovay and Mayer (1990) and stated that it is a capability of the individuals to cope up with emotions. The other scholars explicitly explain the EI as an aptitude to be familiar with one's emotions in diverse situation through self-regulation, self-awareness, empathy/motivation and social skills (Wong and Law, 2002). Scholars identified two forms of performance deviance associated with employees which are interpersonal deviance and organizational deviance. The interpersonal deviance is detrimental for individuals whereas organizational deviance is harmful for organization (Bennett & Robinson, 2000). CWB was found a serious issue for organizational success which has to be addressed. One research study revealed that if employee emotional intelligence enhanced employees deviant work behaviors would reduce astonishingly (Mayer et al, 2003). The scholars further suggested that there exist negative relationship between EI and CWB.

The study on EI was depicted that it plays a pivotal role in preventing negative behaviors of employees (Martin & Kuiper, 1999). Another study concluded that employees EI permanence has adversely effect on CWB (Salgado, 2002). Employees having high level of EI have good moral attitudes towards those who possess low EI (Deshpande et al, 2005). In addition, to that research scholars hypothesize that those employee who have high EI engages less in deviant behaviors as compared to those who have low EI (Petrides, Frederickson & Furnham, 2004). Employees with low EI is the key factor for performance deviance and CWB (Deshpande et al, 2005). In the light of different studies it concludes that high EI is the main factor which reduces the CWBs. So the second hypothesis of the study is as follows:

2.3 Capacity Building and Emotional Intelligence

A study concluded that low level of individual's EI is enhanced through CB practices and interpersonal skills (Jordan et al, 2002). The study of Slaski and Cartwright (2003) reported that EI can be enhanced through on or off the job training interventions. It is obvious that training in general has positive impact towards positive outcome of individual communication and conflict resolution. A study of Mayer and Salovey (1997) reported that CB practices increase the individual's awareness, understanding, facilitation and emotion of management. On the basis of literature the third hypothesis of the study is as follows:

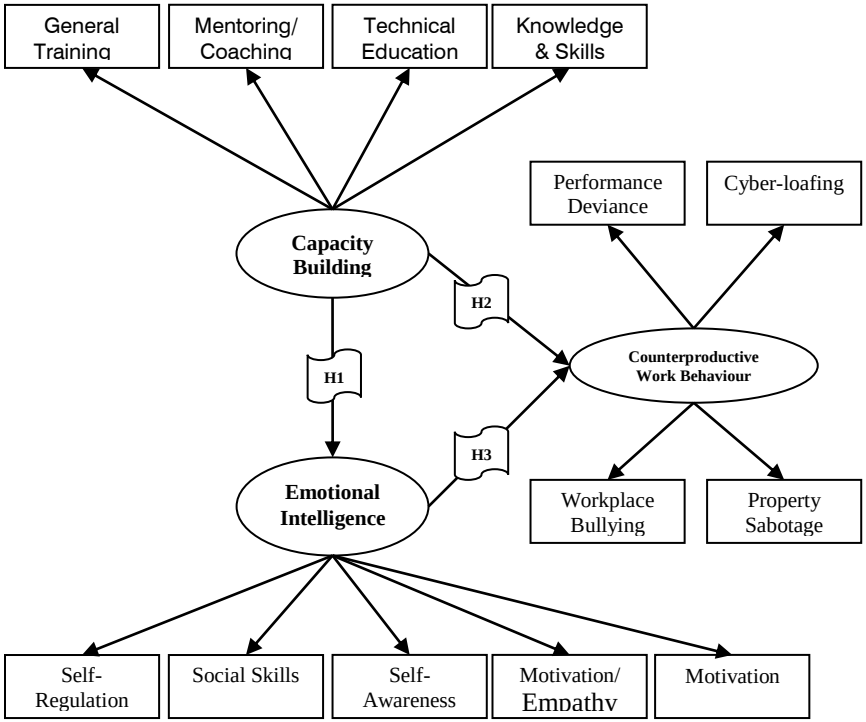
2.4 Hypotheses of the study

Following are the hypotheses of the study.

H1: CB has positive effect on controlling CWB.
H2: EI has positive effect on controlling CWB.
H3: CB has positive effect on EI.

2.5 Conceptual Framework

Conceptual framework of the study is as follows namely, CEC model.



Methodology

3.1 Research Design

The researchers used quantitative research technique because numerical change can likewise only accurately be studied using quantitative methods (Sukamolson, 2010). Moreover, quantitative research method involves a numeric or statistical approach to research design (Williams, 2007). Primary data was collected via questionnaire in this study. Researcher interference was minimal during data collection phase. The study type was cross sectional and analysis unit was individual staff members. Questionnaires were distributed among the staff members of FATA secretariat Peshawar Khyber Pakhtunkhwa (KPK), province of Pakistan and their views had been taken. The researchers used analytical software for data analysis i.e. Statistical Package for Social Sciences (SPSS) version 20 and Liseral 8.80.

3.2 Population

The population of the study was taken from six diverse departments of FATA secretariat Peshawar namely, administration department, production department, finance department, law and order department, planning and development department and social sector development department. Total targeted population (low, middle and top) level managers including male and female were 200.

3.3 Sample Size Determination

The sample size was determined by the following formula suggested by (Yamane, 1967). The final sample was of 133 male and female respondents

$n=N/1+N*e^2$

Where n=sample size

N=Population

E=marginal rate of error i.e. (5%)

$n=200/1+200*(.05)^2$

n=133

3.4 Sampling Technique

For the data collection, stratified sampling technique was used. The researcher uses proportionate allocation method. Following table shows the proposed proportionate allocation method in detail.

3.5 Proposed Proportionate Allocation

Departments	Substratum (Ni)	Sample (ni)
Administration	40 ni = Ni*n/N	26
Production	45 ni = Ni*n/N	30
Finance	25 ni = Ni*n/N	17
Law and Order	15 ni = Ni*n/N	10
Planning and Development	35 ni = Ni*n/N	23
Social Sector Department	40 ni = Ni*n/N	27
Total	**200**	**133**

ni= Nin/N Where ni =Sample size of substratum, Ni = Total Number of participants in the sub Stratum, n = Sample Size (133), N =Total Number of Participants

3.6 Measures

Measurement instrument tool was questionnaire which was comprised of 2 parts. Part 1 was based on demographic information and part two encompasses the questions regarding CB, EI and CWB on Likert Scale (5-point).

3.7 Capacity Building

CB including training, mentoring, coaching, technical education and knowledge and skills was measured from the studies of (Awan, 2008; Clark, 2000) respectively. For each variable five items were incorporated on Likert Scale (5-point). Cronbach's α was found .801.

3.8 Emotional Intelligence

EI including self-regulation, self-awareness, empathy/motivation, social skills was measured with slightly changes from the study of (Deshpande et al., 2005; Wong & Law, 2002). Cronbach's α value was found .798.

3.9 Counterproductive Work Behavior

For measuring CWB including performance deviance, cyber-loafing, workplace bullying and property sabotage some items were taken from the study of (Awan, 2008; Bennett & Robinson, 2000). Scale reliability found .791.

3.10 Data Collection

The data was collected by distributing questionnaire on six aforementioned departments of FATA Secretariat Peshawar KPK, Pakistan. The questionnaire was filled by upper, middle and lower level of management.

The management level was categorized in three sections low level employees were supervisors that come under cadre of 16 and 17 grade, middle level managers were come under cadre of 18 and19 grade and the top level managers include 20 grade and above. Total 133 questionnaires were distributed and 124 usable questionnaires were returned response rate was 93%. Participation in the study was voluntary and the participants were assured of the confidentiality of their responses. Respondents were further informed that their responses were to be used for research purposes only.

3.11 Statistical Tools

For data analysis researchers used descriptive statistics, factor analysis via structure equation modeling (SEM), regression statistical tools were applied for data analysis. Following is the regression model

$CWB = \alpha + \beta 1CB + \varepsilon$..... (1)

$EI = \alpha + \beta 1CB + \varepsilon$..... (2)

$CWB = \alpha + \beta 1CB + \beta 2\ EI + \varepsilon$ ..... (3)

Results of the Study

4.1 Demographic information

Total final respondents were 124 members included male and female. The female respondents were found 16 out of 124 that represent 12.9% of the total sample. The male respondents were found108 out of 124 that represents 87% of the total. Amid the age of 18-30, 31-45 and 45 and above there exists (9 female and 73 male), (4 female and 29 male) and (3 female and 6 male) respectively whereas, participants in low, middle and top level management were 82, 33 and 9 respectively. The following table briefly depicts the respondent information.

Table # 1: Gender, Age and Management

		Age			Total	Frequency	Mean	SD
		18-30	**31-45**	**45 & over**				
Gender	**Female**	9	4	3	**16**	12.9%	1.78	.137
	Male	73	29	6	**108**	87%	2.99	.289

Management Level			
Low level	**Middle Level**	**Top Level**	**Total**
82	33	9	124

4.2 Reliability Statistics

Acceptable range of Cronbach's α is above .70 (Sekran, 2003). Following table depicts all values are in adequate ranges.

Table # 2: Variables Measurement

Measure	Items	Mean	SD	**A**
Capacity Building	General Training	3.92	.588	**.801**
	Mentoring/ Coaching	3.83	.472	
	Technical Education	3.62	.559	
	Knowledge & Skills	4.07	.511	
Emotional Intelligence	Self Awareness	4.06	.612	**.798**
	Self Regulation	4.09	.593	
	Social Skills	3.01	.683	
	Empathy	4.02	.757	
Counter Productive Work Behaviour	Motivation	3.14	.582	**.791**
	Performance Deviance	3.42	.593	
	Cyber-loafing	4.02	.683	
	Workplace bullying	3.12	.581	
	Property Sabotage	3.73	.456	

4.3 Matrix Correlation

Following table depicts the values of matrix correlation that depicts there exists positive relationship at ($r = .702^*$, $p \leq 0.01$), ($r = .612^*$, $p \leq 0.01$), ($r = .603^*$, $p \leq 0.01$) among CB, EI & CWB respectively.

Table # 3:

	1	2	3
1. CB			
2. EI	.702*		
3. CWB	.612*	.603*	1

** $p \leq 0.01$ (2-tailed)*

4.4 Validity, Confirmatory Factor Analysis (CFA)

Before proper data collection phase the questionnaires were distributed among 20 employees of FATA Secretariat Peshawar, KP, and Pakistan. Questionnaire items were found by experts in logical order, clear and understandable that depicts face validity and was found good enough for data collection. In addition, veteran research scholars were asked to critically observe and rectify the measurement instrument tool if they feel any gap in it and make it the actual representative of the needs of the study. After critically observation by the expert's scholars they reported that all the statements were sufficient enough for the data collection and were the true representative of the needs of the study (content validity). Construct validity for questionnaire items was performed by confirmatory factor analysis (CFA). Seven fit aforementioned indices were incorporated for checking the goodness of fit for all alternative models. The result of CFA's analysis exhibits the uniqueness of the three variables i.e. capacity building, emotional intelligence and counterproductive work behaviour. The hypothesized three factor model shows satisfactory fit among all of the alternative models. The hypothesized three factor model shows satisfactory fit among all of the alternative models. Furthermore, in the three-factor model all the correspondence had significant loadings on their own constructs (Usluel, Asker and Bas, 2008). Following table depicts CFA result.

Table # 4: CFA Model

Index	Standards	Model-1	Model-2	Model-3	Model-4
	Usluel, Asker and Bas (2008)	**CB-EI**	**EI-CWB**	**CB-CWB**	**CB-EI-CWB**
NFI	>.9	.92	.93	.95	.93
AGFI	>.8	.90	.85	.90	.87
RMSEA	<.08	.07	.08	.06	.08
GFI	>.9	.91	.92	.93	.94
RMR	<.1	.02	.03	.01	.01
CFI	>.9	.97	.94	.96	.91
X^2/df	< 3	2.6	2.8	2.6	2.9

n =124

4.5 Regression Analysis

This research used regression analysis to analyze impact of predictor's on response variable. CB practices accounted for 68% of the variation in EI and CWB. The direct path of CB towards EI and CWB was found (β=0.82,

t=20.4, p<0.05) and (β=-0.10, t= 2.59, p<0.05) respectively. Consequently both hypotheses were supported, which specified that CB practices have significant effect on EI and CWB. The third hypothesis is also accepted because the direct path of EI and CWB was also found significant i.e. (β= 0.85, t= 24.97, p< 0.05). Following is the result of regression model.

Table # 5: Regression Analysis

Variables	B	SE (B)	B	T	Sig.	R^2
Step 1						.681*
(Constant)	1.241	.302		4.104	.000	
CB---EI	.817	.040	.823	20.44	.000	
CB---CWB	-.064	.025	.105	2.59	.010	
Step 2						.705*
EI---CWB	10.74	.430	.856	24.9	.000	
Final model: F = 210.54,	**R = .82**	**Adj R^2 = .**				

**p ≤0.01i Predictors (CB, EI) Response (CWB)*

Discussion, Recommendation & Conclusion

This study examines the three factor model namely CB, EI and CWB. Researchers used Liseral and SPSS software for data analysis. The objectives of the study were to find the effect of CB practices on EI and controlling CWB moreover to find out the effect of EI on CWB. Result reveals that CB practices have significant effect on EI and CWB. Furthermore EI also have found significant predictors over CWB. The researcher used CFA and regression model for analysis. CFA result demonstrates that all the values were in acceptable ranges. The direct path of CB towards EI and CWB was found (β=0.82, t=20.4, p<0.05) and (β=-0.10, t= 2.59, p<0.05) respectively. The third hypothesis is also accepted because the direct path of EI and CWB was also found significant i.e. (β= 0.85, t= 24.97, p< 0.05). The first hypothesis of the study was found significant and was consistent with the previous study of (De Noble, Jung & Ehrlich, 1999) the second hypothesis was significantly revealed that CB practices have positive effect on controlling CWB and the result is consistent with the previous study of (Covin & Slevin, 1989) the third hypothesis predicts that EI has significant positive effect on controlling CWB. Results show that all the hypotheses were supported. This study recommends that implementation of CB practices at all levels of organizations is mandatory for long-term organizational success. Research study indicates that CB practices have no

adverse effects on performance outcomes, and has positive effects on EI. This study also recommends that employees should align their potential for significant and positive EI and CB practices. CB practices should be introduced inside organization for better performance outcomes and reduction in CWB. Finally, it is recommended to study the increasing dominance of CB practices (vs. real world experiences) in employee daily experiences and their impact on EI and CWB identities and sense of reality. Following table demonstrates the summary result of hypotheses acceptance/rejection.

Table # 6: Summary of Results

Hypotheses	Supported/ Not Supported
H1: CB has positive impact on controlling CWB.	Supported
H2: EI has positive impact on controlling CWB.	Supported
H3: CB has positive impact on EI.	Supported

Aforementioned table demonstrates that all the three hypotheses of the study were supported.

5.1 Theoretical Contributions

Previous research studies on CB and EI in Pakistan do not focus intensely on controlling CWB (Awan, 2008; Coleman, 2008). So, this study was incorporated to enhance the literature on controlling CWB through CB and EI practices in Pakistan. In addition, results of the study have direct insinuation on the reduction in CWB and developing the organizational environment.

5.2 Practical Implications

Study illustrates some vital implication for the managers. Managers become more conscious about the significance of CB and EI and its influence on CWB. Furthermore, managers give high level of encouragement towards CB and EI for CWB. Third, this study suggested that managers can enhance CWB by directly influencing two predictors: CB and EI. Managers consider the rising interference which directly influences a broader range of CWB.

5.3 Recommendations

Government should implement such strategies which develop organizational culture in Pakistan. It is vital to construct such an atmosphere where employees are well satisfied and motivated. This research study strongly suggests that CB and EI practices must exist within the organization which purely deals with the development of organizational culture.

5.4 Future Research Suggestions and Limitation

This study was partially generalized because sample was taken only one province of Pakistan that is KPK and also study was based on cross-sectional basis. So, this acknowledges the fact that the possibility of common errors in some of our results. Thus, it is recommended that future research study should be on longitudinal basis and study should be performed on larger sample size which makes the study generalize for a larger population. The future research study will also encounters some more important mediators' variables which influence on CWB.

5.5 Conclusion

CB practices and EI show significant effect on controlling CWB. Consequently, execution of ideal CB practices and EI considerably reduce the propensity of CWB at workplace. CB practices and EI enhances the positive effect of both organization and employee performance, which is further a path of achievement that is a big source of strengthening the organization to endure during modern aggressive period along with increasing helpfulness and inspiring and motivating fresh shareholders, gathering production by rising huge amount of employment scenery. Three important factors of SEM model (CB, EI and CWB) demonstrate significant relation among the variables. However, CB result depicts most significant and having strong relation with CWB. CB and EI were found to be of significant importance if properly implemented in the organizations of Pakistan. Moreover, CB and EI were found to have a positive impact on controlling CWB which brings benefits in terms of higher performance and productivity, increased cognitive ability, favorable outcome and enhancement of skills and knowledge pertaining to manager ship.

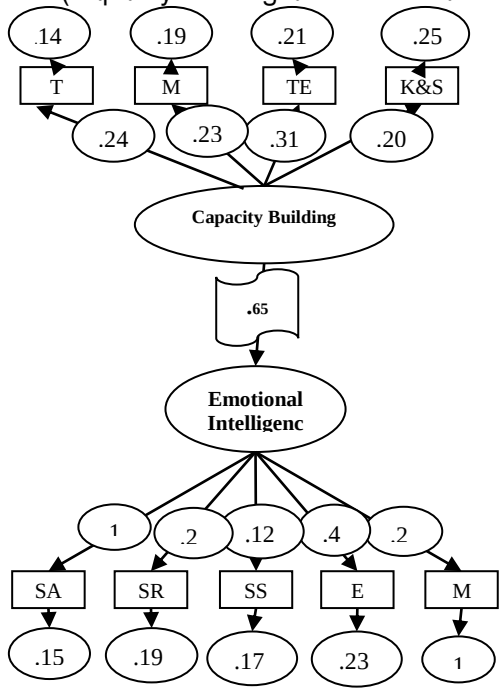
Appendix

Abbreviations

SEM = Structure Equation Model
CFA = Confirmatory Factor Analysis
KP = Khyber Pakhtunkhwa
X^2/df = Chi ^{2} / degree of freedom
CFI = Comparative fit index
RMSR = Root mean square residual
GFI = Goodness of fit index
RMSEA = Root mean square of approximation
AGFI = Adjusted goodness of fit index
NNFI = Non normal fit index
CB = Capacity Building
EI = Emotional Intelligence
CWB = Counterproductive Work Behavior

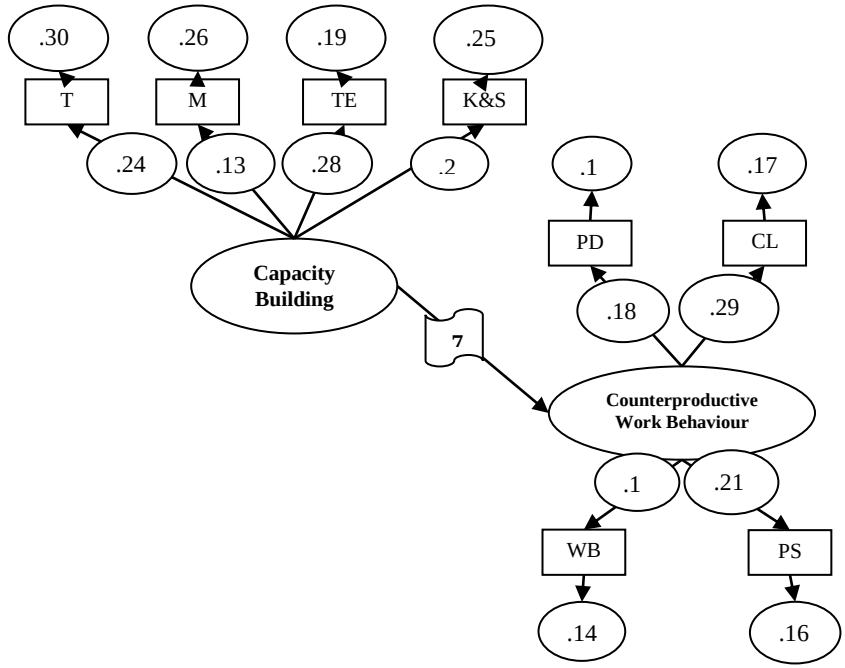
4.5 Structure Model Analyses

4.5.1 Model 1 (Capacity Building and Emotional Intelligence)



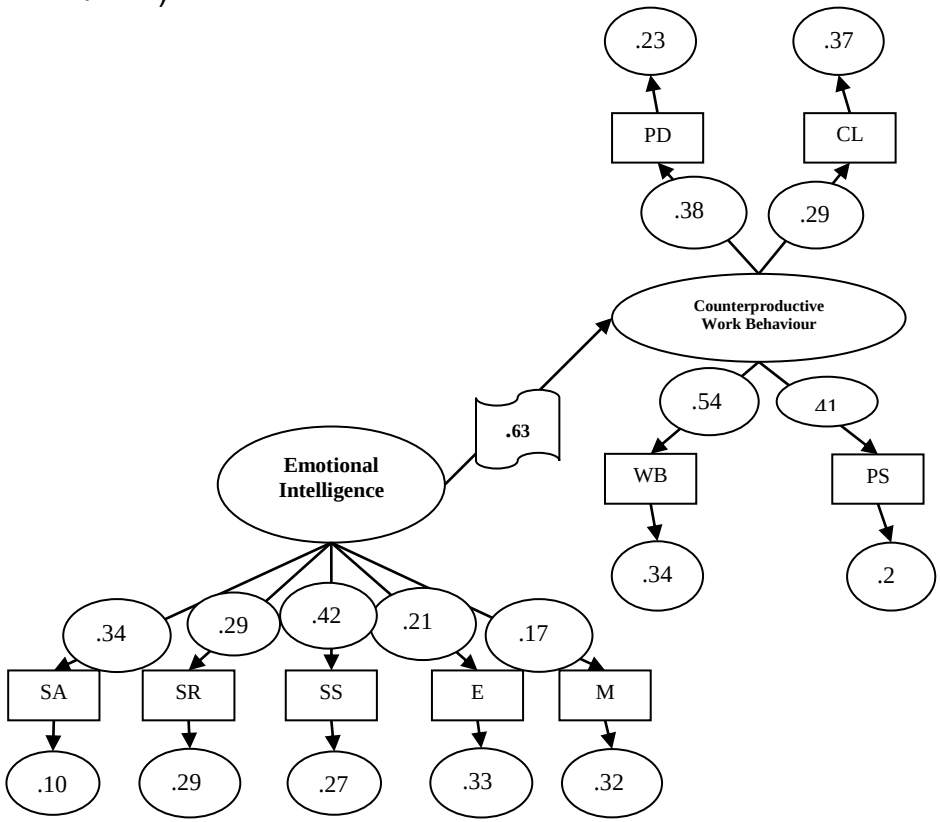
Chi-Square=139.23, df =53, P-value=.000, RMSEA=0.07

4.5.2 Model 2 (Capacity Building and Counterproductive Work Behaviour)



Chi-Square=144.25, df =52, P-value=.000, RMSEA=0.07

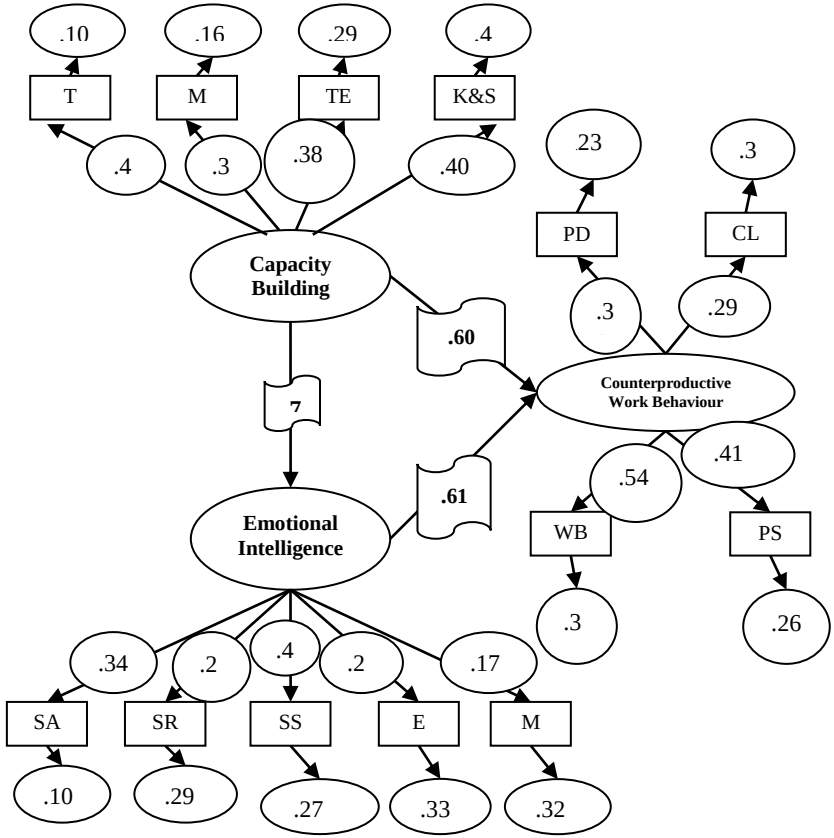
4.5.3 Model 3 (Emotional Intelligence and Counterproductive Work Behaviour)



Chi-Square=138.15, df =48, P-value=.000, RMSEA=0.08

4.5.4 Model 4: (Capacity Building, Emotional Intelligence & Counterproductive Work Behaviour)

Following is the result of three factor model (CB, EI & CWB).



Chi-Square=88.29, DF=32, P-value=0.00000, RMSEA=0.081

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An Appraisal of Mismatch between Employers' Expectations and Graduating Students' Perception about Employability Skills; A Case Study of Gujrat (Pakistan)

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Dr. Sami Ullah[13]

Education enhances the human capital in the form of educated, trained and skilled youth. Along with sophisticated technologies, better human capital improves economic and social conditions to meet the rapid changes in the global economic environment. Educated employed youth capacitates the economic resources to be used effectively and efficiently, that cause to enhance productivity. But, if degree holders couldn't get proper jobs than its point to think about abilities, attitudes and capabilities developed by degree awarding institutions among their passing out graduates. This study is to gage the mismatch between employers' expectations and graduating students' perceptions vi's-à-vi's employability skills. To find the objectives of the study 175 graduating students of the final semester (of computer sciences, economics and Business management departments) and 30 employers of respective industries are selected by applying the stratified sampling technique. Non-parametric techniques are applied to analyze the data. Confirmatory factor analysis confirms that all the variables of the following factors; Knowledge, skills, thinking skills, interpersonal

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skills, communication skills, and management skills provided by educational institutions and are demanded by employers. An index is developed to measure the gap between skills; acquired and in demand and presented through a radar diagram. The Mann-Whitney U Test shows significant differences between employers' expectations and students' perceptions about employability skills. More importantly the skills; punctuality, time management, discipline, oral communication and positive attitude are the skills ranked high by the employers while knowledge skills and practical skills are ranked high by the graduating students. This depicts that employers rank soft skills high while students consider knowledge based skills only for employment. So this paper suggests that educational institutions should prepare their students with soft skills to meet the demand of employers in labor market.
Keywords: Employability skills, Factor Analysis
JEL Classification: D84, E24, I21, I23

Introduction

Employability denotes the capabilities of a person to gain and maintain the employment. Employment occurs when the attitude and skills of an individual match with the needs, attitude, and expectations of the employer. Unemployment can happen because of fewer jobs in market, weak policies from government or the graduates are not fulfilling the skills demand of job market, etc. Broadly unemployment of youth based on demand side views; slow economic growth, less job opportunities, minimum wage rate etc., and supply side views; lack of skills (Freeman, 1979). Education enhances the human capital in the form of educated, trained and skilled youth. Human capital improves economic and social conditions to meet the rapid changes in the global economic environment. Pakistan has a notable young age structure that contains 72 percent population below the age of 35 years and sixty percent population is from age group 15-59 years that is working class (Economic Survey of Pakistan, 2014-15).). Investment in human capital, education and health, can lead to benefits from demographic dividend. Pakistan has 10th largest labor force in the globe comprising upon 56.52 million employed and 3.58 million unemployed. The labor force participation rate is 45.7% (Economic Survey of Pakistan, 2013-14) In Pakistan has 135 recognized universities comprising upon 74 public sector and 61private universities. These universities are producing more than 4, 93,993 students annually (HEC, 2012). These passing out students are not getting jobs in the labor market. The unemployment rate among University graduates is about 28 percent (Word Bank, 2008).

If the educated youth and degree holders are not accepted in the job market and their skills are not rewarded as expected then there is something wrong with their education and skills developed by educational institutions. Literature suggests that employers seek knowledge based practical skills in their employees as well as soft skills; honesty, positive attitude, initiative taking. Academic knowledge and professional skills are essential for employment, but soft skills are more important to employers (Panetsos and Kostoglou, 2009). It is the responsibility of the academic institutions to develop those primary workplace skills in their graduates that are demanded by the employers. Because the primary duty of the degree awarding institutions is to prepare their graduates for labor market competitiveness, to meet employers' expectation and productivity challenges by providing them relevant knowledge and skills. The universities perform these duties effectively are considered successful (Richardson and Kabanoff, 2003). But, it is observed that academic institutions are not providing the skills as per labor market demand. Primarily structural unemployment and underemployment among Pakistani graduates exist because of mismatch between skills developed by academic institutions and demanded by employers (Qayyum, 2007). This mismatch between skills provided by institutions and demanded by the employer is a serious concern of labor economists and educationist. This paper is to measure two main objectives. First, to measure the mismatch between employers' expectations and graduating students' perception about employability skills. Second, to explore the skills gap between graduating students' expectations and academic institutions' provision.

Literature Review

A wide range of literature is available on graduates' employability. Employability is a certain level of skills, understandings, a set of achievements that helps graduates in gaining employment and remain successful in choosing occupations, which benefits themselves, the workforce, the community and the economy (York, 2005). Graduate employability is determined by social, economic and personal attributes. Personal attributes or skills play a more significant role in getting jobs. It is educational institutions who take responsibility to develop market oriented skills in their graduates (Chisty et al, 2007).

Zaharim et al. (2009) investigates that most of employers are satisfied with the level of skills that newly inducted employees possessed. It quantifies that about 77 percent of the employers are satisfied with the practical knowledge of new graduate employees, but dissatisfied with level

of interpersonal and communication skills. Another study, Saeki (2011) explores that soft skills, play a dominating role in employability comparing to professional skills. Australian Chamber of Commerce and Industry (2002) suggests that future employees must focus on personal attributes for better employability. Ting (2005) investigates that employers are more concern of thinking, learning, communication and problem solving skills while academic institutions are focusing on the knowledge base. Comparable to hard skills, soft skills are considered more important during the recruitment procedure (CIHE, 2008).

Hodges and Burchels, (2003) ranked the competencies in order and shows the employer's view that teamwork, willingness to learn, interpersonal communication, problem solving, customer service orientation, and flexibility which are called soft skills, are most important in addition their ability to deal empathetically and effectively with clients' needs. Comparing to academic knowledge employers considered communication skills, general knowledge, personality, computer skills, language skills and practical experience as more important (Weligamage & Siengthai, 2009).

The rapid change of the international economic environment also changes the requirements of employers. Employers also require from employees to possess basic, higher-order and effective generic employability skills other than the specific occupational skills (School Improvement Research Series, 1993). Lie et al (2009) has argued that employers' perception regarding the importance of the employability skills changes with the rapid global economic changes. Mismatch between employers' skills demand and universities' skills development among their graduates is the reason of structural unemployment in China (Ting, 2005). Saucers and Zuzel (2010) states that there exists a good relationship between employers' and graduating students' perception about employability skills, but graduates give higher rank to technical ability and leadership qualities than employers. This study is to investigate the perceptional gap between employer's demand and employees' possession of employability skills. Importantly, this research study on employability will help to develop convergence between employers' demand and graduating students' consideration. Furthermore, this study will also help the academic institutions that which skill category need to be focused more during their session of academic life.

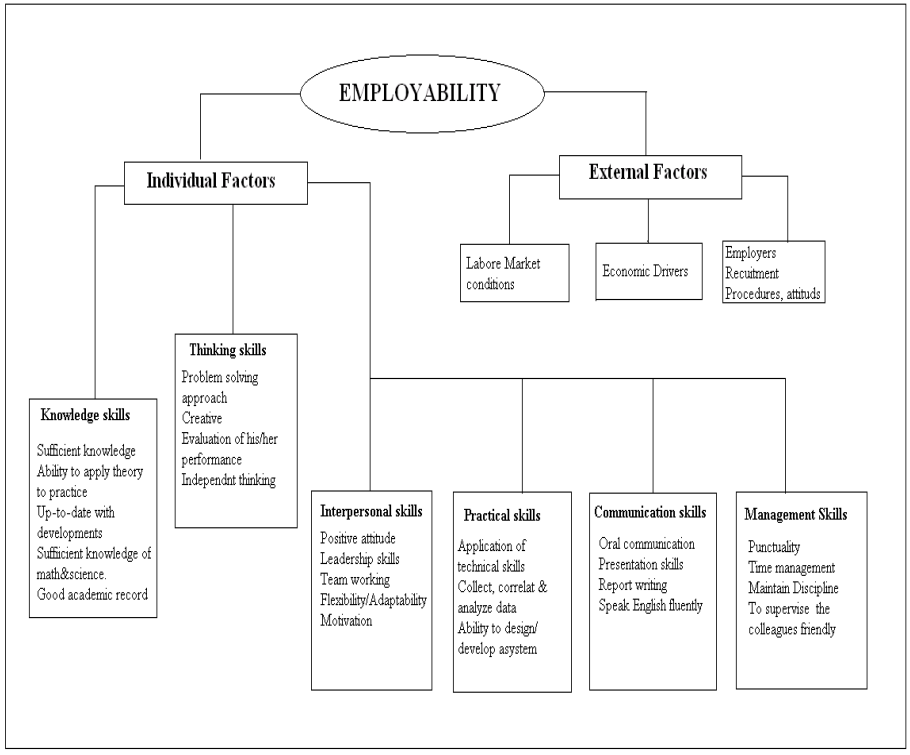
Theoretical Framework

In an easy way employability can be defined as; the relative chances of finding and maintaining the different kinds of employments (Brown et al,

2002: 11). A 'holistic' framework of employability is suggested to have three main interrelated components that influence a person's employability: individual factors; personal circumstances; and external factors. According to the report of the Scottish Executive (2003), external factors and individual factors affect the employability significantly. Referring to this employability framework is developed as follows.

Employability of Graduates depends upon Individual factors and external factors. External factors are the labor market condition, economic drivers, and determinants of supply and demand side of the economy, employers' recruitment procedures and attitudes. All these factors are the economic factors and are determined exogenously. An individual cannot control these external factors for his employability.

Figure 1: Employability Framework Model



Individual factors are the knowledge, skills, thinking skills, interpersonal skills, practical skills, communication skills and management skills. These individual factors are the factors related to the individual's employability

directly and can be controlled by the individual. Knowledge, skills, thinking skills, interpersonal skills, practical skills, communication skills and management skills jointly affect the individual factors and individual factors further affect the graduates' employability. These skills are all important determinants of graduates' employability.

Data and Methodology

Since the main objective of the study is to measure the mismatch between employers' expectations and graduating students' perception about employability skills. Due to financial constraints the scope of the study is limited to employers and graduating students of Gujrat only. Total number of tertiary level educational institutions in district Gujrat is 25, comprising upon 5 university campuses (public and private bath), 8 public and 12 private sector degree/post-graduate colleges. The Population of the study is the employers (of education sector, financial institutes and fan industry) and the graduating students of business, economic and computer sciences departments of selected University campuses in Gujrat, constituent colleges, and private colleges. The students of final semesters of the masters and B.com/Honors programs are selected for this study. Sample size consists of 175 graduate students and 30 employers. Students are selected through stratified sampling technique. A stratified sampling technique is used to stratify the population with in each stratum on the basis of identical characteristics (Kumar, pp.175). The population of the study is distributed into the six different strata on the basis of the masters and honors programs of selected three departments. These strata are used to choose the required quantity of elements from each stratum. Then systematic random sampling is applied to select the number of elements from each stratum. The employers are mainly related to the educational, financial institutions and fan industry of Gujrat city. The employers of different fields also selected through random sampling technique. Overall 35 employers have been accessed for collecting the data through a comprehensive questionnaire. In total, 30 employers have provided the required information while 5 have either refused or were not available. The data for this research study as been collected by personal visits to the graduate students and employers and some questionnaires mailed to the employers.

Confirmatory Factor Analysis (CFA) is a multivariate technique used to investigate how well measured variables signify the number of constructs to specify the factors. In this paper Confirmatory factor analysis (CFA) is employed to confirm the variables of the employability factors perceived important by graduate students and employers. The employability factors are Knowledge skills, interpersonal skills, thinking skills, management skills

and communication skills. P-values of all the variables determine that the above factors are significant. The null hypothesis that all items are not confirming for the factor is rejected. In confirmatory factor analysis, Chi-square ($\chi 2$) is used as fundamental Goodness of fit measure. Moreover, Goodness of Fit Index (GFI) and Root Mean Square Error of Approximation (RMSEA) are also used as a goodness of fit measures.

Mann-Whiteny U test is non-parametric test applied to compare two population means that come out from the same population. It is used to investigate either two population means which are equal or different. This test is used mostly when data are ordinal categorical. The strength of the test is that it does not require normality of data.

$$U = n_1 n_{2+} \frac{n_2(n_2+1)}{2} - \sum_{i=n_1+1}^{n_2} R_i ----eq(1)$$

Where, U denotes for Mann Whitney U test, n1 is sample size one, n2 is sample size two, and R is rank of sample size.

An index is constructed for radar diagram that is used to measure the gap between graduating students' perception regarding the importance of employability skills in getting jobs to measure this gap. We have developed an index by giving different weightage to each category of all questions. For this, it is supposed that respondents who have marked "Very High" in ranking the particular skill is fully agreed with the question, those who have marked on "High" have about seventy five percent agreed with the given statement. Similarly "Medium" and "Low" are fifty percent and twenty-five percent respectively in agreement with the question posed. So, the index is calculated on the above-mentioned basis and graphs are plotted.

Indices have been computed as;

Index = # 0 (X_1) + # 0.75 (X_2) + # 0.5 (X_3) + # 0.25 (X_4) + # 0 (X_5) # cat

#X1 = "total number of respondents in category" who answered -Very Low.
#X1 = "----------" who answered -Low.
#X2 = "----------" who answered -Medium.
#X3 = "----------" who answered - High.
#X4 = "----------" who answered -Very High.
Cat = "total number of respondents in study".

The value of this index lies between zero and one. If the calculated value is closer to zero than it means this skill is perceived very low importance and if closer to one than very high importance in employability. The index is calculated and radar diagram is plotted to measure three objectives of the study.

Results and Discussions

1.1. Employability Skills Analysis: Employers' and Graduates' perspective

To measure the mismatch between employers' expectations and graduate students' perception about employability skills, different econometric techniques have been applied. At first stage Confirmatory factor analysis (CFA) is employed to confirm the variables of the employability factors perceived important by graduating students and employers. The employability factors, as discussed in the previous section are; *Knowledge skills, interpersonal skills, thinking skills, management skills and communication skills*. P-values of all the variables determine that the above factors are significant. The null-hypothesis that all items are not confirming for the factor is rejected (Appendix Table A1). In confirmatory factor analysis, Chi-square ($\chi 2$) is used as fundamental Goodness of fit measure. Moreover, Goodness of Fit Index (GFI) and Root Mean Square Error of Approximation (RMSEA) are also used as a goodness of fit measures. All the above discussed important Goodness of fit measures indicates that all the variables are conformed for the factor. The criteria values for all the factors can be seen from the Appendix A (Table A6).

At the second stage, Mann-Whiteny U test is applied. The mean values are used to identify the important employability skills according to employers and graduates' perception (Appendix table B-1). As per available literature, for each of the factors about five variables are taken regarding the importance of skills for employment among the students and employers. Maximum value is five that means very high importance is perceived about the skill in getting or offering employment and minimum value is one means very low importance. As the mean value approaches 5, the employability skills are considered the most important. The descriptive analysis shows that mean values of all skills are greater than 3.5 that mean all the skills are important for employability of graduates. It can be seen from the table that the graduate students rank the "punctuality" the most important with for employability with 4.3886 mean values. "Positive attitude", "Problem solving approach" and "Oral communication" are also more important with 4.3429, 4.2857 and 4.2743 mean values respectively. "Sufficient knowledge of math and science" is ranked low by the students.

Employers perceive the “Positive attitude” as the most important skill for employability by 4.700. Employers also rank highest to the “flexible attitude to learn, oral communication, punctuality, maintain discipline, team working skills, problem solving approach, ability to create new ideas with 4.6667, 4.6333, 4.5667, 4.5667, 4.5333, and 4.5333 respectively.

The employers and graduates rank some employability skills equally but for better comparison we have used Mann Whitney-U test in next section.

Table # 1: Comparison of Employers’ and Graduates’ perception by applying Mann Whitney-U test

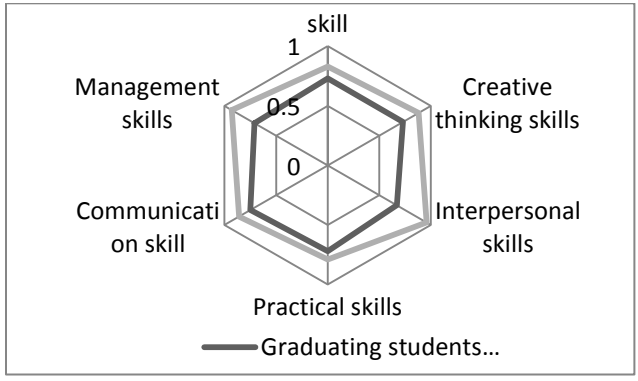
Employability Skills	Sig. (2-tailed)	Z	Mann-Whitney U	Mean Rank	
				Students	Employers
Flexible attitude	0.001	-3.41328	1675	97.92	103.87
Punctuality	0.009	-2.60324	1932	99.04	126.1
Oral communication	0.058	-1.8969	2105	100.03	120.33
Tam working skills	0.091	-1.6914	2161	102.58	105.43
Maintain discipline	0.006	-2.7222	1876	98.72	127.97
To complete the task at the time	0.041	-2.05258	2061	99.78	121.8
Maintaining positive attitude	0.007	-2.69964	1896	101.93	109.27
Good academic record	0.064	-1.85487	2101.5	58.95	46.35
Independent thinking	0.033	-2.13322	2029	103.87	97.92

Mann Whitney-U test has been applied to measure the gap between employers’ and graduating students’ perception regarding employability skills. Table 1 represents the perceived ranking of skills by graduates and employers. The table shows that of mostly employability skills have the same perception of employers and graduates. As, concluded by Sanders and Zuzel (2010) that there is a strong relationship between some employability skills’ perception of employers and that of graduates. Results of the Mann Whitney test show that in nine skills employers and graduate students have significantly different ranking. Good academic record and Independent thinking are the skills ranked high by graduate students than employers for employability. While, flexible attitude, maintaining discipline, maintaining a positive attitude, punctuality, and task

oriented, oral communication, and team working skills are ranked higher by an employer than graduate students for employability. These skills show the main gap between the employers' demand and graduates' perception about the employability skills. In a nutshell, the soft skills are ranked high by the employers as compared to graduating students for employability. Moreover, a convergence between the employers, expected skills and those of graduates' perceived skills is obvious, as discussed by Lie et al. (2008).

At third stage an index is developed for construction of the radar diagram to measure significantly the skill mismatch between Graduate Students' perception and employers' expectation and the skill gap between graduating students' expectations and those of academic institution's provision. That is depicted in the following figures.

Figure 2: Mismatch between Graduating Students' perception and Employers' Expectation

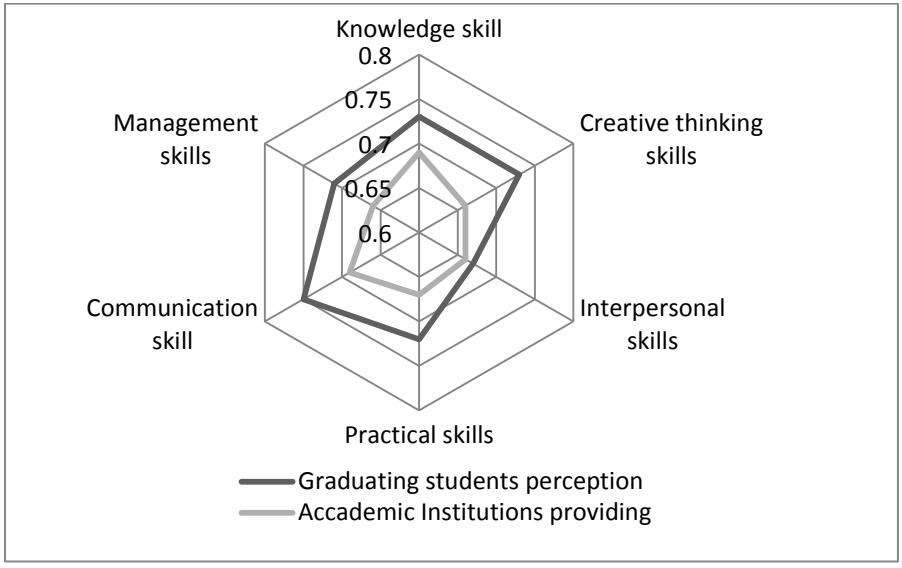


Students' expectations are met for interpersonal skills. The highest gap exists in thinking skills, communication skills, management skills, and practical skills. The results of the study suggest that academic institutions either have to focus on meeting the expectations of the students or modify the expectations to face the job market competition.

The gap between graduate students' perception and that of employers' expectation regarding employability skills is shown in the graph below. The graduates' perception about the skills is important in getting a job is compared to employers' expectation. In approximation, there are match vis-à-vis knowledge skills, communication skills and practical skills between the employers' demand and skills are perceived important by the

graduating students to get employment. But, employers' expectations are very high for creative thinking skills, management skills and interpersonal skills than the perception of graduating students. In conclusion, academic institutions have to focus more on interpersonal skills, management skills and creative thinking skills to make them suitable candidates for the job market in a competitive environment. So the employers give more importance to soft skills than technical or professional skills while recruiting new employee.

Figure 3: The Skills Gap between Graduate Students' expectations and Academic institutions' Provision



The above figure shows the gap between graduate students' expectations and the delivery of employability skills by their academic institutions/departments. The results clearly depict that academic institutions do not meet the expectations of their students as far as their employability skills are concerned.

Conclusion

Pakistan has an outstanding young age structure that contains 72 percent population below the age of 35 years and sixty percent population is from working age group i.e 15-59 years. Pakistan has 10th largest labor force in the globe comprising 56.52 million employed and 3.58 million unemployed. In Pakistan these are 135 recognized universities comprising 74 public

sector and 61private universities. These universities are producing more than 4, 93,993 students annually. Educated employed youth capacitates the economic resources to be used effectively and efficiently, that cause to enhance productivity. But, if degree holders couldn't get proper jobs then it's point to think about abilities, attitudes and capabilities developed by the degree awarding institutions among their passing out graduates.

This study is to investigate the mismatch between employers' expectations and that of graduat students' perceptions of employability skills. To find the objectives of the study 175 graduate students of the final semester (of computer sciences, economics and Business management departments) and 30 employers of respective industries were selected by applying the stratified sampling technique. Different econometric techniques were applied for analysis of data. At first stage Confirmatory factor analysis (CFA) was employed to confirm the variability of the employability factors perceived important by graduate students and employers. At first stage, Mann-Whiteny U test (Non-parametric technique) was applied. On the third stage, an index was developed to draw a radar diagram to explain the skill gap between employers' expectations and graduate students' perception. Confirmatory factor analysis confirms that all the variables of the following factors; Knowledge, skills, thinking skills, interpersonal skills, communication skills, and management skills provided by educational institutions are demanded by employers. The Mann-Whitney U Test shows significant differences between employers' expectations and that of students' perceptions about employability skills. More importantly the skills; punctuality, time management, discipline, oral communication and positive attitude are the skills ranked high by the employers while knowledge skills and practical skills are ranked high by the graduate students. This depicts that employers rank soft skills high while students consider knowledge based skills only for employment. This paper suggests that educational institutions should prepare their students with soft skills to meet employer's demand in labor market.

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Appendix A

Confirmatory Factor Analysis

Table A-1: Confirmatory Factor Analysis Model Estimates for Knowledge Skills.

Variable	Statistics	Standard	T-	Prob.

	Parameter	Error	Statistics	Level
Knowledge skill -> 1f1	0.577	0.06	9.673	0.000
Knowledge skill -> 1f2	0.52	0.072	7.199	0.000
Knowledge skill -> 1f3	0.493	0.06	8.208	0.000
Knowledge skill -> 1f4	0.402	0.071	5.69	0.000
Knowledge skill -> 1f5	0.249	0.067	3.695	0.000

Table A-2: Confirmatory Factor Analysis Model Estimates for Creative Thinking Skills

Variables	Parameter Estimator	Standard Error	T-Statistics	Prob. Level
Thinking skill -> 2f1	0.527	0.058	9.091	0.000
Thinking skill -> 2f2	0.459	0.055	8.288	0.000
Thinking skill -> 2f3	0.372	0.058	6.386	0.000
Thinking skill -> 2f4	0.403	0.065	6.192	0.000

Table A-3: Confirmatory Factor Analysis Model Estimates for Interpersonal Skills

Variables	**Parameter Estimate**	**Standard Error**	**T Statistic**	**Prob. Level**
Interpersonal skills -> 3f1	0.472	0.048	9.802	0.000
Interpersonal skills -> 3f2	0.295	0.054	5.506	0.000
Interpersonal skills -> 3f3	0.623	0.051	12.119	0.000
Interpersonal skills -> 3f4	0.568	0.053	10.619	0.000
Interpersonal skills -> 3f5	0.495	0.054	9.097	0.000

Table A-4: Confirmatory Factor Analysis Model Estimates for Communication Skill.

Variables	Parameter	Standard Error	T	Prob.
	Estimat		**Statisti**	**Level**

	e		**c**	
communication skill->4f1	0.507	0.052	9.735	0.000
communication skill->4f2	0.599	0.057	10.532	0.000
communication skill->4f3	0.502	0.056	8.959	0.000
communication skill->4f4	0.618	0.062	10.047	0.000

Table A-5: Confirmatory Factor Analysis Model Estimates for Management Skills

Variables	**Parameter Estimate**	**Standard Error**	**T Statistic**	**Prob. Level**
Mangt. skills ->5f1	0.632	0.048	13.191	0.000
Mangt. skills ->5f1	0.710	0.053	13.396	0.000
Mangt. skills ->5f1	0.696	0.057	12.244	0.000
Mangt. skills ->5f1	0.542	0.062	8.739	0.000

Table A-6: Measures of Goodness of Fit for all the factors

	χ^2	d.f	p-value	χ^2/d.f	AGFI	GFI	RMSEA
Recommended				≤ 3	≥ .90	≥ .90	≤ 0.08
Knowledge skill	28.851	5	2.5E-05	5.77	0.855	0.952	0.143
Thinking skill	1.51984	2	0.46771	0.79	0.982	0.996	0
Interpersonal skills	8.85741	5	0.11489	1.77	0.952	0.984	0.057
Communication skill	5.42715	2	0.0663	2.71	0.932	0.986	0.095
Management skills	8.304	2	0.01573	4.12	0.9	0.98	0.125

Table A-7: Employability Skills Identified by Graduates and Employers in Factors

Factors of Skills	Students	Employers	Total
Interpersonal skills	4.2	4.52	4.2468
Thinking skill	4.1171	4.1166	4.1171
Management skills	4.2357	4.5083	4.2756
Knowledge skill	3.912	3.98	3.9219
Communication skill	4.071	4.15	4.0829
Practical skills	3.958	3.9111	3.9512

Appendix B

Table B-1: Importance of Employability Skills Identified by Graduates and Employers (Mean Values)

Employability skills	Employers	Students	Total
sufficient knowledge in the field studied	4.3333	4.1943	4.2146
Ability to apply theory into practice	3.8333	3.9029	3.8927
Up-to-date with development/current issues in that area.	4.1000	4.0343	4.0439
sufficient knowledge of math and science	3.5333	3.6400	3.6244
good academic record	4.1000	3.7886	3.8341
problem solving approach	4.5333	4.2857	4.3220
ability to create new ideas	4.0667	4.1314	4.1220
to evaluate his/her work in realistic way	4.1333	3.9886	4.0098
independent thinking	3.7333	4.0629	4.0146
maintaining positive attitude	4.7000	4.3429	4.3951
leadership skills	4.2667	4.1200	4.1415
team working skills	4.5333	4.2343	4.2780
flexible attitude to learn	4.6667	4.1371	4.2146
to motivate himself/herself for working hard	4.4333	4.1657	4.2049
to apply technical skills	3.9333	4.0686	4.0488
collect, correlate and analyse data	4.0000	3.9143	3.9268
ability to design/develop a system process	3.8000	3.8914	3.8780
oral communication	4.5667	4.2743	4.3171
presentation skills	4.4667	4.2229	4.2585
report writing	3.9333	3.9200	3.9220
speak English fluently	3.6333	3.8686	3.8341
be punctual	4.6333	4.3886	4.4244
to complete the task at the time	4.4667	4.2400	4.2732
maintain discipline	4.5667	4.2114	4.2634
to supervise the colleagues friendly	4.3667	4.1029	4.1415

Table B-3: Comparison of Employers and Graduates' Perception Regarding Employability Skills in Factors. (Mann Whitney-U test)

Factors of Skills	Asymp. Sig. (2-tailed)	Z	Mann-Whitney U	Mean Rank	
				Students	**Employers**
Interpersonal skills	0.003	-2.962861691	1742	97.9542	132.433
Knowledge skill	0.787	-0.270035337	2544.5	102.54	105.683
Management skills	0.004	-2.85803854	1779	98.166	131.2
Thinking skill	0.877	-0.153937052	2579.5	103.26	101.483
Communication skill	0.582	-0.549507935	2461.5	102.065	108.45
Practical skills	0.881	-0.148502332	2581	103.251	101.533

Appendix C:

Indices for Radar Diagram

Table C-1: Indices of Employability skills; Graduates Perception

Employability skills	Academic Institutions providing	Graduating students perception
Knowledge skill	0.69	0.73
Practical skills	0.67	0.72
Creative thinking skills	0.66	0.73
Management skills	0.66	0.71
Interpersonal skills	0.66	0.67
Communication skill	0.69	0.75

Table C-2: Indices of Employability skills; Graduates' Perception and Market Demand

Employability skills	Employers' expectation	Graduating students perception
Knowledge skill	0.83	0.73
Practical skills	0.79	0.72
Creative thinking skills	0.88	0.73
Communication skill	0.86	0.75
Interpersonal skills	0.96	0.67
Management skills	0.93	0.71

Role of Ego Integrity, Gender and Socioeconomic Status in Depression Level of Pakistani Elderly People

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The present study was designed to examine the role of ego integrity, gender and socioeconomic status on depression level of Pakistani elderly people. Five hundred and fifteen elderly participants (304 men and 211 women; age range 60–87years), from different districts of Punjab participated in the study. Urdu translated Ego Integrity Scale (Ghayas & Batool, 2015) and Depression Subscale of DASS (Farooqi & Habib, 2010) was applied to measure the ego integrity and depression level of participants. Regression analysis illustrated ego integrity as a significant negative predictor of depression level (β = -. 30, t = -7.02, p.001). Furthermore Multivariate analysis of variance depicted the significant independent effect of gender (F=3. 92, p. 05) and socioeconomic status on depression level (F=5. 96, p. 01) of participants. Gender and socioeconomic status appeared to interact with each other and influenced the level of depression and results depicted that women belonging to the middle class were highly depressed as compared to men and women belonging to lower and higher socioeconomic classes. This study is a step to understand the factors, which are one of the reasons behind the depression level of elderly people of Pakistan.

Keywords: Ego integrity, Depression, Socioeconomic Class, gender, Elderly People

Introduction

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It is a consistently observed that old age is marked by experiences of accumulative loss like retirement, the death of loved ones, economic dependence, increased isolation, and medical problems. Insufficiently dealing with these issues by denial, suppression, or the inability to accept them, frequently causes suffering in the forms of depression and other pathological symptoms (Langle, 2001). Therefore, it can be said that though all elderly people facing different types of loss, but there are individual differences in response to specific life occasions and stresses. According to Lucas (2004) elderly people have to face different stressful life conditions, but there are differences in the response to these stresses. Some manage to cope successfully with these challenges which results peace of mind, harmony, and well-being. On the other hand people who cannot efficiently cope with these stresses, experience annoyance, regret, dissatisfaction, and bitterness because they feel that they have regrets regarding their choices in their lives and have failed to live the life according to their choice.

According to Erikson's theory (1963), in later adulthood, the major psychosocial crisis to be resolved is integrity versus despair. Integrity is achieved by accepting how things have turned out, and by finding order in meanings in life. Integrity refers to basic approval of one's life as being inevitable, meaningful and appropriate. Integrity is the acceptance of one's one-and-only life cycle as something that had to be and believing that it probably permitted no substitutions. An older person who reaches integrity accepts the summation of his or her life from birth to the present and increases the likelihood of meaning and order in his or her life. Conversely, if an older person is unable to accept his or her life at this stage, he or she may end up in depression, which is associated with hopelessness, and the feeling that it is too late to make alterations in order to achieve integrity.

According to Chimich and Nekolaichuk (2004) depression is negatively correlated with ego integrity, and hope in the elderly population and it strongly influences mastery of the developmental tasks and challenges of aging.

A study conducted by James and Zarret (2005) on 78 white mothers. The age range of the participants was 70 to 91 and forty four percent of the mothers were widowed. Results revealed that it must resolve prior developmental challenges such as identity before Ego integrity can be attained. EI was further found to be positively correlated with all dimensions of psychological wellbeing and negatively correlated with the depression. It was concluded that ego integrity permits for the fruitful adaptation in the life of old adults and in case of a low ego integrity person develops self-doubts, feel dissatisfaction about his past present and future as well and it causes depression.

Recently Dezutter, Toussaint and Leijssen (2014) conducted a study and showed that ego integrity is a strong negative predictor of depressive symptoms among elderly people of Belgium. Their results also revealed that ego integrity was a mediator in the relationship between depressive symptoms and forgiveness.

As depression is more reported in the life of women, therefore, Rylands and Rickwood (2001) carried out a research to test the role of ego integrity as predictor of depression among older Australian women living in supported accommodation Their results showed that accepting the past (ego integrity) was a significant negative predictor of depression among women.

With the passage of time every society is facing many changes that are changing the ratio and the level of depression among the older population. Though the mean age of men and women both are increased, but the difference in the longevity of men and women is increasing day by day. A survey of USA, revealed that though life expectancy of women is greater but women experience more diseases and utilize more health care facilities in comparison with men. It is also found that level of suicide is higher among men, nevertheless women report more depressive symptoms than men. It depicts that there might be certain biological, intrapsychic and social factors which are causing these differences (Lavretsky, 2002).

Carayanni, et al., (2012) conducted research to find out the gender at depression level of urban Greek elderly population. The sample of the study comprised of 360 elderly people, with minimum age 60 years. Geriatric depression scale short form was used to measure the depression level of participants. Data analysis revealed that women are more depressed as compared to men. Researchers elaborated that these gender differences reflect that women are more vulnerable to social factors than men therefore women are more.

Javed (2014) conducted research on the elderly population of Pakistan. A convenient sample of 310 elderly people participated in the research. Geriatric depression scale (Urdu translated form) was applied to the participants. Independent sample t-test revealed the significant effect of gender, marital status, family system and employment at depression level of participants. The highest level of depression among women was justified on the basis of Pakistani indigenous culture, where older women are not able to perform their household responsibilities properly and as most of elderly women were housewives therefore in old age, they were having limited social circle and gradually they become socially isolated and ultimately develop depressive symptoms.

Similar results have been found by various researchers indicating high levels of depression among women and justified their results on the basis of biological, social, cultural, economic and emotional grounds. (Sherina, Rampal & Mustaqim, 2004; Sherina, et al., 2006; Djernes, 2007; Sidi, Zulkefli & Shah, 2003).

It is reported that link between socioeconomic status and depression increases with increase in age (Rosenberg & Pearlin, 1978). It is said that socioeconomic status determines the level of management and vulnerability to stress and high level of depression is reported among comparatively low socioeconomic class because of increased social life stressors (Ling, 2013). Previously a study was conducted to find out socio-demographic variables as determinants of depression among elderly people and analysis revealed that socioeconomic status, restricted daily activities, death of spouse and cognitive impairments are very important factors which determine the level of depression (Ghosh, Kar, & Basilio, 2010). Many other studies have consistently reported the significant impact of socioeconomic status on depression level of elderly people (Eaton at al., 2001; Lorant et al. 2003; Murata et al. 2008).

A study conducted on the Pakistani population portrayed that socioeconomic variables affect the physical and psychological health status of older people. Furthermore, it is also found that the effect of socioeconomic variables and bereavement was more pronounced in older females than among males. In the face of poverty, patriarchy and poor functional health status in older females were disadvantaged and the reason behind these results might be the restricted social participation of women in patriarchal societies (Ahmad & Hafeez, 2011).

Though area related to old age is widely explored in western culture, but problems related to old age are scarcely explored in Pakistan. Keeping in view the increase in average age and current socioeconomic conditions of country current study was aimed at finding out the role of ego integrity in the prediction of depression among Pakistani elderly people. It was aimed at generating the idea that whether ego integrity is really playing important role in the life of Pakistani older adults or this phenomenon is not applicable to Pakistani Muslim population. This study is also a step to ensure the generalizability of ego integrity concept given by Erikson (1963) in his theory of psychosocial development. Moreover, being men or women and belonging to different socioeconomic class also determines life conditions, therefore, the impact of gender and socioeconomic status based differences are also explored in the current study.

Objectives of the current study are to find out role of ego integrity in predicting depression level of elderly people and to explore the effect of gender and socioeconomic status on ego integrity and depression; In order to meet the objectives of current study, following hypotheses were formulated:

- Ego integrity would be a significant negative predictor of depression among elderly people.
- Level of depression would be higher among women as compared to men.
- Level of ego integrity would be higher among men as compared to women.
- There would be difference in the level of depression among elderly people belonging to different socioeconomic status.
- There would be difference in the ego integrity of elderly people belonging to different socioeconomic status

Method

Sample

The Convenient sample of current study comprised of 515 olderadults recruited from different urban and rural areas of Punjab. Sample from different districts (Lahore, Sargodha, Mandi Bha- ud-din, Rawalpindi, Multan, Mianwali and Gujrat) provided a broad and diverse picture of people living in different environments and having different lifestyles. Men (n=304) and women (n=211) both were given representation in the sample. The age range of the participants were 60 to 93 (M=65. 3, SD=6.17). People belonging to a low (n=100), middle (n=150), upper middle (n=155), and upper (n=110) socioeconomic class are given representation in the sample. Retired people from different professions (Govt & Private), employed, businessmen and housewives were given representation in the sample.

Instruments

Ego Integrity Scale (Ghayas & Batool, 2015)

In order to measure the integrity level of participants Urdu translated Ego Integrity Scale was used in the current study. Ego Integrity Scale was originally developed by Riff and Heincke (1983) in English Language. Jays' and Batool (2015) followed the forward, backward translation procedure to translate this scale into Urdu language

and ensured its cross language validation. The integrity scale consists of sixteen items and item response format is 4-point Likert-type Scale ranging from 1: strongly disagree to 4: strongly agree. Seven items are positively phrased (item no 1, 2, 4, 5, 8, 10, 15) and nine items are negatively phrased (3, 6, 7, 9, 11, 12, 13, 14, 16). The internal consistency Cronbach's α coefficient for the scale is .83. Riff and Heincke (1983) also reported test–retest coefficients for the scale over a 6-week period as being =.85.The higher the score, the higher will be the level of integrity of the participants and vice versa. Evidence of divergent and convergent validity revealed that ego integrity is negatively correlated with the impulsive personality traits of generativity and complexity (Ryff & Heincke, 1983).

Depression Subscale of DASS-42 (Farooqi & Habib, 2010)

Urdu version of depression subscale of DASS by Farooqi and Habib (2010) was used to analyze the variable in this study. The scale was constructed by Lovibond and Lovibond (1995) and translated in Urdu language by Farooqi and Habib (2010). A 42 item self-report questionnaire of DASS was designed to check the severity of symptoms related to Depression, Anxiety and stress. Its response format consists of 4 point rating scale ranging from (0-never, 1-rarely, 2 - mostly and 3- always). Fourteen items of Depression subscale are 3,5,10,13,16,17,21,24,26,31,34,38, and 42.The original scale internal consistency of the depression subscale of DASS ranged from.91 too.97 whereas internal consistency of the translated is.94.

Procedure

In order to collect the data participants of study were contacted. They were briefed regarding the purpose of the study and instructions were provided to them relevant to response format and completion of scales. All queries regarding scale completion were solved and then participants were requested to answer honestly and they were ensured that the confidentiality and privacy of their information will be maintained. At the end, participants were appraised for their cooperation.

Results

Table # 1: Mean, Standard Deviation, and alpha Reliabilities of Scales Used in Current Study (N = 515).

Variables	*M*	*SD*	*α*
Ego Integrity Scale	38.91	4.42	.75
Depression Subscale of DASS	7.59	6.5	.85

Table 1 demonstrates the mean and standard deviation for the Ego Integrity and Depression Subscale of DASS used in the current study. The Alpha reliabilities these scales were highly satisfactory as being above .75.

Table # 2: Ego Integrity as Predictor of Depression (N = 515)

Predictor Variables	*B*	*SE*	*β*	R^2
Ego Integrity	-.29	.04	-.30***	.08***

****p* <.001

Pearson product correlation revealed that ego integrity is a significant negative correlate of depression among elderly people (r=-. 30, p. 001). Regression analysis was carried out to find out the predictability of depression on the basis of the ego integrity level. Table 2 depicts the results of linear regression analysis which suggested that ego integrity is a significant negative predictor of depression (β = -. 30, t = -7.02, p.001) and explained 8% variance in depression level of old people.

Table # 3: Multivariate analysis (N=515)

Source	DVs	*SS*	*Df*	*MS*	*F*	η^2
Gender	Ego Integrity	260622.2	1	260622.2	2.02	.02
	Depression	20154.06	1	20154.06	3.92*	.003
Socioeconomic Status	Ego Integrity	154.46	3	51.48	1.20	.01
	Depressio	701.98	3	233.99	5.96*	.02

	n				*	
SES × Gender	Ego Integrity	144.89	3	48.29	1.12	.01
	Depression	824.03	3	274.65	6.99**	.01

*p <.05, **p <.01, ***p <.001

Table 3 depicts that there is significant main effect of gender on depression level of participants and Mean represented that elderly women are more depressed as comparable to the elderly men but non-significant gender differences are found in ego integrity. Furthermore, it is also revealed that socioeconomic status also has an impact on depression level of participants and Post-hoc analysis revealed that Elderly people belonging to middle class scored significantly higher level of depression as compared to upper middle socioeconomic class and upper socioeconomic class. No significant differences are found in the ego integrity of the participants on the basis of socioeconomic status. The analysis also revealed the significant interactive effect of gender and socioeconomic status. Figure 1 represents that men belonging to different socioeconomic status are experiencing an almost similar level of depression, but women belonging to middle socioeconomic status are experiencing the highest level of depression than other men and women.

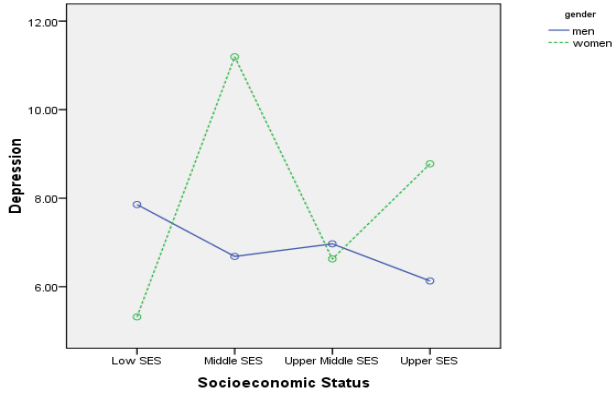

Figure # 1. Interactive effect of socioeconomic status and gender on depression

Discussion

According to Erikson labeled maturity in late adulthood as ego integrity. This study adds to growing evidence that Ego integrity is helpful in decreasing the psychiatric symptoms like depression. The results of the study supported the main hypothesis of study as it is revealed that ego integrity is a significant negative predictor of depression among elderly people. These results validate the theory of Erikson (1963) as he argued that people need to attain ego-integrity by accepting their past and it will help in decreasing the chance of despair. . According to Lucas (2004) people who are able to resolve their final psycho-social conflict ultimately they experience satisfaction, peace of mind and well-being. In the language of Erikson it can be said that these are those people whose level of ego integrity is low therefore they experience depression and other negative mood and cognitive symptoms (Kaji, et al., 2010). The results of this study depict that eighth stage of Erikson is applicable to the elderly people of Pakistan and just like elderly people of the west, Pakistani older adults also experience different type of loss and difficulties due to aging, but how a person responds to these types of situations is dependent upon the way they evaluate their life choices, purposefulness, meanings of life. If they have low levels of ego integrity, then they wouldn't be able to cope with the difficulties which are brought by aging and ultimately they will develop a high level of depression.

Integrity old adults

These results are supported by previous researches (Helm, 2000; Pin quart & Sorensen, 2001). Similarly, previous research revealed non-significant gender differences in the way how people evaluate their life, but results revealed that pattern of relevant associates was gender-specific. It is reported that life satisfaction and ego integrity were related to the quality of social network, self-rated health, depressive symptoms, and locus of control in women, and quality of social network, locus of control, and widowhood in men (Berg, 2008). It depicts that factors affecting the ego integrity of men and women are different, but the level of ego integrity remains same across gender.

Results revealed gender differences in depression of elderly people. These results are in line with previous work which revealed that the level of depression is higher among women as compared to men and across

different groups. It was claimed that older women are more likely than men to be exposed to economic and social factors which lead towards depression. These factors can be a low level of education, low income, greater chances of widowhood and increased social isolation (Carayanni at al., 2012; Danesh & Landeen, 2007). In the current study the sample of women is comprised of more housewives and less retired, working ladies furthermore, the educational level of women is lower as compared to men so these might be the contributing factor for gender differences in depression.

Multivariate analysis of variance also revealed that there is a significant effect of socioeconomic class at depression level of elderly people and these results are in the hypothesized direction of the study. Post-hoc analysis revealed that highest level of depression is found among low and middle class old people and average level of depression is found among members of upper middle class while lowest level of depression is found among elderly people belonging to upper socioeconomic class. These results are supported by previous researches and it was reported that low and middle class people are having more problems regarding unavailability of health care and other facilities which they need in old age (Eaton et al., 2001; Lorant, 2003). The non-significant difference in depression level of low and middle class elderly people is supported by the current inflation rate of Pakistan. No funding at government level is given to elderly people, therefore people are dependent on their children for even trivial needs and in current time children are putting their best effort but it is difficult for them to provide all the type of facilities and health care which a person belonging to high socioeconomic class can get.

Analysis of data revealed a non-significant effect of socioeconomic status on the ego integrity level of elderly people. In old age Integrity is achieved by accepting how things have turned out, and by finding order in meanings in life. It involves basic approval of one's life as being inevitable, meaningful and appropriate. Therefore, when an older person who reaches integrity accepts the summation of his or her life from birth to the present and increases the likelihood of meaning and order in his or her life then obviously his or her level of socioeconomic status does not matter. In context with Pakistani Muslim elderly people in old age, they evaluate their lives and they feel tendency towards religiosity and in this specific mind set they rarely consider their current socioeconomic status as it might be possible that currently they are facing financial problems, but they have passed a very ambitious, motivated and successful past then their current financial condition might not hinder the development of their ego integrity. Furthermore, if people have not passed a very successful past than exploring and processing difficult life events corresponds positively with maturity in late adulthood (Adler et al., 2007; McAdams et al., 2001; Pals,

2006). These all arguments support the findings of the current study depicting that there are other factors which are important than socioeconomic status which influence the level of depression among older people.

As it is already revealed that gender and socioeconomic status have independent main effect on depression level of participants additionally, findings of the study revealed that there is an interactive effect of gender and socioeconomic class on depression level of elderly people. The figure represents that elderly women belong to middle class score higher on depression scale as compared to other men and women belonging to other socioeconomic classes. Interestingly, it is revealed that the level of depression among men remains almost same across all the socioeconomic status. It depicts that socioeconomic class is more influential in the psychological life of women as compared to men. These results are in line with already existing research, as it was reported previously that the relationship of SES and depression differs by gender and employment status and epidemiological studies of depression found differences in the prevalence rates of depression based on SES factors (Robins & Ragier, 1991) Women are two times as likely to report being depressed as men (MaClean & Hauser, 2000). However, a review of Kohn et al. (1998) found that patterns of relationships were not always consistent. Therefore, it is prudent to periodically reassess the relationship between depression and socio-demographic factors because changing demographic compositions. It is also said that socioeconomic status has the strongest predictive power to predict depression for non-employed housewives (Kessler, 1982) and in the current study most of the women are housewives and education of most of the women was primary level and this reason might be an important factor in determination of depression level. Furthermore, in typical Pakistani context middle class families are mostly experiencing more problems as compared to low and high socioeconomic classes because middle class always try to develop themselves and in the current economic scenario of Pakistan it is becoming really difficult to change the status of life.

Conclusion and Practical Implications

Current study helped in validating the Erikson theory on the Pakistani culture by proving that ego integrity results in fewer depressive symptoms. Moreover, results showed that the level of depression is high among women and among people belonging to the middle socio-economic class. These results can be helpful for the people who are working in the counseling field; furthermore, it highlights the importance of different

techniques to help elderly people to accept their past so that they would be able to cope with current life stressors. These results also highlight the importance of socioeconomic status and government should pay attention to this matter and at least should fix some fund for elderly people to make them independent.

Limitations and Suggestions

1. Participants of the current study represented non-clinical population only and it would be better to use both clinical and non-clinical populations.
2. To increase external validity, it is recommended for future researchers to take a more generalizable group of respondents from different provinces of Pakistan.
3. Different confounding variables were not controlled in the current study, for instance number of married and unmarried children, religiosity, and social participation.

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Work-Family Conflict and Organizational Commitment as Predictors of Faculty Job Performance

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This cross-sectional study was conducted to explore the impact of work-family conflict and organizational commitment on job performance of family oriented faculty members. Moreover, another objective of this research study was a validation of scale developed to measure faculty job performance. Data from married faculty members was obtained through self-reported survey questionnaire. Work-family conflict and organizational commitment were measured using scales developed by Carlson, Kacmar and Williams (2000) and, Meyer and Allen (1997) respectively. Results revealed that work-family conflict have no significant effect on job performance. However, significant positive effect of organizational commitment to job performance without moderation of work-family conflict was found. The research has implications both for higher educational institutes and policy makers.

Keywords*:* Work-family conflict, Organizational commitment, Job performance, Teacher, Higher education faculty

Introduction and Literary Background

Job Performance

Viswesvaran and Ones (2000: 216) defined job performance as "Scalable actions, behavior and outcomes that employees engage in or bring about that are linked with and contribute to organizational goals". However, the job performance of faculty members in higher education institutes is evaluated on the basis of three major categories including teaching, research, and services (Comm & Mathaisel, 1998; Fairweather, 2002). The faculty is

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employed for teaching and rewarded for research (Fox, 1992). In the past decade, on campus and off campus services have also engrossed attention as criteria for evaluation of faculty job performance due to increased emphasis on education as course to attain social and economic development of society.

Most of the previous studies have focused on identifying higher education faculty performance indicators. Such as Ishak, Shuhaida and Yuzainee (2009) and Yee and Liew (2011) identified key faculty job performance indicators, including teaching and supervision, research and innovation, professional activities and services. Middaugh, (2001) added that the number of working hours and scholarly publications are misguiding if the pass rate of graduates is not considered. Fox, (1992) emphasized that research productivity could not be measured through number of publications unless quality of work is also assessed. Moreover, consultancy and services from faculty are not only required outside the campus rather faculty members are expected to facilitate organizational environment in terms of helping peers and participating in institutional seminars (Centra, 1977). Therefore, actual performance of faculty members should be measured through (a) teaching in terms of both quality and students' assistance; (b) research in terms of projects / grants, publications and quality of publications; and, (c) services including both on and off campus services. In the previous literature few studies have used some of these indicators to assess job performance of higher education faculty.

This research is an attempt to fill gaps in the literature by providing a comprehensive construct of job performance based on broad categories of teaching, research, and services. The category of teaching in the performance measure includes teaching load, student consultancy / assistance, punctuality and attendance, and average pass rate of graduates (Chughtai & Zafar, 2006; Ishak, Shuhaida & Yuzainee, 2009; Yee & Liew, 2011; Middaugh, 2001). Category of research comprises of involvement in research / grant projects, publications, and quality of publications (Fox, 1992; Middaugh, 2001; Ishak, Shuhaida & Yuzainee, 2009; Yee & Liew, 2011). The category of services encompasses involvement in departmental seminars, helping peers, and community services (Centra, 1977; Chughtai & Zafar, 2006; Ishak, Shuhaida & Yuzainee, 2009; Yee & Liew, 2011). Along with a composite and integrated construct of faculty job performance, this study aimed to examine impact of work-family conflict and organizational commitment on job performance of family oriented faculty members.

Work-Family Conflict

Work-family conflict is commonly known as an inter-role conflict because of overlapping demands from the family and job domains (Greenhaus & Beutell, 1985). There exist three forms of conflict identified by Greenhaus and Beutell (1985) including (a) time based; (b) stress based; and, (c) behavior based conflict. However, behavioral based conflict is not considered in the current study as was shown to exist rarely (see, for example, Geurts & Demerouti, 2003; Simon, Kummerling & Hasselhorn, 2004). While discussing the effect of work-family conflict on job performance of employees, previous researchers have reported mixed findings.

The preceding findings can be divided into three groups (a) work-family conflict and job performance are negatively related (see for example Netemeyer, Maxham & Pullig, 2005; Karatepe & Sokmen, 2006); (b) work-family conflict and job performance are positively related (see for example Patel, Govender, Paruk & Ramgoon, 2006); and, (c) work-family conflict and job performance are not related (see for example Bhuian, Menguc & Borsboom, 2005; Anwar & Shahzad, 2011). These three groups reflect that the generalizability of results from any study is limited based on numerous individual and job related aspects. Therefore, the current study is aimed to explore this phenomenon in higher education sector of Pakistan.

Organizational Commitment

Basically commitment is a voluntary attitude based on human will. It could be defined as calculated rationality (side bets), affective tendency (contributing behavior and psychological attachment), and moral judgment (loyalty and obligation toward organization) (Gonzalez & Guillen, 2008). Meyer and Allen (1984, 1991), Allen and Meyer (1990, 1996) and Meyer, Stanley, Herscovitch and Topolnytsky (2002) integrated the conceptualization of this concept and provided three forms of organizational commitment including (a) desire (affective commitment); (b) obligation (normative commitment); and, (c) need (continuance commitment). Meyer et al., (2002) and Solinger et al., (2008) assessed the relationship between forms of commitment their causes, correlates and consequences. They found that affective and normative forms of commitment were stronger and positively related, whereas; continuance commitment was not or negatively related to individual and organizational outcomes. Therefore, in the current research affective and normative forms of commitment were considered.

Organizational commitment is found to be an important attitude affecting employee job performance (Vinchur et al., 1998; Chughtai & Zafar, 2006). However, the findings are not consistent all through the literature. The preceding studies reported conflicting results grouped as (a) organizational

commitment and job performance are positively related (see for example Mukherjee & Malhotra, 2006; Cichy, Cha & Kim, 2009); and, (b) organizational commitment and job performance are not related (see for example Somers & Birnbanm, 1998; Iun & Huang, 2007). The previous results have limited generalizability based on context, sector and performance criteria differences. Additionally, limited work has been done on organizational commitment in educational settings (Chughtai & Zafar, 2006). This study is aimed to fill the gap by examining committee as an antecedent to job performance among family oriented faculty members in the context of Pakistan.

Moderating Role of Work-Family Conflict

In the previous studies, work-family conflict is reported to have a significant relationship with employees' attitudes and behaviors. When employees lack the abilities and resources to manage work and family roles properly, they prefer to adjust their family life first (Frone, Russell & Cooper, 1992). The adjustment of family life roles in turn influences work place behaviors because in the long run employees may not be willing to suffer in the family domain. Moreover, Conservation of Resource (COR) theory also suggests that individuals try to acquire and maintain resources such as personal energies, characteristics, conditions and objects in order to perform required roles (Hobfoll, 1989; Barnett & Hyde, (2001). Suggesting that work-family conflict gives rise to actual or potential loss of personal resources in the simultaneous juggling of work and family responsibilities, resulting in inferior workplace behaviors. Therefore, Mathieu and Zajac (1990) recommended that the relationship between organizational commitment and performance of employees might be moderated by variables such as family obligations. However, magnitude and direction of any such relationship was not specified empirically requiring further investigations to test the moderating role of work-family conflict in organizational commitment and job performance relationship.

Rational of the Study

On collectivist society, conflicting roles and commitments of work and family may impinge on job performance, particularly, in higher educational institutes where job demands have amplified with the workloads reaching 50 to 60 hours per week (Jacobs & Winslow, 2004). Augmented job demands have made balancing work and family a challenge as 80% teachers have reported working at home in the evening and on weekends (Simon Fraser University, 2011). It is reported in the previous literature that job performance has been influenced by work-family conflict and organizational commitment

(see for example Karatepe & Sokmen, 2006; Cichy, Cha & Kim, 2009). However, these relationships have not been studied in the higher education sector where performance measures are significantly different from all other segments. The basic reason of limited research in this regard was a misconception that teaching profession involves less commitment and minimal professional knowledge (Spencer, 1997).This assumption is not well supported from the literature. Huberman, Grounauer and Marti (1993) found that for the success of educational process teacher's commitment and engagement are the most important factors. Therefore, an attempt has been made in this research to assess the impact of work-family conflict and organizational commitment on job performance of family oriented faculty members. Study hypotheses are as follows:

H1 Work-family conflict affects job performance of family oriented faculty members negatively

H2 Organizational commitment affects job performance of family oriented faculty members positively

H3 Work-family conflict moderates organizational commitment and job performance relationship

Method

Sample

Participants of the study include randomly selected married faculty members from 6 public sector universities located in Islamabad and Rawalpindi. A final sample was comprised of 326 faculty members among whom 62.9% were male respondents and 37.1% were females. Majority sample belongs to 25-30 or 31-35 age groups constituting 29.1% and 34.4% of the total sample respectively. Most of the respondents belong to the joint family system (59.8%).

Procedure

Data was collected through self-reported survey questionnaire consisting of one demographic sheet and three scales measuring work-family conflict, organizational commitment and job performance. Prior to distributing self-reported survey questionnaires, researcher took permission for data collection from respective offices of 6 universities being considered. After the affirmation, questionnaires were personally delivered to faculty members during office hours. Each questionnaire was presented along with cover letter explaining the purpose of research being conducted and assurance of information confidentiality. Queries regarding the content of questionnaire were addressed at the time we delivered them. Responses to items of the

three scales were to be rated from 1 (strongly disagree) to 5 (strongly agree). The overall response rate was 67.92%.

Measures

The 12 items were taken from work-family conflict scale developed by Carlson, Kacmar and Williams (2000) to measure time and stress based conflicts. In the present research Cronbach's alpha reliability of work-family conflict scale was 0.86. In order to measure normative and affective commitments 12 items were included from the scale developed by Meyer and Allen (1997) showing 0.79 Cronbach's alpha reliability in the current study. To measure job performance of faculty members, 34 item scales was developed through proper procedure constituting three phases. In phase one, previously existing job performance scales were reviewed. With the permission of authors eight items were taken from a job performance scale developed by Chughtai and Zafar (2006). Furthermore, experts were consulted to design the item pool. In total 52 items were pooled initially. In phase two, five experts were approached for final item selection. After getting the responses, items with 50% or more endorsement rate were selected for final questionnaire. In the third phase, content validity was assessed through committee approach. For the purpose items were again presented to three academicians. The experts were given by the range of points, one to five, to rate each of the items included. The items rated below three were deleted and others were kept included. After these cycles of refinement and the iterations final scale of job performance was obtained consisting of 34 items, out of which 17 items to measure teaching, 7 items to measure research and 10 items were about on and off campus services. These final items were used in the main study to measure faculty job performance and psychometric for the newly developed scale was established. Cronbach's alpha reliability of the overall job performance scale was 0.93 and for subscale teaching (. 93), research (. 89) and services (. 84).

Data analysis

To validate dimensions of newly developed job performance scale factor analysis was conducted. Inter item consistency and reliability of the job performance measure was assessed through computing Cronbach's alpha coefficient. Techniques including correlation, simple linear and hierarchical multiple regressions were applied to analyze the data and test study hypotheses. Statistical package for social sciences 17 was used for data analysis.

Results

Factor Analysis

In order to establish validity of job performance scale and verify its dimensions, factor structure was explored by implementing exploratory factor analysis. Data fit for running factor analysis was tested through the Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity. For factor extractions principal component method was applied. Additionally, to allow for the correlations among factors direct oblimin method (i.e. oblique rotation) was used among the factors on theoretical basis that expected factors may correlate high to each other (Field, 2005: p. 637). KMO values for all subscales were quite satisfactory (above 0.818) to run factor analysis. Values of Bartlett's test of sphericity were too significant for the three subscales (p.001). Factor loadings greater than .298 was considered significant as the sample was greater than 300 (Stevens, as cited in Field, 2005).

Running Principal Component factoring technique devoid of determining fixed number of factors to be extracted resulted in the factor loadings of subscale (a) teaching on two factors; (b) subscale research on single factor; and, (c) subscale services on three factors as shown in Table 1. All the factors were assigned with descriptive labels based on commonality of items loaded on each. The reliability coefficient for the three subscales and their extracted vector components in job performance scale were obtained through computing Cronbach's alpha. Table 1 also shows internal consistency as well as unidimensionality for the corresponding constructs.

Table # 1:
Factor Loadings and Reliability of Three Subscales' of Job Performance Scale

Subscales and respective factor components	**Items**	**Factor loading**	***α***
Teaching			.93
1. Teaching quality			.93
	I have nearly fulfilled the teaching credit hours for each subject.	.701	

	I rarely come late to the university.	.509	
	I always start my class on time.	.782	
	I grade assignments and papers on time.	.716	
	Each time before taking class I prepare lecture completely.	.771	
	I use more than one sources of knowledge for lecture preparation.	.769	
	I try my best to deliver latest knowledge to my students.	.789	
	I regularly update / change my lecture accordingly.	.691	
	I balance my lecture with adequate exercises / discussions / participation.	.785	
	I teach according to the students' potential.	.544	
	I always grade assignments and papers fairly.	.775	
	I appreciate two way communications in the class room.	.764	
	I encourage students to ask questions in the class and challenge them to think outside the text book context.	.783	
	I help students in solving problems regarding their studies.	.744	
2. Student assistance			.67
	Majority students of my class score high.	.637	
	I assist students outside of official university hours.	.691	
	I maintain regular consultation hours to advise and help students.	.509	
Research			.89
1. Research			.89
	I publish at least one research article annually in a refereed journal.	.799	
	I usually get my research papers published in ISI approved journals.	.807	
	Most of my publications are in HEC	.820	

	recognized journals.		
	Usually I remain involved in research / grants projects.	.797	
	I collaborate with other departments in terms of research / grants projects.	.762	
	I collaborate with international scholars in terms of research / grants projects.	.765	
	I regularly participate in workshops / seminars to improve my research skills.	.644	
Services			.84
1. Helping peers			.82
	I help colleagues solve work related problems.	.742	
	I am willing to take on extra responsibilities in order to help other teachers with heavy workloads.	.637	
	I show care and courtesy towards colleagues even under the most trying professional or personal circumstances.	.856	
	I am willing to coordinate and communicate with colleagues.	.890	
2. Community services			.81
	I spend time off campus for community services.	.739	
	I actively participate in community awareness programs voluntarily.	.884	
	I have arranged community service program / s during my career.	.877	
3. Seminars participation			.73
	I actively participate in the departmental seminars.	.532	
	I facilitate guest speakers for departmental seminars.	.845	
	I arrange seminars on behalf of	.832	

	department.

Note. N=326.

Hypotheses Testing

Work-family conflict and job performance

Means, standard deviations and correlations for scores on the study scales are shown in Table 2 nonsignificant weak positive association between work-family conflict and job performance indicates that the first hypothesis of the study is not supported. However, organizational commitment was found significantly positively correlated with job performance leading to further analysis to explore the relationship as proposed in the second hypothesis.

Table # 2: Summary of Means, Standard Deviations and correlations for Study Variables

Measure	***M (SD)***	**1**	**2**	**3**
1. Work-family conflict	2.83 (.71)	-		
2. Organizational commitment	3.47 (.60)	.02	-	
3. Job performance	3.65 (.58)	.09	.40**	-

Note. N = 326. M = Mean, SD = Standard deviation
**p< .05. **p< .01. ***p< .001,* one-tailed.

Organizational Commitment and Job Performance

To further test the second hypothesis, linear regression analysis was performed as (see Table 3). 16% variance in job performance was being explained by an organizational commitment indicating a substantial effect size. The p-value and regression coefficient β further confirms that with increasing organizational commitment job performance will show significant improvement. Hence, the second hypothesis of this study was supported.

Table # 3: Organizational Commitment as Predictor of Job Performance

Variable	B	SEB	β
Constant	2.29	.18	
Organizational commitment	.39	.05	.40***
R^2		.16	
F for change in R^2		61.88***	

Note. N = 326.
*p< .05. **p< .01. ***p< .001,* one-tailed.

Moderating Role of Work-family Conflict

Moderating role of work-family conflict in the relationship of organizational commitment and job performance was tested through hierarchical multiple regression (see Table 4). In model 1, organizational commitment and work-family conflict were accounted for 17% significant variance in job performance. However, when the interaction term of centered organizational commitment and work-family conflict variables was added to the regression in model 2, it did not account for any significant variance in job performance. This suggests that committed faculty members will perform irrespective of work-family conflict they may face. Hence, the third hypothesis of the study was not supported.

Table # 4: Hierarchical Multiple Regression Analysis for Moderating Role of Work-family Conflict

	Model 1			Model 2		
Variable	**B**	**SEB**	**β**	**B**	**SEB**	**β**
OC[a]	.39	.05	.40***	.39	.05	.40***
WFC[b]	.07	.04	.08	.06	.04	.08
OC*WFC[c]				-.10	.06	-.09
R^2		.17			.17	
F for change in R^2		32.32***			2.85	

Note. N=326. [a] Organizational commitment, [b] Work-family conflict, [c] Interaction of organizational commitment and work-family conflict centered at their respective means
*p< .05. **p< .01. ***p< .001,* one-tailed.

Discussion and Conclusion

The findings of the current study suggested no significant relationship between work-family conflict and job performance. A potential reason for no impact could be aware of less job opportunities and more career aspirations among highly educated individuals (see for example Patel et al., 2006). Additionally, in Pakistan, joint family system help absorb the work-family conflict, resulting in its least effects on job performance (Anwar & Shahzad, 2011). Moreover, family oriented employees try to keep their family and job conflict at the minimum level so that financial contribution to their household remains untreated (see for example Grzywacz, Almeida & McDonald, 2002). Due to more input in job related role performance remain unaffected by any sort of conflict which arises between work and family domains.

In line with the previous literature organizational commitment was found to have positive significant effect on job performance of family oriented faculty members. Results are not astonishing as better performance is an implicit outcome of organizational commitment according to the definition of commitment. Current findings confirmed the notion that influence of commitment on job performance is also determined by the nature of job. Thus committed employees in services organizations contribute more toward quality of services delivered and ultimately performance good.

The third hypothesis of the study were not supported as hierarchical multiple regression results revealed no significant moderation of work-family conflict. These findings get support from theory of self-justification, which was primarily proposed by Staw (1976) to elucidate individuals' propensity of increasing their commitments to a preferred course of action. Therefore, when employees are committed toward organization they are less likely to decrease the performance level even in case of work-family conflict.

Implications, Limitations and Future Directions

Performance indicators used in the current study if adapted are likely to improve objective measurement of faculty performance. Furthermore, current research motivates policy makers to consider three aspects of job performance while developing strategies for the educational sector. Faculty performance in public sector universities could be enriched through striking a good balance between teaching, research and services. Furthermore, job performance scale developed and used in this research could be used for future studies. The impact of work-family conflict and organizational commitment was unclear in the higher education sector since; slight is known about their impact on required work place performance behaviors.

The current study has empirically examined the influence of work-family conflict and organizational commitment to job performance.

There were some limitations in this study. Such as, sample was very restricted in terms of individuals' level of education (faculty members of universities), geographical location, sector (public only) and marital status (only married) limiting the generalizability of results. This research has made extensive use of self-reported measures, which is usually less desirable way to collect data. Current research has only tested work-family conflict and organizational commitment as antecedents to job performance. However, there are numerous factors contributing toward employees' job performance, suggesting that theoretical formulation is far from being comprehensive. Lastly, only one method for data collection, i.e. "survey questionnaire" was used.

Future researchers should focus on both private and public sector higher educational institutes for increasing the generalizability of results. It is recommended to compare faculty job performance in public and private universities using three job performance criteria. Variables other than work-family conflict and organizational commitment should also be considered in future researches for more comprehensive illustration of job performance predictors in the educational sector. This study was unsuccessful to support the usual justification that works-family conflict hinders committed employees from performing better. Since, work-family conflict does not moderate relationship of organizational commitment and job performance. Therefore, future researchers are required to identify other moderators that may strengthen or weaken the impact of organizational commitment to job performance more precisely. Additionally, this research has indicated no impact of work-family conflict on job performance; therefore, current results encourage future investigations to identify potential moderators and / or mediators of work-family conflict and job performance relationship particularly in the higher education sector.

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PREPARATION CHECKLIST FOR THE *PJSI* MANUSCRIPTS

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TITLE PAGE

- Include the full **title** of the article.
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A list of four to five keywords is to be provided directly below the abstract. Keywords should express the precise content of the manuscript.

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- For normal text, use Times New Roman font (10-point with 1.15 line spacing).
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Reference Examples

Books:

Bernard, C. (1957). *An Introduction to the study of experimental medicine* (trans. H. C. Greene). New York: Dover.

Mason, K. O. (1974). *Women's labor force participation and fertility*. Research Triangle Park, NC: National Institute of Health.

Periodicals and Journal Articles:

Goodman, L. A. (1947). The analysis of systems of qualitative variables when some of the variables are unobservable. *American Journal of Sociology, 79,* 1179–1259.

Szelényi, S., & Jacqueline, O. (Forthcoming). The declining significance of class: Does gender complicate the story? *Theory and Society, 6*(4), 49–66.

Dissertations:

Charles, M. (1990). *Occupational sex segregation: A log-linear analysis of patterns in 25 industrial countries* (PhD dissertation). Department of Sociology, Stanford University, Stanford.

Collections:

Clausen, J. A. (1972). The life course of individuals. In M. W. Riley, M. Johnson, & A. Foner (Eds.), *Aging and Society* (pp. 118–143). New York: Russell Sage.

Sampson, R. J. (1992). Family management and child development: Insights from social disorganization theory. In J. McCord (Ed.), *Advances in Criminology Theory* (pp. 63–93). New Brunswick, NJ: Transaction.

Centre for Population, Urban and Environment Studies
University of Gujrat

Pakistan's population size, composition and its spatial distribution is destined to exert a powerful influence on the country's environment and socioeconomic development. For instance, changes in population size and age structure influence marketing strategies and consumption patterns of human and natural resources. Carefully gathered demographic data is invaluable for the government in planning public sector services. Policymakers use population data for its impact on demarcation of constituencies, allocation of resources, and on voting trends tied to factors such as age, gender, residence and ethnicity, among others.

Population Sciences is a multidisciplinary area concerned with changes in population size, distribution and structure due to births, deaths and migration. In recent decades, the scope of population sciences has greatly expanded to include such topics as reproductive health and family planning; household and family composition; labour market and labour force composition; economic development; social stratification; environment and urbanisation, etc.

Pakistan is going through a demographic transition and is confronted with a host of issues. The ageing population is increasing due to declining trends in fertility and mortality. The age structure is rapidly changing also because of urbanisation and other forms of migration as a consequence of industrialisation and replacement of traditional means of subsistence with modernisation and diffusion of technological skills and knowledge across the globe.

Moreover, demographic changes can be major forces of economic, cultural and environmental change. Population ageing, for example, will have an enormous impact on social security expenditure and the demand for health care. Understanding the issues leads to recognition of the interactions between population and government policies – an important part of planning for environmentally sustainable development.

As governments deal with a range of population-related issues, while making policies and initiating development program, there is an urgent need for research on the issues raised by demographic experience, and for providing a scientific basis for policy formulation. The aim of the Centre for Population, Urban and Environment Studies (CPUES) is to conduct research in multiple areas of population. The Centre provides a platform for the University's faculty to pursue research and teaching devoted to the understanding of population phenomenon. This Centre also helps formulate workable strategies and suggest recommendations, based on empirical findings, to policy-making institutions to address various issues confronting the Pakistani society.

Objectives

- Conduct empirical research in various disciplines such as Demography, Sociology, Economics, Business Demography, Environment and Industry;
- Develop capacity and skills of young faculty members by engaging them in research activities, and by enhancing their analytical capacities;
- Provide its database to national organisations and government departments to evolve public policy on the basis of findings of empirical studies; and
- Establish UOG's linkages with other national and international organisations.