Pak J Commer Soc Sci
Pakistan Journal of Commerce and Social Sciences
2015, Vol. 9 (3), 683-699

Injustice, Counterproductive Work Behavior and mediating role of Work Stress

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Abstract

In this study impact of injustice on work stress and counterproductive work behavior (CWB's) was examined. The mediating role of work stress in the relationship of injustice and both active and passive CWB's has been explored. Injustice contains three dimensional construct (distributive, procedural and interactional) while CWB's were analyzed through production deviance as active CWB and withdrawal as passive CWB. Data were collected from 249 middle level managers from five different banks through a structured questionnaire. The purposed model was analyzed using Structural Equation Modeling (SEM) technique. Results revealed that all three dimensions of injustice have direct impact on work stress and indirect impact on production deviance and withdrawal behavior. Injustice creates stress and can have negative impact on behaviors of employees. Hence, employers should focus on providing justice not only for stress less work environment but also for positive behavior of employees.

Key Words: injustice, counterproductive work behavior, work stress, structural equation modeling, production deviance, withdrawal

1. Introduction

There has been a growing amount of research on organizational justice in the past two decades (Moorman, 1991). It can be described as fairness in the workplace. Literature on organizational justice has progressed steadily since Adams (1963) introduced the concept of inequity in distributive situations. The focus of research at that point in time was on the fairness of pay or its outcomes specifically related to inequity in work settings, i.e distributive justice (Deutsch, 1975). Since then, research efforts have recognized the need and importance to consider other aspects of workplace justice which can be linked with the fairness at workplace, such as the fairness of the formal policies or procedures used for decision making etc. This focus on the fairness of the methods used in decision making, fairness of processes and procedures or more specifically the procedural justice (Lind & Tyler, 1988) together with the focus on the fairness of distributive outcomes and the means used to obtain them has had a considerable impact on the field of organizational justice. These research streams, however, had not considered the social-

interactional context in which formal procedures and decisions are implemented. Since leaders are "responsible" for enacting fair procedures, their behavior represents an important source of justice too. Considering that point, researchers have begun to examine aspects of justice concerned with the interpersonal treatment of workers. This form of justice has been termed as "interactional justice" (Folger & Greenberg, 1985). Interactional justice is an important consideration in the workplace because of the effects associated with seemingly fair or unfair treatment.

According to Bies & Shapiro (1987), issues of justice and fairness are key concerns to employees within an organization. Employees judge the fairness of the decision-making process, see if the processes are consistently fair and do not discriminate against any employee. The equity theory as well as the empirical investigation by Adams (1963) identifies that inequity or injustice produce responses in both cognitive and behavioral ways. More recent work on injustice has linked perceptions of injustice to negative emotions (e.g., Khan et al., 2012). Similarly, Mingzheng et al., (2014) have investigated the moderating role of moral identity on organizational injustice and couther productive work behaviors and have identified that when moral identity is low, negative correlation between justice and CWB is pronounced.

Although the research on employee injustice perceptions is fairly well established (e.g., Ambrose et al., 2002, Skarlicki & Folger, 1997) but still there is need for more research for the better understanding of this variable (El Akremi et al., 2010, Khan et al., 2013). Zohar (1995) studied the role of organizational justice in the job stress process and treated it as role stressor, but this study did not link stress to counterproductive behavior. Flaherty and Moss (2007) have investigated the moderating impact of personality type and team commitment on the relationship of justice and CWB. Similarly, Fox et al. (2001) have studied the impact of injustice on counterproductive behavior while taking injustice as job stressor. In this study the focused is on the impact of injustice on stress and the impact of stress on the development of counterproductive behavior in employees.

2. Literature Review

The meta-analysis by Cohen-Charash & Spector, (2001) and Colquit et al. (2001) identifies the importance of justice with regard to workplace practices by suggesting the organizational justice as antecedent of organizational commitment, satisfaction, and organizational citizenship behavior in employees. At the same time injustice produces counterproductive behavior and negative outcomes (Cohen-Charash & Spector, 2001; Colquitt et al., 2001; Janssen, 2004). Although we have rich literature on organizational justice, very few studies (i.e. Judge & Colquitt, 2004) have focused on assessing the relationship between organizational injustice and perceived stress thus identifying gap in the literature. Organizational injustice is related to what people perceive about the of fairness violations in the work settings. Organizational injustice is a three dimensional construct having distributive, procedural and interactional injustice as its dimensions.

Distributive justice refers to justice in the dissemination of resources and the criteria by which they are distributed to the employees (Cropanzano and Greenberg, 1997). It includes essential elements of equity, equality and need. Much of the early research on distributive justice has been derived from equity theory by Adams (1965). As distributive justice is outcome focused, injustice in this aspect develops cognitive, affective and behavioral outcomes (Cohen-Charash & Spector, 2001). The cognitive outcomes include

distortion of inputs and outputs (Adams, 1965), affective outcomes include affect on person's emotions e.g. anger, unhappiness (Weiss et al., 1999) and behavioral outcomes include performance deviance and withdrawal behavior (Cohen-Charash & Spector, 2001).

Many studies have focused on distributive injustice and perceived stress. Greenberg (2006) found that nurses felt insomnia in reaction to the perceived stress that they were feeling due to the change in outcome. Similarly some other studies have identified a negative association of distributive justice and long-term psychological stress (Janssen, 2004; Tepper, 2001). These studies measured distributive injustice while focusing on organizational rewards and documented support for a negative justice-stress relationship. Tepper (2000) and Tepper (2001) found that distributive justice is associated to psychological stress in individuals. Based on above finding following hypothesis is purposed

- **H_1**: Perceptions of distributive injustice will significantly predict work stress felt by individuals.

Procedural justice refers to the fairness of the processes and procedures used to determine results (Folger & Greenberg, 1985; Leventhal et al., 1980). Employees trade their knowledge, skills, abilities and motivation for rewards. The rewards can be tangible, such as income; and intangible, such as being treated with respect, dignity, and fairness. This reciprocal exchange is grounded in social exchange theory and the mutual transaction of benefits to each party shapes the social interactions. It is reasonable to assume that employees are more likely to respond favorably to fair treatment than unfair treatment. Indeed psychological theory states that the importance of fairness is a basic need for the wellbeing of employees (Blau, 1964). Therefore, employees who perceive that they are being treated without discrimination are more likely to have positive feeling about the organization.

The procedural injustice aspects are directed toward the organization and are not task or outcome oriented (Cohen-Charash & Spector, 2001). Procedural injustice produce cognitive, affective, and behavioral reactions however, these affects are more commonly observed in reactions toward the organization as a whole. Elovainio et al. (2002) and Eloviano et al. (2001) have studied the impact of procedural justice on psychological strain and stress and found that procedural injustice significantly predicts depression and nervousness, the significant correlates of stress. Similarly Judge and Colquitt (2004) also found procedural injustice as a significant predictor of stress felt by individuals. Based on above empirical findings following hypothesis is purposed

- **H_2:** Perceptions of procedural injustice will significantly predict work stress felt by individuals.

Interactional justice refers to the perceived fairness of interpersonal treatment by the employee's manager. Interactional justice perceptions are concerned with ensuring whether the employees are treated with dignity, sensitivity, and respect and manager's decisions are accurately communicated and explained to the employees (Colquitt et al., 2001). Employees considering as not being treated fairly may seek alternative employment in pursuit of equity (Folger & Konovsky, 1989) and may show negative behavior. On contrast, the employees who perceive strong levels of fairness will experience higher levels of satisfaction (Colquitt et al., 2001). Interactional injustice is

associated with development of psychological stress in individuals (Elovainio et al., 2002; Eloviano et al., 2001). Similarly Judge and Colquitt (2004) also found interpersonal injustice, sub dimension of interactional injustice as a significant predictor of stress felt by individuals. Based on above empirical findings following hypothesis is purposed

- **H_3:** Perceptions of interactional injustice will significantly predict work stress felt by individuals.

2.1 Work Stress and Counterproductive Work Behavior

Counterproductive work behaviors are the behaviors directed toward an organization to harm it or its employees (Fox et al., 2001). These behaviors can be of aggressive in nature like production deviance and can be passive in nature like withdrawal (Khan et al., 2013). These behaviors have impact on the performance of an organization and have been shown to result into reduced productivity, lower employee commitment and satisfaction, higher absenteeism and turnover rates and ultimately organizational failure (Penny & Spector, 2005; Jones, 2009; Khan et al, 2013). Environmental conditions and personality differences are accounted for change in CWB (Spector and Zhou, 2013). Injustice is the environmental antecedent of work stress and work stress has an impact on CWB.

Based on target, counter work behaviors can be divided in to two broad categories (Robinson & Bennett, 1995). It can be against an organization and range from minor (taking longer breaks than allowed) to sever (production deviance) and it can be against people either physical (hitting others) or nonphysical (abuse against others) (Zhou et al., 2014). Withdrawal is passive and non-retaliatory type of Counterproductive work behavior (Khan et al., 2013). In this form an individual try to escape from any unpleasant situation and are not directly involved in causing any harm to the organization or its employees (Spector et al., 2006; Tangney & Salovey 1999; Khan et al., 2013). However this withdrawal can have impact on the performance of the organization which is not the primary motive of this behavior (Khan et al., 2013). On the other hand production deviance is purposely failing to perform the given task in effective and efficient way. It may include intentionally performing tasks slow, purposely performing tasks incorrectly and deliberately not following the given instructions. It is more of the aggressive response from the individual to disrupt the efficient functioning of an organization (Spector et al., 2006; Khan et al., 2013).

The integrated model of job stress and counterproductive work behavior developed by Spector (1998) and Spector and Fox (2002) identifies that counterproductive work behaviors are outcome of job stress at work. Job stress can induce negative emotional reactions including anger and anxiety (Spector, 1998) and production deviance and withdrawal. CWB is the expression of psychological and behavioral stress and strain (Fox et al., 2001). Based on above discussion following hypotheses are purposed

- **H_4:** Work stress felt by individuals significantly predicts withdrawal behavior
- **H_5:** Work stress felt by individuals significantly predicts production deviance in individuals

3. Model

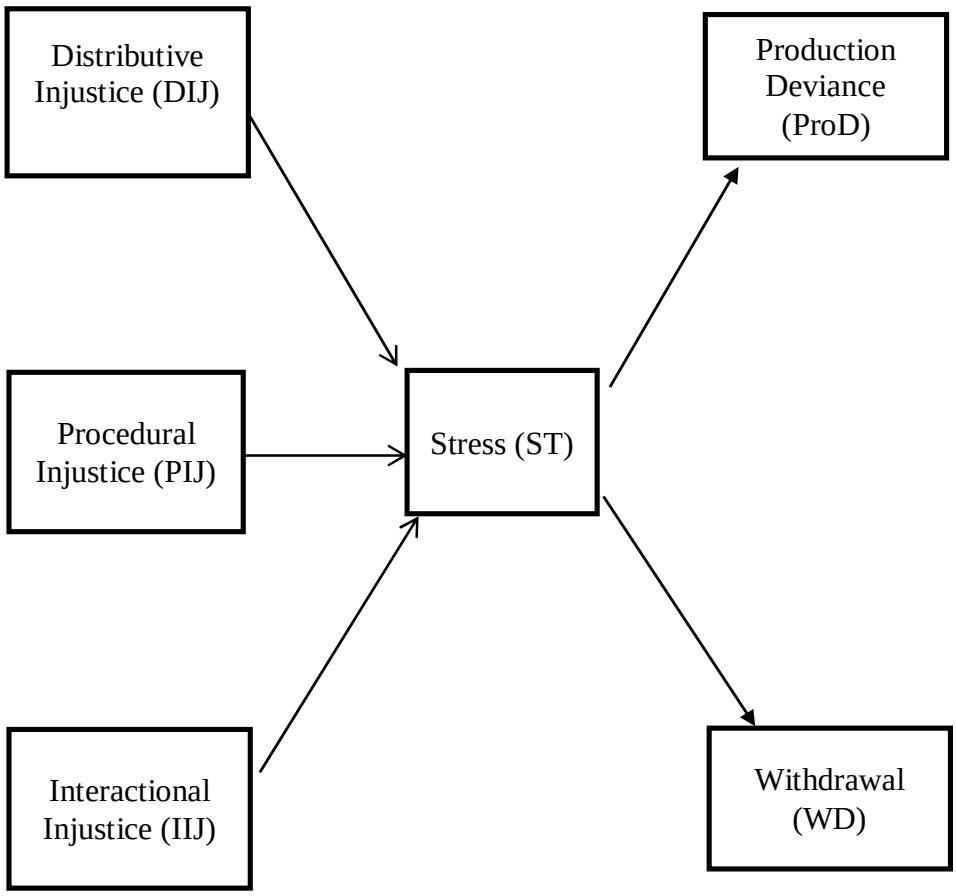

Figure 1: Purposed Fully Mediated Model

4. Methods

4.1 Participants

Participants for the current study were 500 managerial level employees from five different banks from Rawalpindi and Islamabad (Askari Bank, Al Baraka Bank, First Women Bank, Faysal Bank, Bank Alfalah). The language of all item were checked and a few adjustment were made for the better understanding of questions. The survey instrument was developed in English as the respondents of the current study are familiar with this language and there were no language understanding issues. The questionnaires were dropped at different branches of banks in Rawalpindi and Islamabad. The first round of collected of questionnaire took place after three days. In the first round 173 filled questionnaires were received back. After the first round the remaining participants were requested for their participation in the study through telephone calls and after seven days of initial handing over, second round of collection took place in which 79 filled questionnaires were received. A total of 252 filled questionnaires were received back, out

of these 252 questionnaires 3 questionnaires were not properly filled thus leaving 249 as usable questionnaire. The response rate was 49%.

4.2 Measures

4.2.1 Organizational Justice

For the measurement of organizational justice Colquitt's (2001) justice measures to assess employee distributive and procedural justice were used. These items were based on compensation level outcomes and procedures. All items were measured on 5-point liker scale (1 = strongly disagree; 5 = strongly agree). Following the methodology of Khan et al. (2013) for development of injustice score, the scores obtained of justice perceptions were reverse coded. Distributive justice was measured using four items. The sample items are ''Does your compensation level reflect the work you have completed?'' and ''Does your compensation level reflect the effort you have put into your work?''. A Cronbach Alpha score of 0.89 identifies the internal stability of this measure. For measurement of procedural justice Colquitt's (2001) developed seven items. However, study conducted by Khan (2009) on Pakistani data indicated that three out of these seven items were loaded into a separate factor. These three items reflect employee voice and their influence over decision making process which is not a norm is high power distance society like Pakistan (Khan et al., 2013). Respondents were asked to reply with reference to the procedures used to arrive at their compensation level. The sample items are ''Have those procedures been applied consistently?'' and ''Have those procedures been free of bias?''. The Cronbach Alpha value 0.93 reflects adequate consistency of the scale.

Five itemed scale developed by Moorman (1991) for the measurement of interactional justice was used. The sample items are "If I were to speak to my supervisor about a complaint, my supervisor would consider my viewpoint." and "If I were to speak to my supervisor about a complaint, my supervisor would consider the situation objectively." The scale had acceptable internal consistency with 0.93 Cronbach Alpha value.

4.2.2 Work Stress

Work stress was measured with five items adopted from Lambert, Hogan and Griffin (2007). The sample items are "A lot of time my job makes me very frustrated or angry" and "I am usually under a lot of pressure when I am at work". The Cronbach Alpha value 0.90 shows reasonable internal consistency.

4.2.3 Counterproductive Work Behaviors

Two dimensions of CWB's, production deviance and withdrawal were analyzed in this study. Scale for the measurement of these two dimensions was adopted from Spector et al. (2006). Original scale by Spector et al. (2006) has items for the five dimensions of CWB's however, for the current study only items measuring production deviance and withdrawal behavior were used. These items were measured on five point scale while asking whether the respondents have performed the given behavior in 15 days' time period, where 1 is never and 5 is every day. Production deviance was measured with the help of three items. The example items are ''purposely did your work incorrectly,'' and "purposely failed to follow instructions of seniors.''. Similarly withdrawal is measured with four items. The example items are ''stayed home from work and told a lie that you were sick,'' and "left work earlier before the closing hours".

5. Data Analysis

For data analysis structural equation modeling technique (SEM) was used. The SEM analysis can be performed using two distinct approaches the first one is covariance based SEM and can be done by using LISREL, EQS and AMOS and the second approach is variance based SEM by using partial least square (PLS). Data were analyzed using both SPSS 16 and AMOS 16. Incremental or two step approach to SEM was used. In the first step measurement model or confirmatory factor analysis (CFA) was analyzed. CFA was also used for measurement of discriminant validity and composite reliability of the constructs under study. Data is first subjected to statistical test including test for checking normality of data, its reliability and validity to fulfill the essential assumptions of structural equation modeling technique.

5.1 Normality

Basic assumption of SEM technique is that data should have both univariate and multivariate normality. Skewness and kurtosis indices can be used to check univariate normality of a given set of data to achieve univariate normality value of these indices should lie between the absolute value of 3 and 10 respectively (Kline, 2005). The value of skewness indices lies between 0.056 and 0.613 and kurtosis indices were between -0.400 and -1.124, thus identifying univatiate normality in the current data set. For the measurement of multivariate normality Mardia coefficient can be used, the critical ratio of Mardia's coefficient equal to 1.96 or less indicates multivariate normality in the data (Gao et al., 2007). The critical ratio of Mardia coefficient for the current data set was 1.81, hence indicating multivariate normality.

5.2 Reliability

Internal consistency and reliability was checked with the help of Cronbatch's Alpha scores these scores were calculated using SPSS 16. The Cronbatch's Alpha value of the whole scale was 0.966 while its values ranged between 0.897 and 0.933 for each latent variable. These values are given in Table No. 1.

Similarly, Composite reliability of constructs was calculated using AMOS 16. For the calculation of composite reliability output of CFA/ measurement model was used. The composite reliability for all constructs lies between 0.94- 0.96.

5.3 Validity

As all observed variables except WD 4 (withdrawal 4) significantly ($p<.001$) loaded on their respective latent constructs and the squared multiple correlation value of each observed variable was greater than 0.6 hence indicating convergent validity. The squared multiple correlation value for WD4 was 0.157, hence providing evidence for the removal of this item from analysis. Values of squared multiple correlation are given in Table No 1.

Fornell and Larker (1981) criteria for the assessment of Discriminant validity was used. Average variance extracted (AVE) values were compared with the shared variance. In all cases the AVE was greater than the shared variance hence demonstrating discriminant validity of data.

Table 1: Descriptive Statistics, Correlations and Shared Variance for Constructs

	Variable	No of items	Mean	S.D.	1	2	3	4	5	6
1	**DIJ**	4	2.72	1.02	**.69**					
2	**PIJ**	4	2.68	1.19	.75* (.56)	**.78**				
3	**IIJ**	4	2.61	1.07	.75* (.56)	.68* (.46)	**.76**			
4	**St**	4	2.71	1.09	.64* (.41)	.70* (.49)	.75* (.56)	**.70**		
5	**ProD**	3	2.85	1.06	.78* (.60)	.76* (.58)	.63* (.40)	.69* (.48)	**.79**	
6	**WD**	3	2.68	1.06	.79* (.62)	.67* (.45)	.66* (.43)	.70* (.49)	.75* (.56)	**.78**

Shared variance in parenthesis; AVE in diagonal; * P <0.01; s.d.: Standard deviation

6. Results

6.1 Model Estimation and Analysis

The first step of incremental approach to SEM, fitting of the measurement or CFA model was done using Maximum Likelihood Estimation (MLE) method.

6.1.1 CFA/ Measurement Model

The results of measurement model identified that all observed variables had t-value greater than 2.50, their factor loadings were greater than 0.5 and R^2 was also greater than 0.5, in the result none of the observed variable was considered for removal from the model (Joreskog & Sorbom, 2006). However, on the bases of modification indices of the measurement model two items were removed from the analysis (i.e., IJ5 and ST5). This removal of items from measurement model significantly improves fitness of the measurement model. The results of measurement model are given in Table No 2.

Table 2: CFA of Items Present In Model

Construct/Variable	B	Alpha	CR	AVE
Distributive Injustice		.897	.944	.69
DIJ1	.843			
DIJ2	.803			
DIJ3	.861			
DIJ4	.820			
Procedural Injustice		.933	.964	.78
PIJ1	.878			
PIJ2	.877			
PIJ3	.892			
PIJ4	.881			
Interactional Injustice		.928	.965	.76
IIJ1	.883			
IIJ2	.886			
IIJ3	.865			
IIJ4	.860			
Stress		.901	.948	.70
St1	.841			
St2	.827			
St3	.850			
St4	.817			
Production Deviance		.917	.949	.79
ProD1	.862			
ProD2	.934			
ProD3	.869			
Withdrawal		.913	.946	.78
WD1	.893			
WD2	.896			
WD3	.860			

β: standardized coefficient; Alpha: Cronbath's Alpha; CR: Composite Reliability; AVE: Average Variance Extracted

Three models were compared for the identification of best fitted model. First model contained three factors, first factor containing items of all three dimensions of justice, second factor with the items of stress and third factor with all items of production deviance and withdrawal under CWB's. Second model contained five factors, with the items for distributive, procedural and interactional justice now loaded onto separate factors. Third model contained six factors, distributive, procedural and interactional justice, stress, production deviance and withdrawal behavior, all these factors were loaded as separate factor in the final model. Third model is the hypothesized model. Model fit statistics for each model as well as its comparison with the hypothesized model is reported in Table 3. The fit statistics provided evidence that hypothesized model is the best fitted model.

Table 3: Summary of CFA Results

Model	X^2 (Df), Df/ X^2	CFI	RMSEA	Comparison With 6 Factor Model (ΔX^2, Df)
Model 1 (3 Factors)	1170, (206), 5.68	0.808	1.37	814, (12)
Model 2 (5 Factors)	582, (199), 2.92	0.924	0.09	226,(5)
Model 3 (6 Factors)	356, (194), 1.83	0.968	0.06	

6.2 Structural Model and Hypothesis Testing.

The observed variables which were successfully loaded into their respective constructs/factors were taken as input for structural model testing. All hypotheses purposed were accepted. Results of structural model are reported in Table No 4. The standardized regression weights or beta weights given in table no 5 are used for the assessment of f impact of dimensions of injustice on stress and impact of stress on production deviance and withdrawal behavior. Standardized regression weights greater than 0.5 are considered to be large and between 0.5 and 0.1 are considered as moderate (Kline, 2005). Effect of stress on production deviance and withdrawal was found to be large with standardized regression weights 0.787 and 0.794 respectively, while effect of dimensions of injustice on stress was moderate.

Table 4: Structural Model

Causal Path	Standardized Regression Weights	Un-standardized coefficient	t-value	Hypotheses	Supported
DIJ=>Stress	0.443	0.444	5.513*	H1	Yes
PIJ=>Stress	0.221	0.241	3.625*	H2	Yes
IIJ=> Stress	0.247	0.295	4.382*	H3	Yes
Stress =>ProD	0.954	0.787	12.07*	H4	Yes
Stress => WD	0.895	0.794	12.63*	H5	Yes

Goodness of Fit Indices

χ^2 = 478 ; d.f. = 201; χ^2/d.f. = 2.38; p< 0.00; Comparative Fit Index (CFI) = 0.94; Incremental Fit Index (IFI) = ;Goodness of Fit Index (GFI) = 0.84; Adjusted Goodness of Fit Index (AGFI) = 0.81; Root-mean-square residual (RMR) = 0.08; Root-mean-square error of approximation RMSEA = 0.07

* p<.01 **p<.05

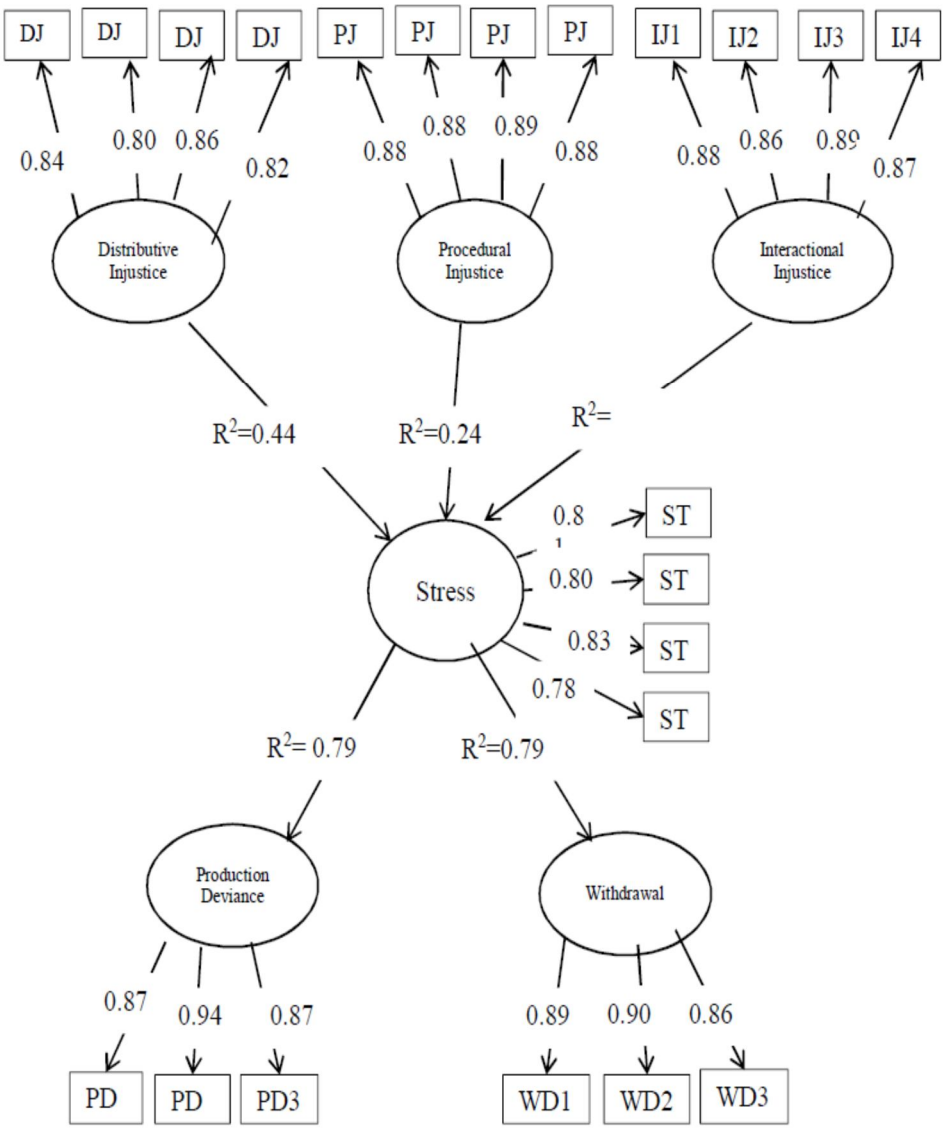

Figure 2: Structural Model

Structural Model: ellipses represent latent variables/constructs, rectangles represent observed variables/constructs and circles represents the error terms

DJ= Distributive Injustice PJ= Procedural Injustice IJ= Interactional Injustice

ProD= Production Deviance WD= Withdrawal

6.3 Mediation Analysis

The hypothesized model was a mediation model where stress was purposed to meditate the relationship between dimensions of justice and CWB's. For the testing of mediated or

indirect effects, boostraping approach (Iacobucci, 2008) was utilized where 95% Bias-Corrected confidence interval was used for the resample size of 2000. The results are present in Table No.5.

Table 5: Mediation Analysis; Bootstrap (2000 re-sample) Results

Variables	**Total Effects**	**Direct Effects**	**Indirect Effects**
Distributive Injustice			
Stress	0.444*	0.444*	-------
Production Deviance	0.350*	-------	0.350*
Withdrawal	0.353*	-------	0.353*
Procedural Injustice			
Stress	0.241*	0.241*	------
Production Deviance	0.189*	-------	0.189*
Withdrawal	0.191*	-------	0.191*
Interactional Injustice			
Stress	0.295*	0.295*	------
Production Deviance	0.232*	-------	0.232*
Withdrawal	0.234*	-------	0.234*

Note. Dashes indicate data are not applicable. *p-value $\leq$ 0.01 **p-value $\leq$ 0.05

The total effect measures the extent to which the dependent variable changes when the independent variable increases by one unit. In contrast, the indirect effect measures the extent to which the dependent variable changes when the independent variable is held fixed and the mediator variable changes to the level it would have reached if the independent variable has increased by one unit (Hayes, 2009). The mediating (indirect) effects of stress in the relationship of justice and production deviance were significant. Similarly, the mediating effects of stress in the relationship of dimensions of injustice with withdrawal were also significant and hence identifying stress as mediator in these relationships. As there are no direct effects between dimensions of injustice and production deviance and withdrawal hence indicating full meditation by stress.

7. Discussion

The present study attempts to extend the literature on justice, stress and counterproductive work behaviors in three major ways. First, it evaluated the merits of the three factor model of justice in a developing country context. As majority of literature in the related field has been generated from Europe and America, the present study despite its limitations highlighted the mediating effects of stress in the relationships of three dimensions of justice and CWBs. Second, it made an effort to add to the limited research on the relationships among each of the three justice variables (distributive, procedural and interactional), perceived stress and CWBs. Lastly, this study empirically tested the direct and indirect effects of justice on CWBs and identified fully mediated model of justice, stress and CWBs.

Organizational justice is well documented and is one of the important outcomes of organizational activities. However, theoretical mechanisms that explain its relationships with other factors need more attention (Judge & Colquitt, 2004). The present study made primary theoretical contribution by identifying the impact of multiple dimensions of injustice on developing stress in individuals specifically in a non-western context, Pakistan. Another most important finding of this study revolves around the identification of stress as mediator in the relationships of dimensions of injustice and CWB's. The impact of injustice translated into development of stress in individuals and this stress can result into both aggressive (production deviance) and passive (withdrawal) behaviors.

It is important to note that all three dimensions including distributive, procedural and interactional justice were identified as drivers of stress. However, distributive justice appears to be the primary driver, as it has highest and most significant effect on stress perceptions. The stronger role of distributive injustice in emotional responses like development of stress is generally supported in much of the earlier researches on distributive justice (see Adams, 1965; Homans, 1961) and it is generalized to developing country context through the findings of this study. However, these results are not consistent with the conclusions of Weiss and Cropanzano (1996) in affective events theory and Van den Bos (2001) in uncertainty management theory. While analyzing data from Pakistan Khan et al. (2013) found empirical evidence to support this finding.

The effects of stress are far-reaching and have negative influence on both the individuals as well as the organization. Investigation of the antecedents and outcomes of stress is an integral step in the understanding of what individuals and organizations can do to reduce it (Graham, 2009). Graham, (2009) stressed upon the fact that research area on organizational injustice and stress is in its preliminary phases of truly understanding the intricate relationship.

8. Limitations and Future Study Directions

There are few limitations that can be address in future research. The first limitation is related to the generalizability of results as data were collected from a limited population and the study has utilized cross-sectional, nonprobability sampling technique, future research can be conducted using longitudinal study design with probability sampling technique having focus on broader population. Second limitation is related to the self-report measure which can generate issue of common method variance (CMV), future studies can reduce this bias by using dyadic data or through longitudinal data collection method.

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