

Work Stress and Health as Predictors of Organizational Commitment

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Present study endeavored to investigate the role of work stress and health in the prediction of organizational commitment in railway employees (N=300). The level of work stress was assured by Work Stress Profile and health status was determined by C.M.I. Health Questionnaire Organizational Commitment Scale was used to assess level on commitment in employees. Results revealed that work stress related to interpersonal, physical condition and job interest was found higher in officer class than clerks and 4th class employees respectively. Furthermore, long job tenure group reported more interpersonal stress than their short job tenure counterparts. Despite this, health problems were found more in clerks than 4th class and officers respectively. Contrary to this, the organizational commitment was identified higher in officers than clerks and 4th class respectively. Furthermore, short job tenure group showed higher level of commitment than long job tenure group. Work stress was found to be inversely related with affective, normative and overall commitment. Further, illness was found to be negatively correlated with affective, continuance, normative and overall commitment. The affective, normative and overall commitment were predicted by stress related to physical condition and health (illness).

Keywords: Work stress, Organisational Commitment

During the last few decades commitment related studies have achieved prominent status in psychological researches in general and in the area of organizational psychology in particular. Every organization has some characteristic features which are common with any other organization. Despite this, each organization has its unique set of characteristics and properties. This psychological structure of organization and their sub units is usually referred to as organizational culture / organization climate.

A sizable number of researches evince that excessive pressure at work place has been identified taxing to an organization. A close perusal of the worldwide statistics concerning the dynamics of stress at work place and its consequences, reveal that work

stress has emerged as one of the most acute problems, throughout the world and damaging the health and well being of employees and organization too (Cooper, Cooper & Eaker, 1988).

Numerous studies evince the close association between stress and health (Pestonjee, 1999; Ickovics & Park, 1988; Lazarus & Folkman, 1984; Lazarus & Launier; 1978; Selye, 1956; Friedman & Rosenman, 1974). The adverse consequences of work stress on health of employees have been identified by researchers (Srivastava, 1999; Beeher & Newman, 1978).

The concept of health has changed with the passage of time. Now, health is viewed

not only as the total absence of disease, but also it includes social and behavioral well-being. It has more comprehensive meaning which is reflected in the definition of health given by World Health Organization (WHO). It provides a vivid conceptualization on health such as (i) something which goes beyond the mere absence of disease and (ii) that health has social and psychological characteristics.

Antonovsky (1979) argued that health can not be understood using a pathologically oriented perspective. Since health is a highly relative process rather than a state or static condition, influenced by the availability of genetic and major psychosocial resistance resources. These resources include types of coping strategies, social matter, and degree of commitment and level of ego identity. He has also conceptualized health process as influenced by the specific social and cultural contexts.

Stress may have effects on, at least four physiological systems of body: the sympathetic-adrenome-dullary system, the pituitary-adrenocortical system, the neuropeptide system and the immune system. To the extent that stress affects these pathways illness may result, and stress can produce physiological as well as psychological changes conducive to the development of illness, precursors of illness such as fatigue and achiness then develop, which, if untreated can lead to illness and illness is found to be an important factor in the origin of several disease.

The reason for this stress-health connection lies in the way, in which the brain interprets what is going on, how it responds to perceived threat, and how it translates those perceptions into body responses. However, it is important to note here that the brain works in a literal way. When threat is present, the brain will sound the alert, and the body will respond by mobilizing its defensive systems. Several classical representative studies on stress-illness

relationship, have proved that stressful events lead to several health problems (Mishra & Sinha, 1999; Selye, 1956). Recent studies reveal that moderate level of stress will lead to adaptive responses, but stress above a threshold point will have adverse consequences on health and outcomes (Taylor, 1991).

Apart from this, Colarelli, Dean and Ronstans (1987) evinced that both personal and situational variables affected job outcomes, including commitment, and they found that situational variables accounted for greater variance in organizational commitment. These findings were further supported by Colarelli and Bishop (1990). Mowday, Porter and Steers (1982) have identified link between Personal and Organization Commitment. Researchers suggest that a number of factors lead to greater organizational commitment including early in an employees' tenure with an employer. Another factor, primarily non-organizational factors that enhance commitment is the availability of alternatives after the initial choice has been made along with reward, costs and investment (Rusbult & Farrell, 1983). Certain other factors discovered are; job satisfaction and job involvement (Stevens, Beyer & Trice, 1978), work motivation and job satisfaction (Khan & Mishra, 2002; Ahmad & Mishra, 2000; Srivastava, 1999), stress and health (Ahmad & Mishra, 2000; Srivastava, 2002; Srivastava, 1999), social support (Khanna, 2000; Vashishtha & Mishra, 1998) and work environment (Khan & Mishra, 2002).

A close perusal of the review of studies reveals that level of commitment is moderated by numerous contextual and psychological factors. In this backdrop, this study was planned to investigate the level of organizational commitment in relation to work stress and health of Railway employees belonging to different job hierarchy and job tenures.

Hypotheses :

Following hypotheses were formulated:

1. Employees would show differences on work stress, illness and commitment due to the variations in job hierarchy and job tenure.
2. A close relationship between work stress, illness and commitment will be found.
3. The level of organizational commitment would be predicted by work stress and health status of employees.

Method**Sample :**

A total of 300 Railway employees participated as respondents. The study is based on a 3 X 2 factorial design with three levels of job hierarchy (officers, clerks and 4th class) X two job tenures (short and long job tenure). Applying stratified random sampling the selection of respondents was done from offices of N.E.R. Railway Gorakhpur Division.

Tools :

Work Stress Profile : Work stress, caused by interpersonal, physical condition and job interest was assessed by using Cooper's work stress profile. Items pertaining to different areas were related on five point scale.

C.M.I. Health Questionnaire : The Cornell Medical Index (C.M.I.) Questionnaire, translated in Hindi by Wig, Prasad and Verma, 1983 was used to assess health status of personnels. This questionnaire contains 195 questions related to physical illness and psychological illness. Each "yes" answered items were counted and considered as a score.

Organizational Commitment Scale: The revised scale of organizational commitment (Allen & Meyer, 1990 a) was used to study commitment. The original scale comprises 8 items each on the three

dimensions. The revised scale comprises 6 items on each of the three dimensions and hence, consists of 18 items. Indian adaptation of Organizational Commitment Scale (Khan & Mishra, 2002) was used. Originally, the scale was 7 point Likert type Scale. The scaling was changed into 5 point scale with anchors labeled.

Results

ANOVA results reveal that on Interpersonal Work Stress, main effect of job tenure ($F(1, 294) = 5.51, P < .05$) was found to be significant, which denotes that Railway employees belonging to long job tenure group expressed more Interpersonal work stress ($M = 58.24$) than short job tenure group ($M = 55.01$). On Physical Condition domain, significant main effect of job hierarchy ($F(2, 294) = 11.33, P < .01$), revealed that clerks ($M = 4.82$) reported more stress than officers ($M = 46.07$) and 4th class employees ($M = 41.58$) subsequently. Similarly, main effect of job tenure ($F(1, 294) = 6.41, P < .01$) was found to be significant. Results indicated that employees of long job tenure group ($M = 47.61$) reported more stress than those of short job tenure group ($M = 44.03$). Furthermore, on Job Interest domain, significant main effect of job tenure ($F(1, 294) = 16.65, P < .01$) was found to be significant. Railway employee belonging to long job tenure ($M = 22.98$) expressed more work stress than short job tenure group ($M = 19.85$).

Results further reveal that on affective commitment, significant main effect of job hierarchy ($F(2, 294) = 10.90, P < .01$) indicated that officers ($M = 27.71$) reported high degree of affective commitment than 4th class ($M = 25.86$) and clerks ($M = 25.36$) respectively. Main effect of job tenure was also found to be significant ($F(1, 294) = 14.19, P < .01$), which revealed that employees belonging to short job tenure ($M = 27.13$) reported better affective commitment than long job tenure employees ($M = 25.50$). On continuance

commitment domain, significant main effect of job hierarchy ($F(2, 294) = 42.04, P < .01$) revealed that officers ($M = 27.37$) expressed better continuance than 4th class employees ($M = 24.02$) and clerks ($M = 22.80$) respectively. Similarly, main effect of job tenure was also found to be significant ($F(1, 294) = 21.54, P < .01$) which suggested that railway employees belonging to short job tenure ($M = 25.70$) reported high level of continuance than long job tenure employees ($M = 23.75$). Further, significant A (job hierarchy) \times B (job tenure) interaction effect (figure -1) ($F(2, 294) = 7.36, P < .01$) indicated that officers ($M = 27.53$) belonging to long job tenure expressed high level of continuance than short job tenure group counterparts ($M = 27.20$). Contrary to this, clerks ($M = 24.27$) and 4th class ($M = 25.64$) employees of short job tenure group reported higher level of continuance commitment than long job tenure group of clerks ($M = 21.31$) and 4th class ($M = 22.40$) respectively. Furthermore, on normative commitment, main effect of job hierarchy ($F(2, 294) = 50.26, P < .01$) was found to be significant. Results, thus, denoted that officers ($M = 27.15$) reported higher normative commitment than 4th class ($M = 23.05$) and clerks ($M = 22.39$) respectively. Main effect of job tenure was also found to be significant ($F(1, 294) = 11.26, P < .01$). Results indicate that employees of short job tenure group expressed higher level of normative commitment than that of long job tenure group ($M = 23.49$). Further significant Job hierarchy \times Job tenure interaction effect ($F(2, 294) = 3.43, P < .05$), (figure -2) shows that officers ($M = 27.22$) belonging to long job tenure group expressed more normative commitment as compared to short job tenure counterparts ($M = 27.08$), but 4th class ($M = 24.06$) and clerks ($M = 23.56$) of short job tenure group reported higher level of normative commitment than their comparison group belonging to long job tenure ($M = 22.04$) Vs. ($M = 21.21$). It is apparent from the result that job hierarchy and job tenure

differed significantly on overall organizational commitment. Significant main effect of job hierarchy ($F(2, 294) = 46.14, P < .01$) denotes that officers ($M = 82.34$) reported high organizational commitment than 4th class ($M = 73.00$) and clerks ($M = 70.52$) subsequently. Results, further, indicated that employees differed significantly across short and long job tenure groups ($F(1, 294) = 22.91, P < .01$) which revealed that employees of short job tenure group ($M = 77.76$) reported higher organizational commitment than long job tenure employees ($M = 72.73$). Furthermore, significant Job hierarchy \times Job tenure interaction effect, ($F(2, 294) = 6.18, P < .01$) (Figure - 3) denotes that officers belonging to long job tenure group expressed high level of organizational commitment than officers of short job tenure group. Contrary to this 4th class and clerks of short job terms groups expressed high organizational commitment than those of long job tenure counterparts.

Result further, indicates that groups varied significantly on physical and psychological illness. On physical illness, significant main effect of job hierarchy ($F(2, 294) = 13.94, P < .01$), revealed that 4th class employees ($M = 17.26$) reported greater health problems than clerks ($M = 16.37$) and officers ($M = 11.32$) respectively. Although, the main effect of job tenure was found to be non-significant. Yet significant job hierarchy \times job tenure interaction effect ($F(2, 294) = 3.64, P < .05$) (Figure - 4) evinced that in case of long job tenure more health problem was reported by 4th class employees than clerks and officers, however reverse pattern was identified in case of short job tenure. In case of short job tenure group, physical illness was lowest in 4th class employees than clerks and officers respectively. On psychological illness, significant main effect of job hierarchy ($F(2, 294) = 5.15, P < .01$) revealed that officers ($M = 11.30$) reported greater psychological illness than 4th class ($M = 7.42$) and clerks ($M = 6.89$) respectively. The main

effect for job tenure was found non-significant.

Relationship Between Work Stress, Health and Organizational Commitment :

In order to determine the linkages between work stress, health and organizational commitment, coefficient of correlations were computed. As correlation results (table-1) indicate that objective work stress was found to be negatively correlated with affective commitment ($r = -.19$, $P < .01$), normative commitment ($r = -.15$, $P < .01$) and overall commitment ($r = -.14$, $P < .05$). Similarly, feeling of interpersonal work stress was also found negatively correlated with affective commitment ($r = -.34$, $P < .01$), normative commitment ($r = -.14$, $P < .05$) and overall commitment ($r = -.20$, $P < .01$). Physical condition was also found to be inversely correlated with affective commitment ($r = -.40$,

$P < .01$), normative commitment ($r = -.28$, $P < .01$) and overall commitment ($r = -.28$, $P < .01$). Similarly on job interest, work stress was also found to be negatively correlated with affective commitment ($r = -.25$, $P < .01$) and overall commitment ($r = -.13$, $P < .05$).

Correlation results, thus, evinced that with increasing level of work stress, the commitment towards organization decreased.

Results further revealed that physical illness was found to be negatively correlated with affective commitment ($r = -.16$, $P < .01$), continuance commitment ($r = -.15$, $P < .05$), normative commitment ($r = -.20$, $P < .01$) and overall organizational commitment ($r = -.19$, $P < .01$). Contrary to this, psychological illness was found to be positively associated with affective commitment ($r = .16$, $P < .01$), normative commitment ($r = .19$, $P < .01$) and overall organizational commitment ($r = .14$, $P < .05$).

Table 1 Relationship of work stress, health with various dimensions of organizational commitment (N=300)

	Affective Commitment	Continuance Commitment	Normative Commitment	Overall Commitment
Dimensions of Health (Illness)				
Physical Illness	-.16**	-.15*	-.20**	-.19**
Psychological Illness	.16**	.013	.19**	.14*
Dimensions of Work Stress				
Objective Work Stress	-.19**	-.016	-.15**	-.14*
Feeling of Work Stress				
Interpersonal	-.34**	-.046	-.14*	-.20**
Physical Condition	-.40**	-.07	-.28**	-.28**
Job Interest	-.25**	.000	-.105	-.13*

** P < .01 *P < .05

Further, work stress was found to be positively correlated with physical and psychological illness but inversely correlated with organizational commitment.

Prediction of Organizational Commitment by Work Stress and Health:

Based on the perusal of correlations, it was considered appropriate to go for

Stepwise Multiple Regression Analysis (SMRA) in order to examine the relative contribution of antecedent factors namely work stress and feeling of work stress for organizational commitment.

Results (table-2& figure-5) indicated that affective commitment was contributed by stress related to physical condition and

interpersonal work stress. Physical condition contributed maximum negatively ($b = -.40$, $R^2 = .16$), followed by interpersonal work stress ($b = -.15$, $R^2 = .17$), though independent contribution was found to be only 1%, but the composite contribution with physical condition was 17% variance in the criterion variables.

Results, further indicated that stress related to physical condition was found only predictor, which explained negatively to

normative commitment ($b = -.28$, $R^2 = .18$), and contributed only 8% variance in the criterion variables (table-2).

Regression result, further, evinced that overall organizational commitment was explained negatively by physical condition ($b = -.29$, $R^2 = .08$), which contributed only 8% variance in the criterion variable. Thus, it is apparent that stress related to physical condition was the only significant predictor of overall organizational commitment.

Table - 2 : Step wise multiple regression analysis for various domains of organizational commitment as predicted by work stress.

Predictors	Criterion				
	R	R ²	R ² change	Beta	F
Affective Commitment					
Physical Condition	.40	.16	.16	-.40	56.64**
Interpersonal	.42	.17	.01	-.15	31.30**
Normative Commitment					
Physical Condition	.28	.08	.08	-.28	24.90**
Overall Organizational Commitment					
Physical Condition	.29	.08	.08	-.29	26.34**

**P<.01 *P<.05

Results (table-3 and figure- 6) revealed that affective commitment was predicted two factors i.e. physical and psychological illness. Physical illness contributed negatively ($b = -.25$, $R^2 = .08$), followed by psychological illness, which contributed maximum positively ($b = .16$, $R^2 = .03$), though the independent contribution of physical illness was found to be only 5%, and psychological illness explained only 3%. But the composite contribution with physical illness was 8% variance in the criterion variable.

The continuance commitment was explained negatively by physical illness ($b = -.15$, $R^2 = .02$), which contributed only 2%. Thus, it is apparent that health related to physical illness was the only significant predictor of continuance commitment (table-3). It is apparent from results (table-3 and figure-7) that normative commitment was

predicted by physical and psychological illness. Physical illness contributed maximum negatively ($b = -.20$, $R^2 = .04$) followed by psychological illness, which also contributed positively ($b = .30$, $R^2 = .12$). Though independent contribution was found to be only 8% significant (R^2 change .05, $p < .01$), but the composite contribution with physical illness was 12% variance in the criterion variable.

Result (table-3 and figure-8) denoted that Total organizational commitment was predicted by two factors. Physical illness predicted maximum negatively ($b = -.19$, $R^2 = .04$) followed by psychological illness, which contributed positively ($b = .24$, $R^2 = .09$), though its independent contribution was found to be only 5% significant (R^2 change .05, $p < .01$), but the composite contribution with physical illness was 9 %.

Table 3 Step wise multiple regression analysis for various domains of organizational commitment as predicted by health.

Predictors	Criterion				
	R	R ²	R ² change	Beta	F
Affective Commitment					
Psychological	.16	.03	.03	.16	7.82**
Physical	.28	.08	.05	-.25	12.52**
Continuance Commitment					
Physical	.15	.02	.02	-.15	6.59**
Normative Commitment					
Physical	.20	.04	.04	-.20	12.01**
Psychological	.34	.12	.08	.30	19.50**
Overall Organizational Commitment					
Physical	.19	.04	.04	-.19	11.70**
Psychological	.30	.09	.05	.24	14.10**

**P<.01

*P<.05

Regression results thus, evince that work stress and illness were found strong predictors of organizational commitment.

Discussion

Results revealed that clerks expressed more work stress than officers. Contrary to this, minimum work stress was found in 4th class employees. Since, officers and clerks have to work in more pressure related to time, demands etc. and they lack group interaction however, face more crowded and noisy work environment. Apart from this, Officers have to manage and prove their accountability, than the 4th class employees. Contrary to this, 4th class has less accountability but greater opportunity of developing relationship.

Results of present study further, reveal that long job tenure group showed more interpersonal stress than short job tenure group. This finding interestingly suggest that senior employees might have shown more concern and engaged in work and committed to excel, therefore they experience high level of interpersonal stress than younger group, who showed more concern in developing

relationship with co- workers and boss. The presence of social support from other co-workers, management, family and friends tends to relieve strain (Mishra & Shyam, 2005; Vashistha & Mishra, 2004; Pandey & Srivastava, 2004; Mehra & Mishra, 2003; Khan & Mishra, 2002; Ahmad & Mishra, 2000; Khanna, 2000; Srivastava, 2002; Srivastava, 1999; Yogrecha & Misra, 1990; Cobb's, 1970).

Results further evince that clerks expressed more stress caused by physical condition of work place as compared to officers and 4th class employees subsequently. Since, physical condition of work place itself is a potential source of job stress, stimulation at work place i.e., noise, crowd, improper lightening, smells, other aversive stimuli, exercise negative affect on mood and mental state, whether or not individual find them consciously objectionable (Cooper & Smith, 1985). Thus, several factors influence the high feeling of stress related to physical condition (Pandey & Srivastava, 2004; Srivastava, 2002; Khanna, 2000).

Results revealed that stress related to job interest was greater in employees of long job tenure than short job tenure. Since repetitive jobs are viewed monotonous, and cause stress, they lead to distress (Thackrey, 1981). Researcher reported that not only job in itself but also the quality of job was related to stress feeling and wellness.

Results of this study indicated that 4th class employees reported more problems related to physical health than clerks and officers respectively. Though, it is difficult to know how much these physical illness have been caused by a particular job stress, however, other aspects of employee's life linked with job stress also have relation with physical symptoms and diseases. Researchers (Rahe, 1968; Holmes & Rahe, 1967) examined whether changes in individual's life, which demands to make behavioural readjustments, were found to be correlated with illness.

Present results evince that officers reported greater level of psychological illness than 4th class and clerks respectively. The main effect for job tenure was found non-significant. Cooper (1983) pointed out that several psychological symptoms of occupational stress which include job dissatisfaction, disliking for the job, depression, anxiety, boredom, frustration, isolation, and resentment.

Result evinced that officers expressed more affective commitment than 4th class and clerks. Contrary to this, minimum affective commitment was found in clerks. Officers showed strong desire to be identified with a particular organization than their counterparts. Literally hundreds of studies have examined the relationship between affective commitment and variables hypothesized to be its antecedents. Numerous studies evinced that support for the idea that organizational structure variables influence affective commitment (Bateman &

Strasser, 1994; Morris & Steers, 1980; Mathieu & Zajac, 1990). A numerable number of studies have identified strong links between employee perceptions of support and affective commitment to the organization (Eisenberger, Hundtrington, Hutchison & Sowa, 1986; Guzzo, Noonan & Eiron, 1994).

The continuance commitment was also identified higher in officers than clerks and 4th class employees. Significant main effect of job tenure indicates that employees of short job tenure reported more continuance commitment than those of long job tenure. It appears that decision to continue in an organization, because of personal investments (job security, benefits, promotions, seniority etc.) was higher in young employees. Employees, whose primary link to the organization are based on continuance commitment because they need to do so.

Present results indicated that normative commitment was found slightly greater in officers than clerks and 4th class employees. Significant main effect for job tenure indicated that employees of short job tenure reported more normative commitment than employees of long job tenure. It seems that high normative commitment reflect's a feeling of obligation to continue employment ('oughtto'). Employees with a high level of normative commitment feel that they ought to remain with the organization by virtue of their belief that it is the right and moral thing to do (Meyer & Allen, 1991; Wiener, 1982; Scholl, 1981).

Second part of discussion is based on the relationships between work stress, health and organizational commitment and the role of work stress and health in predicting organizational commitment. Correlation results (table – 1) report negative relationship between work stress and organizational commitment. Interpersonal work stress was found negatively related with affective commitment, normative commitment and total

commitment. Results thus, suggest that if work stress caused by interpersonal relationship at workplace is inadequate, it decreases the level of commitment. As a result the emotional attachment towards organization goes down. Further, inverse relationships between physical condition with affective commitment, normative commitment and total commitment suggest that high level of work stress caused by physical condition decreased level of commitment in employees. Since physical condition of workplace in itself is a potential source of stress, stimulation at workplace i.e., noise, crowd, bad smells, and other aversive stimuli, exercise negative affect on mood and mental state, whether or not individual find them consciously objectionable (Cooper & Smith, 1985). Stress caused by job interest was also found to be negatively related with levels of affective, normative and total commitments. Findings of present study thus, revealed that if employees are not satisfied with job or the nature of job is not interesting for them, it exercises negative impact on their commitment level towards the organization. It has long been noted that organizations have a need for behaviour, which includes role requirements. Besides a wide range of personal factors, situations are also found potential stressors in an organization. Thus, stress influences organizational commitment levels of employees. Other studies also confirm the findings of present study (Srivastava, 1999; Ahmad & Mishra, 2000; Pandey & Srivastava, 2004).

Correlation results (table-1) reveal that physical illness was found to be negatively correlated with affective, continuance, normative commitment and total commitment. Similarly, psychological illness was found to be negatively correlated with affective, normative and total commitment. Ramlingaswami (1990) points out that in contemporary societies, stresses of one or the other kind have become a common source of threat to mental and physical health

and well-being of the people, which in turn diminishes the level of commitment in employees (Tiwari, 2006). The prediction of organizational commitment from work stress and health was also done. The regression results denote that organizational commitment was predicted by objective work stress and feeling of stress related to physical condition of work place. Further prediction of organizational commitment was also established from health related to physical and psychological illness (Tiwari, 2006).

Present findings can also be supported with the help of work place related model of stress and illness propounded by Cooper, Liukkonen & Cartwright (1996). According to the model various sources of stress are linked to work and its place exercise negative feeling in individuals consequently, employees express various symptoms and develop health problems, which in turn diminish the level of commitment toward the organization. Thus, the results of present study evince that organizational commitment in employees can be determined on the basis of work stress and health status of employees.

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Received: January 8, 2008

Revision received: March 18, 2008

Accepted: May 21, 2008

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