

MEASURING PERCEPTIONS OF WORK ENVIRONMENT AMONG EDUCATED FEMALE PUBLIC SERVANTS IN PAKISTAN

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Abstract. This paper provides empirical evidence on the extent to which the work environment of public sector organizations of Pakistan is sensitive to women's needs. Perception of Work Environment Index (PWEI) has been developed to measure satisfaction of female public servants with the opportunities, facilities and inter-relationships for smooth career advancement given their special needs and requirements. The data were collected by administering PWEI through face-to-face interviews with 300 women belonging to administrative, health and education sectors. Results show that while the work environment may not be openly hostile, women employees were dissatisfied with arrangements to accommodate their personal and family needs. Significant differences were found in perceptions of women belonging to different categories of public sector organizations. Unmarried females working on contract were more satisfied with the working conditions than married women on permanent posts.

I. INTRODUCTION

Working conditions in public sector organizations are often considered more amenable to women's needs relative to the private sector. These include better maternity leave benefits, shorter working hours, more job security, less stressful work etc. (Okun *et al.*, 2007). Even so, while conditions for women may be somewhat better than the private sector, many times special amenities needed by women, such as on-site daycare and transport, may be

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inadequate. The problem is aggravated if the interpersonal relationships between the female staff and their colleagues are not completely congenial or if attitude of supervisors is inflexible in terms of helping workers to reconcile professional and domestic duties (Cook, 2009).

As traditional gender roles dictate that females perform all chores related to household and dependent care without any help from the male family members, women undertake paid employment at the peril of carrying triple burden of professional, domestic and reproductive work (Moser, 1989). Conflict arising out of performance of divergent roles can affect a worker's mental and physical health (Repetti, 1987), limiting her ability to perform her duties efficiently especially when her work environment is not supportive of her needs (Siddiqui, 2007). In particular working women who are married and those who have young children are at risk of facing job-burnout and employment disruptions. Among such women perceptions of family-friendly organizational environment can lower absenteeism, reduce intention to turnover, increase job satisfaction, improve affective commitment and enhance job involvement (Cook, 2009).

Besides these positive employee outcomes, perceptions of a desirable work environment for female employees help in gender mainstreaming.¹ Advantages of gender mainstreaming for an organization include more gender diversity² which in turn improves competitiveness in acquisition of a skilled workforce and increases the organization's internal capacity and ability to manage change. Also, work attitudes of male and female employees are better in gender-balanced work environments than in environments where gender parity is skewed in either direction (Appold *et al.*, 1998). Inability to deal with gender diversity issues can produce many negative consequences for an organization such as:

- Losing competent female employees and having to sustain high cost to recruit and train their replacements;
- Creating a reputation that the organization is not a good place to work;

¹“It is a strategy for making women's as well as men's concerns and experiences a dimension of the design, implementation, monitoring and evaluation of policies and programmes in (an organization) ... so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality” (*The Economic and Social Council Report for 1997, United Nations, 1997*).

²It is the degree to which there is gender-based variety within the workforce of an organization with optimal number of female and male employees working together.

- An organizational climate in which effort digresses away from work performance toward politics of how to attain justice; and
- Inability of the management to create a good rapport with female employees (Ospina, 2001).

Yet despite all the potential benefits of gender mainstreaming, initial cost of change may be quite high. As organizations import masculine and feminine role dichotomies from the society in which they function, an ideal worker is perceived as someone willing to put work commitments above all other activities in life (Ely and Myreson, 2000). Consequently, the concept that work can be streamlined and combined with family life in a manner which improves job performance, is opposed by individuals who associate crises-oriented masculine work patterns with high productivity and ascribe to stereotypical images of women as having lower capacity to perform on the job because they are relentlessly involved in household chores. If policies to promote women's welfare create notion of distributive injustice, this reduces work commitment among aggrieved workers (Chughtai and Zafar, 2000). A gender equitable and family-friendly environment improves worker productivity provided that the organization is being managed effectively (Bloom *et al.*, 2006). Therefore, well-managed public sector organizations create an enabling environment for women for maximization of social welfare and enhancement of female workers' productivity.

Empirical studies show that working women with tertiary education gravitate towards the public sector in Pakistan, yet evidence proving absence of gender discrimination at higher organizational levels is not convincing. Hyder and Reilly (2005) find that public sector workers in Pakistan have both higher average pay as well as higher education levels as compared to private sector workers and that the public sector has a more compressed wage distribution and a smaller gender pay gap than that of the private sector. They also present evidence against the existence of a 'glass-ceiling'³ in Pakistan. However, as these writers themselves admit, this finding maybe 'imperfect' because women constituted only 12% of public sector employees and about 3% of private sector waged employees in their sample. They do not reveal the miniscule number of women who reach the 90th wage percentile to gain the advantage of receiving nearly as much pay as their

³Glass ceilings are the barriers which lie between women and equitable chances for professional development (Naff, 1994). Hyder and Reilly (2005) as well as Ahmed and Hyder (2009) measure glass ceiling as increase in gender wage gap throughout the wage distribution.

male counterparts. Similarly, Ahmed and Hyder (2009) claim to have found no ‘glass-ceiling’ in Pakistan based on a sample of workers which contained only 13% female representation overall, but they do not caution readers regarding this limitation. Wage inequality remains the focus of economic research investigating labor market gender discrimination in Pakistan. The importance of a gender sensitized, family-friendly, respectable work environment for attracting and retaining highly qualified female labor in the public sector has not been given due attention.

This paper provides empirical evidence on the extent of gender sensitivity or insensitivity, existing in the work environment of public sector organizations of Pakistan, as perceived by the educated female staff of these organizations. Section II describes the labour supply-side, socio-cultural employment constraints on Pakistani women with special emphasis on public sector initiatives for their uplift. Section III presents a perception scale that has been developed to measure satisfaction of female public servants with the opportunities, facilities and interrelationships for smooth career advancement given their special needs and requirements. Section IV outlines sampling and data collection methodology. In Section V, descriptive statistics and inferential analysis are used to identify the locus of hostility in public sector organizations. In section VI, the paper concludes by proposing and justifying a result-oriented approach to gender mainstreaming which is contextualized according to ground realities in public sector organizations of Pakistan.

II. BACKGROUND AND SETTING

Gender inequality is prevalent in most societies in different forms. It is also pervasive across different groups within societies, intersecting with other forms of inequality such that it is a feature of privileged as well as under-privileged groups (Kabeer, 2003). In Pakistan, public policy has been ineffective in dealing with gender inequalities. Most women suffer from disadvantages in education, health, access to assets and resources, employment opportunities and decision making capacity. The Gender Gap Index places Pakistan at 126th position out of 128 countries (WEF, 2007). Likewise, the gender-related development index (GDI), ranks Pakistan 124th out of 156 countries (HDR, 2007).⁴ Needless to say that interventions to

⁴Between 2004 and 2008 the Government of Pakistan planned to initiate or continue programmes for “effective implementation of CEDAW (Convention on Elimination of All Forms of Discrimination Against Women)” at a cost of US \$ 35.5 million out of which US \$ 33.5 million were to come from external sources (UNDP, 2003).

mainstream gender in the country have not produced satisfactory results as yet, despite substantial investment by the government and international donor agencies in programmes for this purpose.

The challenge to redress gender inequalities in Pakistan is a daunting one. Local traditions and culture mostly perpetuate patriarchal values. Men are placed in a dominant productive role as breadwinners in the public sphere while women are given reproductive roles in the domestic sphere (Siddiqui *et al.*, 2006). However, the causes and extent of women's subordinate status differ substantially among various classes and regions. Poor women belonging to rural and tribal regions are the ones deprived of choices and opportunities in life. On the other hand, upper and middle class women living in urban areas have much more freedom of choice (Kazi and Raza, 1991). Having better access to education and other basic amenities, these women can choose to challenge gender stereotypes. Unfortunately, the education system in Pakistan, by and large, does not instill a sense of empowerment among women such that there is an inert acceptance of patriarchal norms even among some of the most educated and affluent of women in Pakistan. All the same, there may be many educated women who would be willing to utilize their education and training for making positive contributions to society if there are more gender equitable employment opportunities.

A study by Naqvi and Shahnaz (2002) has found that most of the women who are not in the labor force feel that by doing market work they would be displeasing the male heads of their families for going against social norms and compromising their family relationships and household responsibilities. There are two main implications here. First, that there are many social barriers restricting well-to-do women from undertaking formal employment. Second, that there are few honorable occupational choices flexible enough to allow educated women to balance work and family obligations.

Given this socio-cultural and economic context, policy statements like The National Policy for Development and Empowerment of Women (NPDEW) and National Plan of Action (NPA), which express the government's resolve to support women in actualizing their potential, do serve the purpose of bringing gender issues into the limelight but fall short of reducing gender inequalities on ground.

Other initiatives by the government such as reservation of seats for women in local bodies and higher-level legislature, establishment of Ministry of Women Development, formation of National Commission on the Status of

Women (NCSW), undertaking the Gender Support Programmes⁵ and the Gender Reform Action Programmes,⁶ also suffer from lack of coordination, commitment and effective administration (UNDP, 2009). In general public sector reforms in Pakistan have remained superficial and have failed to address root cause of dysfunctionalities (Haque, 1998; Iqbal, 2007).

It is therefore pertinent to ask, how can the government overcome implementation issues in promoting its gender and development agenda? The answer to this question lies in mainstreaming gender first and foremost within the ranks of the government and its allied agencies and building their capacity to deliver on development goals. The public sector has to be transformed so that it becomes sensitive to gender concerns and supports gender diversity. Presently, such may not be the case in Pakistan. For example, women's share in federal government employment is 4.66%. This figure is around 13% for Grade 14 and above. However in Grade 20 and above there are only 5% female officers (PPARC, 2003). In autonomous and semi-autonomous public sector organizations in Pakistan overall percentage of women employees is 3.12% and the ratio of female officers in grade 17 and above is 6.43% (PPARC, 2006). This shows that few women get recruited and promoted even within the public sector where the government has purportedly instituted many programmes for gender mainstreaming. Further, the NCSW in its report on 'Status of Women Employment in Public Sector Organizations' (2003) states that:

“Often women are not considered on merit and Pakistan is characterized by a virtual absence of women at effective policy making and administrative levels. It appears that there is a deliberate effort to detract them from becoming administrators or managers.”

The NCSW report also finds that the environment in government offices hampers women's active participation as women employees face harassment and discrimination. Their special needs like day care facilities and separate

⁵The Gender Support Programme is a UNDP sponsored umbrella programme which includes interventions such as: Women's Political School project; Gender Responsive Budgeting Initiative; Gender Mainstreaming in Planning & Development Departments and Division; Institutional Strengthening of the NCSW; Gender Justice through Musalihat Anjuman; and Women's Access to Capital and Technology.

⁶Gender Reform Action Programme (GRAP) is a 4-programme which seeks to reforms budgeting and public expenditure mechanisms; to increase and improve women employment in the public sector; and to enhance women's political participation.

toilets are often ignored. Other sponsored reports give similar comments about work condition in government departments (WEC-PK, 2008).

Interestingly, quite the opposite view is expressed by some scholars. For example, Ahmed and Hyder (2009) expect to find no “taste of discrimination” among public sector organizations, essentially due to government policies which encourage equal opportunities for all. They feel it is only the private sector where working environment is not very attractive for females. Hyder and Reilly (2005) believe that public sector employment in Pakistan is attractive for women because of better pay, better work conditions, and the availability of other fringe benefits (e.g., pension rights and free medical benefits). This difference in the official and independent views regarding women’s employment conditions warrants an in-depth investigation of the issue.

This paper has made two significant contributions to the inquiry on working conditions for women in the public sector. First, it has identified the different dimensions which constitute equitable working conditions for females. Secondly, it has been shown that although gender discrimination is perceived to exist, such perception is not intense or wide spread. There are however significant differences in perception between different categories of public sector organizations. The limitation of the paper is that a comparison between public and private sector work environments has not been made.

III. CONSTRUCTING PERCEPTION OF WORK ENVIRONMENT INDEX (PWEI)

The perception of work environment Index (PWEI) is a locally adapted, valid and reliable measure of the extent and nature of gender-based hostilities as experienced by female public sector employees in Pakistan. Analysis based on the data generated through PWEI will authentically represent the current status of gender equity in the public sector of the country and identify future course of action for targeted gender interventions.

REVIEW OF EXISTING MEASURES

The PWEI and its sub-dimensions have been aligned with existing psychometric scales to measure perceptions of working conditions. For example, Stokes *et al.* (1995) constructed a scale similar to PWEI for use in corporate settings. They have used the dimensions of dual standards and opportunities, sexist attitudes and comments, informal socializing, balancing work and personal obligations and remediation policies and practices to measure perceptions of supportive or hostile work environment for women.

The Nordic Council of Ministers (2000) designed a Questionnaire for measuring Psychological and Social factors at work (QPS). The organizational level contents of the QPS comprise of Likert type questions related to organizational culture and climate, communication, leadership, social interactions and group work. All these sub-dimensions of the QPS are meant to measure employee perceptions of working conditions within organizations in the Nordic region.

The Work Environment Scale (WES)-Form "R" developed and updated by Moos (2008) measures the social environment of work settings in private sector firms. It comprises ten dimensions: Involvement, coworker cohesion, supervisor support, autonomy, task orientation, work pressure, clarity, managerial control, innovations and physical comfort.

Another popular scale, developed by Karasek *et al.* (1998) is the Job Content Questionnaire (JCQ). This instrument has been used by medical practitioners for measuring impact of various social and psychosocial characteristics of jobs on an employee's health. The factors measured by JCQ include: decision latitude, which incorporates skill discretion and skill authority; psychological demands; support from supervisor for work related issues; coworker support; physical job demands; and job insecurity, which incorporates opportunities for advancement and pending risk of job loss.

Most of the existing instruments are configured to situation of workers in western work settings. Further most of these instruments are meant for use in the corporate sector. PWEI has taken concepts from existing tools to measure work conditions and has adapted them to suit the requirements of the current study.

PWEI AND ITS SUB-DIMENSIONS

The PWEI comprises of 15 items each measuring the level to which a respondent believes her environment is equitable and conducive to higher female work productivity. Each item is measured on a five point Likert scale. Of the five options for rating each item, option 1 represents complete disagreement, option 2 represents partial disagreement, option 3 represents lack of knowledge on neutrality, and option 4 and 5 represent partial and complete agreement with an item respectively. The final version of the PWEI incorporates three subscales or dimensions:

- Equality of Opportunity for Professional Development (EOPD)
- Female Staff Protection and Facilitation (FSPF)
- Congeniality of Inter-Personal Relationships (CIPR)

1. Equality of Opportunity for Professional Development (EOPD)

This dimension measures opinions of female employees regarding responsiveness of Human Resource (HR) policies in induction, training, promotion and rewards to their strategic gender needs. According to Moser (1993):

“Strategic gender needs are the needs women identify because of their subordinate position to men in their society. They relate to gender divisions of labor, power and control. Meeting strategic gender needs helps women to achieve greater equality.”

Gender inequity is not always obvious in the formal setup of public sector organizations as they are obliged to follow rules and policies based on strict merit and seniority criteria. It is possible though that these criteria may be flawed and there may be invisible barriers very often referred to as “Glass Ceilings” preventing female workers from reaching their potential (Naff, 1994).

HR policies which overtly or covertly discriminate against female incumbents impose both a spatial and a temporal restriction on women’s opportunities for professional development. On a spatial level, across organizations where there is culture of discrimination, there would be few female employees who are well trained, well rewarded and able to reach senior posts. Even if there are special quotas for women to overcome gender imbalances, these remain underutilized. Women’s predicament is brushed aside as being on outcome of their lack of interest in career building. The temporal aspect of discrimination impinges on women’s chances to secure equality even in a long run time frame due to lack of change mechanisms within the organizations.

Lack of effective implementation of stated gender policies is a situation which is very common in the public sector organizations of Pakistan (UNDP, 2009). A superficial analysis of policy documents therefore does not reveal the ground realities prevailing in this sector. Perception based measures such as EOPD can expose hidden sources of discrimination where respondents express dissatisfaction with policies which claim to be gender sensitized.

Score on EOPD is calculated by summing the first four items of the PWEI as follows:

$$EOPDi = It1i + It2i + It3i + It4i \quad (1)$$

Terms in equation (1) stand for score of i^{th} respondent on EOPD, Item 1, Item 2, Item 3 and Item 4 of PWEI respectively.

2. Female Staff Protection and Facilitation (FSPF)

This subscale of PWEI assesses the extent to which female employees feel physically comfortable and safe in their professional roles. Further, this dimension investigates whether or not the working conditions accommodate women's practical gender needs. Moser (1993) defines practical gender needs as follows:

“Practical gender needs are the needs women identify in their socially accepted roles in society. Practical gender needs do not challenge the gender divisions of labor or women's subordinate position in society, although arising out of them. Practical gender needs are a response to immediate perceived necessity, identified within a specific context.”

The practical gender needs investigated by FSPF are: adequacy of transport, toilet and baby care facilities; facilitation in balancing work with family responsibilities; remedial measures for resolving specific female problems and protection from sexual harassment at the workplace. FSPF dimension of PWEI has the advantage of measuring women's internalized notions of how their practical gender needs should be accommodated. This is an important quality of the scale as women workers' practical gender needs cannot be standardized. For example, some women who were interviewed for this study expressed dissatisfaction with the toilet facilities for ladies on grounds that these were not perfectly hygienic, while others said that having to share toilet with males was a minor issue for them. Similarly, many unmarried women had no interest in whether there was a baby care facility at their workplace. Even the perception of what constitutes as harassment is different for different women. This shows that it is women's cognition of whether or not the ambience in their respective organization is sensitive to their feminine needs which can have more of an impact on their productivity rather than arrangements and measures deeming to facilitate them without eliciting their involvement.

Score on FSPF is calculated as follows:

$$FSPFi = It5i + It6i + It7i + It8i \quad (2)$$

Terms in equation (2) represent score of i^{th} respondent on FSPF and Item 5, Item 6, Item 7 and Item 8 of the PWEI respectively.

3. Congeniality of Inter-Personal Relationship (CIPR)

This dimension explores the level of organizational trust among female workers. The more trust a worker reposes in the interpersonal relationships at

her workplace, the more fruitful her work experience. Ferres and Travaglione (2003) define the concept of organizational trust as follows:

“An individual’s willingness to act on the basis of his or her perception of a trust referent (peer, supervisor, organization) as being supportive, ethical, competent and cognizant of other’s performance.”

CIPR can also shed light on conditions which can enable women to form networks of association serving as collective mediums for sustained progress on gender issues.

While operationalizing the concept of enabling working relationship, CIPR dimension looks at the interactions between female workers and their female colleagues and female supervisors and whether there are female role models to inspire and guide them. The idea is to capture the extent of professional co-operation or professional jealousy existing among female employees of an organization. During the study several respondents pointed out that a number of female employees who were succeeding in a male-dominated system, where doing so by making extreme personal sacrifices. They were of the view that such women had an interest in the continuation of the status quo and were willfully debilitating the advancement of fellow females. On the contrary, there were several respondents who remarked that having other females working in the same organization made them feel comfortable and well-adjusted.

This subscale further studies the interaction between female workers and their male counterparts and bosses. It seeks to find evidence on whether the male employees, in order to retain their privileged position, exploit and harass female workers, or is the male attitude respectful and co-operative. This dimension also incorporates women’s sense of inclusion in formal activities of the organization and acceptance as productive team members. The intent is to measure the strength of affiliation the worker feels for her organization and its members which would improve her work performance.

Score on CIPR is calculated as follows:

$$CIPR_i = It9_i + It10_i + It11_i + It12_i + It13_i + It14_i + It15_i \quad (3)$$

As before, terms represent score of the i^{th} individual on CIPR and item 9 to item 15 of the PWEI.

Score of the i^{th} individual on PWEI is an aggregation of her scores on the subscales of EOPD, FSFP and CIPR and is calculated as follows:

$$PWEI_i = EOPD_i + FSFP_i + CIPR_i \quad (4)$$

Range of these indices is given in Table 1. Higher individual scores on each index represent relatively supportive work environment for female employees.

PRE-TESTING AND REFINEMENT

To ensure validity of the PWEI in public sector organizations of Pakistan, 30 raw version of the index were pre-tested, 10 each in a university, an administrative unit and a hospital. Comments, suggestions and observations were used to make the following changes in the final instrument:

- Two redundant items were deleted. The first was related to availability of perks and it was dropped as perks are included in rewards (item 4). The other was related to policy measures against sexual harassment. These are part of effective remedial measures to address problems of female staff (item 7).
- Two items were added regarding female workers' interactions with their female colleagues and female bosses (Item 10 and Item 13).
- Sequencing of questions was revised. The most sensitive question on sexual harassment was placed in the middle of the scale (item 8).
- Three items showing item total correlations lower than 0.3 were reworded (item 3, item 8, item 14)

These adjustments have made the final refined version of PWEI clear and concise. But at the same time its wording has been configured to control for social desirability and central tendency bias among respondents. The refined version of the PWEI also incorporates six reverse items to avoid acquiescence bias.⁷

ESTABLISHING SCALE RELIABILITY

Table 1 shows number of items, range, midpoint and Cronbach Alpha reliabilities of PWEI and its subscales. The mid-point of each index is the point of neutrality. Scores above this level represent positive perceptions, while scores below this level signify dissatisfaction with prevailing conditions. EOPD and FSPF jointly represent structural aspects of the work environment and CIPR represents the relationship aspect. The structural

⁷Social desirability bias arises when respondents distort answers to conform to established social norms. Central tendency bias refers to the tendency of respondents to stay neutral. Acquiescence bias is based on respondent's tendency to agree with each statement without reflection (Bowling, 2005).

aspect has been given a slightly higher weightage (8) as compared to the relationship aspect (7), in computation of aggregate index. This is done to account for the fact that in public sector organization rules, regulations and procedures have a greater impact on attitudes of employees than their interpersonal relationships at the workplace.

TABLE 1
Number of Items, Range, Midpoint and Cronbach Alpha Reliabilities
of PWEI and its Subscales

INDICES	Number of items	Maximum and Minimum Values of Index	Mid-point	Alpha* Reliability
EOPD	4	4 to 20	12	0.763
FSPF	4	4 to 20	12	0.712
CIPR	7	7 to 35	21	0.701
PWEI	15	15 to 75	45	0.813

*Cronbach's alpha reliability coefficient normally ranges between 0 and 1. The closer Cronbach's alpha coefficient is to 1.0 the greater the internal consistency of the items in the scale. It is based upon the formula:

$$\alpha = r k / [1 + (k - 1) r]$$

Where α is the size of alpha coefficient, k is the number of items considered and r is the mean of the inter-item correlations. The following rules of thumb are usually used by social scientists for assessment of alpha reliability coefficients:

$\alpha > 0.9$ is Excellent, $\alpha > 0.8$ is Good, $\alpha > 0.7$ is Acceptable, $\alpha > 0.6$ is Questionable, $\alpha > 0.5$ is Poor, and $\alpha < 0.5$ is Unacceptable (Gliem and Gliem, 2003).

Alpha reliabilities are all within the acceptable range for social science research. This shows that the indices have inter-item consistency. The alpha reliabilities are not too high, which proves that the scale does not suffer from the "Attenuation Paradox" which arises when there are redundant items in the scale. If there are many highly correlated items in a scale it will increase internal consistency and inflate alpha reliability estimates but instead of adding incremental value these items reduce validity. A scale needs to contain differentiated items to be a valid measure of a construct (Clark and Watson, 1995).

Table 2 shows Pearson's Correlation* Matrix between different dimensions of PWEI. The correlation coefficients between EOPD and FSPF

and CIPR taken as separate variables, are 0.396 and 0.491 respectively. Compared to these figures, the correlation coefficient between EOPD and scores on FSPF and CIPR added together increases to 0.554. Similarly for the other two dimensions, correlation coefficient between each dimension and the sum of scores of the other two dimensions surpasses the correlation coefficients between that dimension and the other two dimensions considered separately.

TABLE 2

Pearson's Correlation* Matrix between Different Dimensions of PWEI

	EOPD	FSPF	CIPR
EOPD	1.00		
FSPF	0.396	1.00	
CIPR	0.491	0.445	1.00
EOPD+ FSPF			0.579
EOPD+ CIPR		0.523	
FSPF+ CIPR	0.554		

*Pearson's correlation expresses the extent to which two independent variables X and Y , covary as a ratio of the product of the standard deviations of the X and Y variables.

Correlation coefficient r ranges from -1.0 to $+1.0$. The signs indicate whether the relationship is direct (+) or inverse (-). The absolute value of the coefficient indicates its strength.

This proves that the three dimension used to construct the PWEI are distinct from each other. Yet when aggregated these dimensions do not disturb the uni-dimensionality of the scale.

Table 3 further substantiates that items on the PWEI discriminate well between respondents who hold a positive view of their work environment and those who view their environment as hostile.

When looking at an item-total correlation for a scale, negative values are considered highly irregular as it is unexpected that respondents who get low scores on most items would get high scores on the overall scale. Values for an item-total correlation between 0 and 0.19 may indicate that the item is not discriminating well; values between 0.2 and 0.39 indicate good discrimi-

nation, while values between 0.4 and 0.69 indicate very good discrimination. Coefficient values higher than 0.7 may indicate attenuation paradox.

TABLE 3

	Items	Alpha if item deleted	Adjusted Item – Total Correlation**
Item 1	Selection procedures are free from bias against women	0.724	0.572
Item 2	Female employees are given training opportunities*	0.730	0.610
Item 3	No gender discrimination in promotion	0.763	0.676
Item 4	Males and female employees are appreciated and rewarded equally for their efforts*	0.767	0.642
Item 5	Provisions to facilitate female staff(transport, toilet and baby care) are adequate	0.802	0.471
Item 6	Nature and burden of job is such that work and domestic responsibilities do not effect each other	0.799	0.454
Item 7	Effective remedial measures are put in place to solve problems of female staff	0.774	0.698
Item 8	Never experienced sexual harassment at the workplace	0.785	0.522
Item 9	Male colleagues cooperate when help is needed with work	0.725	0.524
Item 10	Female colleagues encourage each others' achievements*	0.799	0.332
Item 11	Recognition of worker's abilities is gender neutral	0.718	0.600
Item 12	Male bosses treat female subordinates fairly*	0.714	0.517
Item 13	Female bosses are sympathetic towards female subordinates*	0.810	0.348
Item 14	Female employees participate in informal group activities at the workplace*	0.791	0.496
Item 15	There are female role models in the organization	0.801	0.351

*Indicator was negatively worded in the PWEI. Before summation of items to obtain score on PWEI, this item was reverse coded. Wording has been changed in this table to bring it in line with rest of the items shown here.

**Item total correlation is the relationship between a particular item and the total score on the scale. It is a Pearson correlation coefficient and is expressed as a number between –1.00 through 0 to +1.00. Corrected item-total correlation for each item is calculated using sum of item scores without including the item in question.

It can be seen from Table 3 that all items on the PWEI have item-total correlations indicating good to very good discrimination. Table 3 also shows that if any of the items is dropped, alpha reliability does not increase beyond the 0.813 mark, which is the overall reliability of PWEI. This means that all the items in the final scale are relevant and should be retained.

IV. SAMPLING TECHNIQUE AND DATA COLLECTION METHOD

THE SURVEY SAMPLE

There is no standard definition which enables identification of public sector organizations. Different countries have different criteria for defining what this term actually implies. In Pakistan, government reports use this term vaguely (NCSW, 2000). Even within scholarly literature there are glaring discrepancies, *e.g.* Hyder and Rielly (2005) consider public sector as comprising of federal government ministries, provincial government and local bodies also referring to it as the government sector. Ahmed and Hyder (2009) on the other hand include the government sector as well as public enterprises in their definition of public sector.

The current study uses the broadest construct of public sector based on the following definition of public sector employees:

“... persons employed by public authorities, whether central of federal, regional, provincial or local, or by autonomous public institutions of a non-industrial and non-commercial nature. The term covers both ... persons of recognized official status ... (Established staff) and persons employed on contractual basis ... (Non-established staff)” (ILO, 1994).

Recognizing the heterogeneity within the public sector this study compares the working conditions in three broad categories of public sector organizations. The administrative units, comprising of federal government ministries, regulatory bodies and commissions; government hospitals, as proxy for health sector and public sector universities as proxy for education sector.

The survey was geographically restricted to the city of Islamabad. Being federal capital of Pakistan, this city is headquarter of most government ministries and administrative agencies. Public servants from all over Pakistan's four provinces have settled here and have given the city a culture which is representative of the norms and traditions of the entire nation.

Therefore, findings of the study may also be considered relevant for public sector organizations located elsewhere in the country.

Thirteenth Census of Federal Government Civil Servants (PPARC, 2003) and Bulletin of employees of Autonomous/Semi-autonomous bodies/Corporations under the Federal Government (PPARC, 2006) were used to procure a comprehensive list of public sector administrative units based in Islamabad having a minimum of 20 female employees. 22 government divisions out of a total of 50 divisions mentioned in the Census of Civil servants and 20 allied organizations out of 198 organizations cited in the Bulletin of autonomous and semi-autonomous bodies fulfilled these criteria.

A complete list of public and private sector universities in Pakistan was retrieved from Higher Education Commission official website (HEC, 2009). It shows that in all there are 14 public sector universities in the federal area.

Pakistan Institute of Medical Sciences official website (PIMS,2009) was used to obtain a list of all public and private hospitals in the country. This source shows that there are a total of eight public hospitals in Islamabad.

Stratified random sampling technique was applied to select organizations from these lists. Details are given in Table 4.

TABLE 4
Organizations and Respondents in Different Strata

Strata	Organizations	Respondents
Administrative units, including government ministries, regulatory bodies and commissions	10	100
Government Hospitals	6	100
Public sector universities	8	100
Total	24	300

The final sample consisted of female staff working in BPS grades 9 to 21 or equivalent. 29% of respondents were on contract. The rest (71%) were working on permanent posts. Average age of respondents was 39 years. 71% of respondents had 16 or more years of education while 21% had received 14

years of schooling. 63% were married, 34% had never been married and 4% were either widowed, divorced or separated.

DATA COLLECTION METHOD

At the pre-testing stage survey instrument was delivered to consenting respondents in three selected organization. The following observations were made.

- Respondents at lowest rung of the organizational hierarchy having few years of schooling were unable to understand many of the items on the scale despite having being administered an Urdu version of the instrument.
- Response rate was low when respondents were asked to fill in the survey instrument themselves. Women in hospital setting and on senior levels in the administrative unit, being too busy with their official duties, were especially reluctant to accept forms.
- Educated females asked for English versions of the instrument. However, statements were not completely comprehended before being rated. Responses were made in haste and when contradictory item ratings were counterchecked, respondents changed their initial responses.

Keeping in mind these practical issues, it was decided to target only those females having 14 years of education or more. Formal permission was obtained from the administrative section of each organization selected for the survey. This helped in identification of suitable respondents and added credibility to the academic intent of the survey. Instruments were administered personally by the author through face-to-face interviews with respondents.

V. RESULTS AND ANALYSIS

ANALYSIS OF DESCRIPTIVE STATISTICS

Table 4 shows mean, standard deviation and median of all indices. For scores on individual items, only median is shown as this is the appropriate measure of central tendency for single Likert Items (Carifio and Perla, 2007).

These descriptive statistics prove the following points:

Women working in public sector organizations of Pakistan, in general, do not consider their work environment to be extremely hostile. The average score on PWEI is 51.90 which is above the scale mid point (45).

TABLE 4
Mean, Standard Deviation and Median of All Indices

	Items and Indices	Mean	Standard Deviation	Median
Item 1	Selection procedures are free from bias against women			5
Item 2	Female employees are given training opportunities			4
Item 3	No gender discrimination in promotion			4
Item 4	Male and female employees are appreciated and rewarded equally for their efforts			3
	EOPD	15.79	3.333	16
Item 5	Provisions to facilitate female staff(transport, toilet and baby care) are adequate			2
Item 6	Nature and burden of job is such that work and domestic responsibilities do not effect each other			4
Item 7	Effective remedial measures are put in place to solve problems of female staff			3
Item 8	Never experienced sexual harassment at the workplace			4
	FSPF	12.73	3.267	13
Item 9	Male colleagues cooperate when help is needed with work			4
Item 10	Female colleagues encourage each others' achievements			2
Item 11	Recognition of worker's abilities is gender neutral			3
Item 12	Male bosses treat female subordinates fairly			4
Item 13	Female bosses are sympathetic towards female subordinates			3
Item 14	Female employees participate in informal group activities at the workplace			4
Item 15	There are female role models in the organization			4
	CIPR	23.38	3.751	23
	PWEI	51.90	6.765	51.50

On the whole, female employees feel that there is equality of opportunity for professional development between men and women. This is reflected by average score of 15.75 on EOPD which is much above the midpoint of this dimension (12). However, they tend to be less satisfied with criteria for receiving rewards than they are with the selection, training and promotion procedures (median for item 4 is less than median of other items in this dimension).

Women are much less satisfied with measures to accommodate their practical needs and concerns. Average score on FSPF of 12.73 is only slightly above the point of neutrality of this scale (12). Special facilities to accommodate personal and family needs of female employees are dissatisfactory (median for item 5 is 2 which is lowest among all items for this dimensions).

There is evidence of friendly inter-relationship between female employees and other members of the organization as average score on CIPR (23.38) is above its mid point (21). Though surprisingly women are more comfortable in their professional relationships with male colleagues and bosses (median for items 9 and 12 is 4) than they are in their relationships with other females in the organization (median for items 10 and 13 are 2 and 3 respectively). A phenomenon called "Horizontal Hostility" may be present here. According to Stone (2007), Horizontal Hostility is a socio-psychological theory which posits that members of the same oppressed group (*e.g.* women) place obstacles and limitations on each others' progress instead of collaborating with each other to fight differential forces that are oppressing them (*e.g.* patriarchal structures). The finding is in sharp contrast to the "Social Homophily" thesis which predicts that as individuals prefer to associate with members of their own demographic group (*e.g.* same gender) therefore having more women on the workforce improves work-related attitude of female employees thereby giving reason for employers to further enhance women's representation and reducing workplace hostilities (Appold *et al.*, 1998)

INFERENCE ANALYSIS

Extreme care must be exercised when using Likert scales and Likert items for inferential analysis based on mean estimation. The main issue is whether data generated by using Likert scales can be considered as interval data or not. A single Likert item consists of a set of ordered categories so the data it generates is ordinal. In strict propriety, the statistical procedures involving means and standard deviations ought not to be used for analysis of such data.

Median is considered an appropriate measure of central tendency for strictly ordinal data.

On the contrary, when a number of Likert items are summated, the resulting index generates data which has properties similar to interval data.⁸ It can be seen from Table 4 that mean and median estimates for all indices are quite similar.

Carifio and Perla (2007) argue that F-tests in Analysis of Variance (ANOVA) give accurate result on Likert scale data provided the following are true:

- There are four to eight items in the scale.
- The scale uses 5 to 7 point likert response format.
- There is homogeneity of variances.

PWEI and its subscales, fulfill the first two conditions for meaningful application of parametric procedures. The third condition is examined separately for each category of ANOVA analysis in this section before trying to establish trends in the population.

DIFFERENCES IN PERCEPTION OF WORK ENVIRONMENT ACROSS STRATA

As can be seen from Table 5, there are significant differences across strata on PWEI and the sub-indices (F-ratios are significant at $p < 0.01$). Comparison of means is meaningful as there is homogeneity of variances which can be seen from insignificant Levene statistics. Results show that female employees in hospitals are least satisfied with the work conditions while those working in universities consider their conditions quite amenable. Most importantly, female hospital staff feels that their practical needs are ignored. (Average score on FSPF for the group is 11.23. This is lower than the scale mid point which is 12). Women in administrative units may not feel as comfortable at their workplace as university employees but still fare better than hospital staff. Results are in line with previous research, *e.g.* Nasir (2005) finds that there is higher probability of finding married women in education sector of Pakistan. Or, in other words, there is higher job continuity among women in teaching profession as it offers flexibility of

⁸Ordinal data shows ranking but magnitude of differences between ranks is not known. Interval data on the other hand is ordered and difference between any two points remains constant. However, even Interval data has no natural zero or origin point. Only Ratio data has this property (Sekaran, 2000).

place and hours. According to this research, medical profession due to its care-giving nature, does not conflict with socially prescribed role for women. However, there is no convenience factor associated with this profession. Women holding administrative posts, according to Nasir (2005), are more educated but earn less than male counterparts which explains why they are not completely satisfied with their work situation.

TABLE 5
Differences Across Strata on PWEI and Sub-Indices

Indices	Univer- sities (N = 100)	Administ- rative Units (N = 100)	Hospitals (N = 100)	ANOVA*		Homogeneity of Variance**	
	Mean Scores	Mean Scores	Mean Scores	F	Sig.	Levene Statistic	Sig
EOPD	16.70	15.47	15.20	5.94	0.003	0.464	0.629
FSPF	13.62	13.34	11.23	17.79	0.000	0.758	0.470
CIPR	24.32	23.20	22.63	5.40	0.005	1.530	0.218
PWEI	54.64	52.01	49.06	14.05	0.000	0.126	0.881

*ANOVA splits the variance of the variable into two components. One component is the variability among group means. It is computed by summing squares of the differences between every group mean and the overall mean of the distribution. This value is divided by the degrees of freedom $k - 1$ where k is number of groups to obtain Mean Sum of Squares between groups (MSB). The other component is the variability within the groups (also called residual variation). It is quantified as the sum of squares of the differences between each observation and its respective group mean. This value is divided by degrees of freedom $n - k$ where n is total number of observations and k is number of groups, to find Mean Sum of Squares within groups (MSW). The ratio of the MSB and MSW is called the F ratio. The calculated F ratio value is compared to the standardized table value of F from the F-distribution. If the calculated F-ratio value is greater than the table value at an acceptable level of significance, we will reject the null hypothesis of equality of means and conclude that the means of the groups are significantly different. In other words, large F ratios signify that the variation among group means is more than it would be if this variation were simply an outcome of chance.

**An important assumption in ANOVA is the equality of variance between the groups. Levene's test can be applied to test the homogeneity of variances. One way to compute Levene test statistic is to calculate the absolute difference between each observation and the group mean and then perform an ANOVA on those differences. If Levene statistic turns out to be insignificant, it shows homogeneity of variance.

DIFFERENCES IN PERCEPTIONS OF CONTRACTUAL AND PERMANENT WORKERS

Table 6 shows that significant differences exist in perceptions of employees working on contract and those working permanently (F-ratios are significant at $p < 0.05$). Again comparison can be made confidently as there is no heterogeneity of variances. Contractual employees express more satisfaction with their work conditions than those working on permanent posts.

TABLE 6

Perceptions of Employees Working on Contract and Permanently

Indices	On Contract (N = 88)	On Permanent posts (N = 212)	ANOVA		Homogeneity of Variance	
	Mean Scores	Mean Scores	F	Sig.	Levene Statistic	Sig.
EOPD	16.50	15.50	5.740	0.017	2.542	0.112
FSPF	14.30	12.08	31.511	0.000	0.213	0.645
CIPR	24.15	23.07	5.243	0.023	0.144	0.704
PWEI	54.94	50.64	20.312	0.000	0.432	0.837

There can be two opposing explanations for this finding. First, that contractual workers having less security of job than permanent workers, feel hesitant in expressing any negative views against the management for fear of having to suffer negative consequences. Second, in semi-government institutions where most employees work on contract, the work environment although more competitive, is open and fair for all employees including women. In both possibilities, the common message is that spirit of competition among employees when introduced judiciously in public sector organizations, can be a positive tool for effective management. This result is in keeping with observations of Joshi (2000) and Amjad (2005). Joshi (2000) notes that there have been many negative social consequences of privatization in South Asia, such as worker retrenchment, stagnation of formal employment and 'casualization' of labour. He suggests that a socially optimal and cost effective alternative to privatization is restructuring of public enterprises, by contracting services of professional managers or offering performance contracts to existing public sector managers for making the enterprises profitable without divesting the equity. Joshi (2000) feels that such arrangements would work very well if not derailed by political

interference. According to Amjad (2005), Pakistan can break out of the low-level skills trap by developing institutions which invest in people and provide fair compensation to men and women in exchange for their labor. He suggests that the regulatory framework should combine a degree of flexibility for employers to manage workers effectively, along with a measure of job stability in terms of respecting fundamental rights of workers. Contractual jobs in public sector organizations would be very suitable in such a framework.

NO DIFFERENCE IN PERCEPTIONS OF WOMEN WORKING ON OPERATIONAL LEVEL AND STRATEGIC LEVEL POSTS

In Table 7 it can be seen that there are no significant differences between perceptions of women working on lower operational level posts and those working on higher strategic levels (F-ratios are all insignificant, although there is no heterogeneity bias).

TABLE 7
Perceptions of Women Working on Lower Operational Level Posts and Higher Strategic Levels

Indices	Operational level post (N = 125)	Strategic level posts (N = 175)	ANOVA		Homogeneity of Variance	
	Mean Scores	Mean Scores	F	Sig.	Levene Statistic	Sig.
EOPD	15.47	16.02	1.957	0.163	0.260	0.610
FSPF	12.88	12.62	0.451	0.502	0.009	0.925
CIPR	23.62	23.22	0.824	0.365	0.289	0.591
PWEI	51.97	51.86	0.015	0.903	0.051	0.821

Grades 9 to 16 or equivalent have been classified as operational level while BPS grades 17 to 21 or equivalent have been categorized as strategic levels. The former category of women are less educated, less economically well-off and have less access to organizational resources than the latter category. The results challenge earlier studies which imply that highly qualified women working at higher rungs of the organizational hierarchy face less gender discrimination than those women who are less educated and therefore unable to acquire lucrative posts (Nasir, 2005; Ahmed and Hyder, 2009). It seems that just as Kabeer (2003) has pointed out, gender inequality

is pervasive among all classes, so there is no reason to expect that more educated women have more supportive work environments.

DIFFERENCE IN PERCEPTIONS OF MARRIED AND UNMARRIED WOMEN

Table 8 shows that perceptions of work environment differ among women who have never married and those who are currently married or have been married before (F-ratio for PWEI is significant at $p < 0.1$). Women in the latter group are the ones having children and more household responsibilities than women in the former category. The difference in perceptions is most significant in the extent to which these women feel their practical domestic issues are accommodated with married women being much less satisfied than single ladies (F-ratio for FSPF is significant at $p < 0.01$). As before, with Levene statistics being insignificant, we can be sure of relevance of the comparison.

TABLE 8
Perceptions of Work Environment Among Women

Indices	Never Married (N = 101)	Married / Widowed / Divorced (N = 199)	ANOVA		Homogeneity of Variance	
	Mean Scores	Mean Scores	F	Sig.	Levene Statistic	Sig.
EOPD	16.17	15.60	1.968	0.162	0.099	0.753
FSPF	13.43	12.38	7.045	0.008	1.783	0.183
CIPR	23.41	23.37	0.006	0.941	2.112	0.147
PWEI	53.00	51.35	3.058	0.081	0.384	0.536

Existing literature suggests that motherhood is associated with lower earnings. Several reasons are given for this “Motherhood Penalty”. Among these are: loss in job experience, lower productivity, trade-off between higher paying and family-friendly jobs as well as employer discrimination against mothers (Budig and England, 2001).

The findings in Table 8 suggest that married women, who may be having children, do face difficulty in coping with their jobs and household responsibilities which can impose negative career outcomes including “Motherhood Penalty” on them.

VI. CONCLUSION

The paper has examined labor demand-side factors of women's employment in public sector organizations of Pakistan. It was found that while there are equal opportunities for women who seek career advancement, it may be quite difficult for these women to utilize many of these opportunities without disturbing the delicate balance between their work and family life. In general, organizations seem keen enough to promote welfare of female staff as long as women do not make demands which require major changes in the *status quo*.

Similar to the findings of Bloom *et al.* (2006), this study reveals that organizations which expect female employees to be as productive as their male counterparts are the same organizations where females are most facilitated in dealing with their personal and family responsibilities. Interestingly, these are the semi-government institutions and various sections of government departments that operate at optimal efficiency, in a manner similar to the formal private sector. Only instead of profit generation the motive here is public welfare. On the contrary, in public institutions still having a traditional bureaucratic set-up, women face hardships as no arrangements are made for their facilitation. Women in these organizations are seen as liabilities and not productive members of these organizations.

Another important finding is that preference for "Social Homophily", and positive outcomes for women employment which it predicts, cannot be assumed. In other words, simply adding more women to the work force will not automatically improve the work environment for female workers. Women, much like men, will not always look out for each others' best interest as there may be professional jealousy among them. However, as this research only hints at the existence of "Horizontal Hostility" among women without being able to confirm this finding, there is no proof that women hold animosity against each other. As a matter of fact many of the women interviewed for the survey agreed that there were female role models in their organizations who gave them guidance and inspiration.

The most encouraging finding is that a vast majority of women find the attitude of males in their organizations to be quite co-operative and congenial. If female employees face harassment, it is mostly from outsiders, *e.g.* many nurses complained that patients and their male attendants misbehaved with them. They added, though, that such cases could be dealt with easily if the female workers remained firm and confident. The message here is that women can help to mould the work environment according to

their needs if they remain resilient and determined and that male employees would not be playing a negative role in their progress.

Based on these findings, the following steps are being suggested to improve effectiveness of interventions to mainstreaming women's concerns into the set-up of public sector organization in Pakistan.

- It should be recognized that public sector comprises of different types of organizations. General guidelines for maintaining gender equity should be adapted according to specific needs of each organization. However, provision of services such as separate toilets for male and female staff, transport and daycare facilities should be made mandatory.
- Not only should there be wider dissemination of information regarding opportunities for career development of female employees, but the organizations should also actively encourage females to take up these opportunities by facilitating them. For example, providing transport for employees to attend training courses; making sure the day-care centre remains open in the evening, so females can take up assignments at that time etc.
- Gender sensitization training which aims to make workers more understanding and responsive of women's need, must also be used to make female workers realize the need for co-operation among themselves.
- Women with tertiary education should be encouraged to join the public sector. Although the number of female students graduating from Pakistani universities keeps increasing⁹ each year but due to adverse social conditions they are hesitant in working outside of the home. Public sector employment would be an attractive option for them due to the prestige associated with public service. By tapping into the abilities of young, educated and dynamic women the public sector organization can be transformed into entities which are better equipped to deal with development challenges facing the country.

⁹See Higher Education Commission – Educational Statistics on HEC web-site.

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