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Occupational stress in the armed forces: An Indian army perspective

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Abstract   This study attempts to explore factors influencing occupational stress faced by Indian army soldiers and evaluate applicability of the scale used for measuring occupational stressors. Structured interview schedules were used to collect first hand data from a sample of 415 soldiers. Exploratory Factor Analysis (EFA) highlights lack of control at work, role conflict, inadequate awareness about profession, workload and job pressure, and indifferent organisational attitude as the major occupational stressors in the Indian army. In addition, Confirmatory Factor Analysis (CFA) confirms occupational stressor as an eight factor model in the army. The study recommends implementing commitment-based management approach and techniques such as Sahaja Yoga meditation in the army.
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Introduction

Occupational stress has become a major area of concern in the field of Human Resource Management in today's competitive era. Apart from the stressors outside the organisation, such as family-related stressors and individual stressors, there are various stressors affecting an employee, which are associated with the organisation itself (Luthans, 2002). Occupational stressors are various job-related stressors which negatively influence the performance and well-being of the employees (Kang, 2005), since they exist in every organisation, though their degree may vary from occupation to occupation and individual to individual (Gignac & Appelbaum, 1997). Some stressors are common to all occupations whereas some

are unique to a specific occupation; thus specific stressors must be explored to manage stress in any occupation (Kang, 2005).

Among the various dimensions of occupational stress, the most important of them are work characteristics, organisational environment and psychological/behavioural characteristics of an individual (Zeffane & McLoughlin, 2006). Management style including lack of participation of workers in decision-making, poor communication in the organisation and lack of family–friendly policies contribute to work stress (National Institute for Occupational Safety and Health, 1999). However, close relationships between supervisors and their subordinates can often lead to dysfunctional organisational consequences like unethical behaviour (Khatri, 2011). In addition, poor interpersonal relations of employees with their colleagues can be a leading source of stress between them (Kang, 2005). Chang and Lu (2007) identified dissonant relations with colleagues and seniors as salient stressors, but found poor relations with colleagues to be a more severe stressor

than that of unsatisfactory relations with seniors. Besides the personal beliefs and values of the employees, the cues received from the conduct of seniors and co-workers shape the employees' perception about the organisational climate (Nair & Kamalanabhan, 2011). Further, deficient social support in the organisation causes stressful situations, which increases work stress (Kaufmann & Beehr, 1989). Hence, the lower the level of support from the organisation, the higher is the level of stress experienced by employees at work. In a study by Jain and Cooper (2012) stress was found to have significant negative impact on organisational citizenship behaviours thereby affecting the performance of the work group and the organisation simultaneously.

Further, lack of training was identified as an important stress factor among junior hospital doctors (Antoniou, Davidson, & Cooper, 2003). Lack of training and development can have several ill-effects on the individuals concerned, especially on army men who usually work with hazardous equipment under dangerous conditions. Savery, Hall, and Collier (1983) indicated high correlation of excessive work demands with job stress. Also, Hemingway and Smith (1999) found high work pressure and poor supervisory support to be related with heavy workload. National Institute for Occupational Safety and Health (1999) expressed heavy workload, infrequent rest breaks, long working hours, shift work, hectic and routine tasks that have little inherent meaning as important job conditions leading to stress. Also, the quality of home and family life is adversely affected by high work intensity or work pressure as it amounts to fatigue, anxiety or other adverse psycho-physiological consequences due to which an individual is unable to devote adequate time for family needs (Valk & Srinivasan, 2011).

Autonomy in the job is an essential requirement for taking day-to-day decisions at work and a lack of empowerment results in job stress among employees (Kang, 2005). Moreover, high control job holders are less likely to be absent, whether due to illness or otherwise (Liu, Spector, & Jex, 2005) and therefore, contribute more towards the organisation's productivity. Further, high role ambiguity is associated with high occupational stress (Gignac & Appelbaum, 1997) as well as negatively affecting employee's health and job satisfaction level (Frone, Russell, & Cooper, 1995; Yousef, 2000). Additionally, people with more role ambiguity are more likely to incur injury at work (Hemingway & Smith, 1999). Also, low decision authority, high uncertainty, and complexity in the job lead to high role conflict (Tummers, Landeweerd, & van Merode, 2002).

Occupational stress in the armed forces

In the context of the armed forces, some research is available on the US military (Bartone, Adler, & Vaitkus, 1998; Boehmer, Boothe, Flanders, & Barrett, 2003; Britt, Davison, Bliese, & Castro, 2004; Florkowski, 2001; Litz, Orsillo, Friedman, Ehlich, & Batres, 1997; Stetz, Castro, & Bliese, 2007). Bartone et al. (1998) studied military stressors faced by soldiers during peacekeeping missions such as isolation, ambiguity, powerlessness, boredom, and danger/threat. Active duty military personnel were found to have poor mental and physical health compared to veterans and reserve personnel in a study conducted by Boehmer et al. (2003). Britt et al.

(2004) emphasised that leadership behaviours can ameliorate or buffer the stressors experienced by soldiers. Further, frequent uncontrollable conditions of peacekeeping mission under unsafe conditions were found to make the soldiers experience frustration and predicted post-traumatic stress disorder among them (Litz et al., 1997). Florkowski (2001) pointed out that suicides committed by soldiers are not incidental and are an outcome of several highly complicated processes occurring simultaneously. Stetz et al. (2007) pointed out that improved organisational support in the form of lowering occupational stressors improves the psychological wellbeing of soldiers and also helps in lowering their depressive symptoms.

In the last decade India has not indulged in any war activity, though several counter-insurgency operations have been accomplished by the Army. The stress levels, however, have still increased. In this regard, Pflanz and Ogle (2006) observed that though military personnel have managed to adapt to the temporary hardships of wartime and humanitarian missions, the chronic stressors faced at the home base are found to be beyond their tolerance limit. Moreover, occupational stress arising out of routine military work environment is found to have significant negative impact on the mental health of military personnel (Pflanz, 2001; Pflanz & Ogle, 2006).

Despite volumes of research work available in the domain of occupational stress, there is a lack of empirical research on the Indian army; thus it is important to study the phenomenon with special consideration to the Indian army. To the best of our knowledge, this is probably the first empirical study focussing on the Indian army apart from studies available to the defence institutions. Moreover, reports on the rise of suicidal and fratricidal incidents in the Indian army in the past decade denote the relevance of such a study. As per the figures presented by the Defence Minister A K Antony to the Lok Sabha on March 6, 2013, a total of 368 defence personnel committed suicide from 2010 to 2012, out of which 310 soldiers belong to the Indian army alone; in 2010, 115 cases were reported as compared to 102 in 2011 and 93 in 2012. In addition, the Indian army was reported to be facing a shortage of 26,433 personnel below officer rank (Indian Military News, 2013). Consequently, the present study aims to explore the occupational stressors creating severe negative impact on the psychological wellbeing of the Indian soldiers and forcing them to take such steps. Hence, the objectives of the present research work are stated as follows.

Objectives

- To identify the factors causing occupational stress in Indian soldiers
- To evaluate the applicability of the scale used for measuring occupational stressors in the Indian army
- To formulate strategies to curb occupational stress in the Indian army based on the results of the study

Methods

The respondents for the study were 415 Indian army soldiers working in one of the most sensitive regions of the nation. The respondents were randomly selected from the Combat

arms (Infantry and Armoured), Combat-support arms (Engineering and Artillery) and Services (EME—Electrical and Mechanical Engineers and ASC—Army Service Corps). The soldiers included in the study were below the commissioned officer rank since the majority of suicidal cases reported in the Indian army belong to this category. The scale used for measuring occupational stress was adapted from Edwards, Webster, Laar, and Easton (2008) and Sharma, Kaur, and Sharma (2011) and was based on a 5 point Likert scale varying from 1 meaning "no stress'" to 5 meaning "severe stress". The data were gathered through structured schedules. The scale consisted of 47 items which were reduced to 32 items after factor analysis. The overall Cronbach's alpha obtained for the measure was .94.

Results and discussion

In order to reduce and purify the data, factor analysis with varimax rotation method was applied to 47 variables of occupational stress which were then condensed to 32 variables, and clubbed under 9 independent factors, using SPSS. Variables with eigen value equal to or above 1 were retained. Since communality depicts the proportion of variance a variable shares with other variables under consideration in the analysis, variables with communalities above .50 were retained in maximum cases (see Table 1). Further, values of Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy ranging from .50 to 1.0 are considered as an indicator of appropriateness of factor analysis. Thus, KMO values above .50 were accepted as a standard. Beside these, factor loadings above .50 and high percentage of variance explained were also taken into consideration. In addition, Cronbach's alpha (coefficient alpha), which is the average of all possible split-half coefficients, was also calculated to know the internal consistency of the data. The minimum value of alpha accepted was above .60 (Malhotra, 2007).

The factors extracted in this process were *ineffective leadership style, unsupportive colleagues, indifferent organisational attitude, inadequate training, inadequate awareness about profession, workload and job pressure, lack of control at work, role ambiguity* and *role conflict*. The study was carried out to identify the major occupational stressors affecting the Indian soldiers and leading them to take extreme steps, and the results of factor analysis indicate that all the nine factors obtained are connected with the occupational stress experienced by the soldiers. The discussion of the extracted factors follows.

Ineffective leadership style

The six variables extracted under this factor, viz., inability to give free feedback about work concerns, incompetent officers, unfree to talk about work and/or home issues, lack of support regarding difficult or emotionally demanding work, uncomfortable management/leadership style, and non-recognition of efforts, obtained factor loadings of .75, .72, .71, .69, .68, and .67, respectively (Table 1).

Ineffective leadership style received a mean score of 2.67 indicating that the leadership style adopted by the army officers and seniors creates normal stress among the soldiers.

This finding is supported by Ng, Skitmore, and Leung (2005) who opined that when the subordinate is uneasy with the management style of the superior, it can lead to frustration especially when insufficient guidance of the job requirements is provided. Contrary to this, Gignac and Appelbaum (1997) found that more than half of the representatives (65%) of a high technology communication organisation believe that they could rely on their manager for support when things get tough at work. In addition, Kumar and Singh (2012) noted that higher organisational identification and perceived quality of relationship with superior negatively impacts turnover intentions among the employees.

The most significant variable contributing to ineffective leadership style was unfree to talk about work and/or home issues (factor loading = .75). Supporting this result, Zeffane and McLoughlin (2006) argue that experience of work-related stress depends upon the perception of subordinates about the effectiveness of communication with their superior/ managers. Likewise, the work values gap in multi-generational workforce has an impact on communication processes, problem solving processes, knowledge sharing processes, interpersonal relationships, leadership behaviours, and management styles (Srinivasan, 2012). Since the Indian army is one such multi-generational workforce, different work value systems might be a source of stress due to inter-generational conflict between the superiors and subordinates. The variable with the least factor loading was non-recognition of efforts. In relation to this, Sutherland (1995) found general practitioners to be less satisfied with their job due to unsatisfactory recognition received for good work. Moreover, lack of acknowledgement and praise from superiors was among the top three stressful situations for young doctors (Antoniou et al., 2003).

Unsupportive colleagues

The second factor, viz., unsupportive colleagues, secured a mean value of 3.12, which implies that the behaviour of fellow soldiers also adds to the job stress of soldiers. In line with this, poor communication and poor relationship with colleagues emerged as a major source of occupational stress, as expected by Ng et al. (2005). Their study revealed that poor relationships with colleagues frequently correlate with other stressors, viz., adaptability problem with change of nature of job, ambiguity on job requirements, and work overload, and the concurrence of these stressors can lead to a very severe combined effect. Munz, Kohler, and Greenberg (2001) highlighted that non-cooperation of the work group is a work stress factor among sales representatives working in a large telecommunication company. Another study by Zeffane and McLoughlin (2006) reveals that absence of work team cooperation and employees' stress are strongly related, since it leaves only a few people at their level easily available for open discussions and sharing.

The highest contributor towards this factor is "unhelping co-workers" with the factor loading of .83. In this regard, Nair and Kamalanabhan (2011) emphasised that assignments based upon high interdependence of team members often have interdependent outcomes which require cooperation of all members and is positively related to both task and psycho-social outcomes including greater member satisfaction. Also,

Table 1 Descriptive statistics of organisational stressors.

Factors	Mean	S.D.	F.L.	Com	V.E. (%)	Cronbach's alpha
Ineffective leadership style					50.00	.80
Inability to give open/free feedback about work concerns	2.57	1.09	.75	.56		
Incompetent officers	2.65	.74	.72	.51		
Unfree to talk about work and/or home issues	3.16	1.24	.71	.51		
Lack of support regarding difficult or emotionally demanding work	2.26	.83	.69	.48		
Uncomfortable management/leadership style	2.79	.93	.68	.47		
Non-appreciation of efforts	2.70	.98	.67	.45		
Unsupportive colleagues					63.47	.70
Unhelping co-workers	2.73	.86	.83	.69		
Inability to talk openly	2.87	.72	.80	.64		
Unhappy working relationships	3.77	.92	.77	.57		
Indifferent organisational attitude					65.63	.73
Lack of mutual trust and supportive culture	2.58	1.19	.82	.68		
Lack of emotional and practical support	3.49	1.17	.81	.65		
Insincere implementation of dignity related policies	4.09	.81	.80	.64		
Inadequate training					55.75	.60
Inadequate training for continuous career development	2.88	1.20	.84	.71		
Lack of identification and incorporation of new training needs	2.35	1.03	.73	.54		
Non-availability of required training programme	3.45	1.68	.65	.43		
Inadequate awareness about profession					72.81	.89
Unawareness about Army's rules and regulations	3.99	.39	.946	.896		
Unclear understanding of the vision, strategies and objectives	3.99	.38	.943	.893		
Workload and job pressure					61.68	.84
Working more than defined working hours	4.26	.96	.86	.74		
Too much work in too little time	4.29	.98	.82	.67		
Too many or too complicated tasks	3.95	1.12	.77	.60		
Inadequate rest breaks	3.86	.96	.76	.58		
Unachievable targets	3.44	.97	.71	.51		
Lack of control at work					62.71	.70
Inadequate control over breaks between work	4.58	.96	.86	.73		
Inflexible working hours	4.85	.62	.79	.63		
Insufficient authority over techniques and timing of work	4.40	1.02	.73	.53		
Role ambiguity					77.27	.89
Inadequate understanding of duties and responsibilities	2.46	1.05	.94	.88		
Ill-defined role and scope	2.60	1.09	.92	.85		
Inadequate knowledge about work	2.55	1.02	.89	.78		
Unclear about others' expectations	3.42	1.36	.76	.58		
Role conflict					75.16	.83
Perpetual gap between tasks undertaken and Army initiatives	4.27	1.07	.92	.84		
Assignment of unexpected work	4.38	.99	.87	.76		
Conflicting Army role and individual work tasks	4.07	1.19	.81	.66		

S.D., standard deviation; F.L., factor loading; Com., communality; V.E., variance explained.

Zeffane and McLoughlin (2006) opined that if the work group is not cooperative, it can result in isolation, frustration, and ultimately, stress in the employees. Additionally, Ganesh and Joseph (2011) found that perceived performance review system complexity mediates the relationship between organisational formalisation and executive alienation. Since organisational formalisation and performance review system complexity are parts of the armed forces, this might amount to alienation among the soldiers. Thus, in order to reduce stress among the soldiers, the army should encourage them to help each other and maintain good informal working relationships with each other.

Indifferent organisational attitude

A mean score of 3.39 was attained by this factor, suggesting that the organisational attitude and climate in the army are also serious concern for the soldiers. Studies suggest that deficiency of social support in the work environment directly causes job-related strain (Kaufmann & Beehr, 1989). With reference to this, Chang and Lu (2007) emphasised that organisational culture valuing human relations, provide people with social support network and thus, help reduce stress among them. Further, Keenan and Newton (1984) suggested that in order to reduce frustration among the

individuals in the organisation, an atmosphere of warmth and support as a whole is more important than the support received from the immediate superior.

The variable, viz., lack of mutual trust and unsupportive culture, received the highest factor loading while insincere implementation of dignity-related policies was the lowest contributor for the factor (Table 1). In a study by Murray-Gibbons and Gibbons (2007), a quarter of working chefs were harassed or bullied at work and this "army-style" discipline was found to intimidate the chefs and possibly have a negative effect on their relations with the management as well. This finding is also in conformity with the discussions during the interviews, where soldiers expressed resentment towards abusive language used by their seniors.

Inadequate training

Inadequate training also received an average mean score (2.89). This advocates that the training received by the army personnel is not perceived to be sufficient for their continuous career development as it amounts to normal stress among them. Ng et al. (2005) identified lack of opportunity to learn new skills as the second most difficult manageable stressor in the construction industry. The study further highlighted that the failure to provide an adequate learning requirement is a serious threat to the long-term career development of the concerned people.

The variables emerging with the highest and lowest factor loadings were inadequate training for continuous career development and non-availability of required training programme, respectively. Although the army facilitates continuous training programmes, the soldiers believe that the kind of training required for fulfilling their duties adequately is not provided. Thus, the training concerns of the soldiers should be taken into consideration while designing training and development programmes. In support of this result, Antoniou et al. (2003) found junior hospital doctors stressed owing to the lack of training. They further established that scientific committees responsible for the doctors' training are unable to design a complete training programme for them, since their members do not have significant communication with the young doctors and thus, remain unaware of their real difficulties and needs.

Inadequate awareness about profession

The factor inadequate awareness about profession obtained a high mean score of 3.99 which implies that being inadequately aware about the rules and regulations of their organisation generates distress among the soldiers. Further, both the variables under this factor, viz., unclear about army's rules and regulations and unclear about army's vision, strategies and objectives, had a high loading (.95 and .94, respectively) representing almost equal contribution towards the factor. A similar result emerged in a study by Zeffane and McLoughlin (2006), where non-clarity of organisational objectives was identified as an independent stress creating factor. Not being clear about the basic rules, strategies, and objectives of the armed profession keeps the soldiers confused and under-confident, which can emerge into a greater

problem if they are assigned responsible tasks, as the army cannot afford even a single mistake by the soldiers while performing their duties.

Workload and job pressure

The factor workload and job pressure, with a high mean score of 3.96, generate moderately severe stress among Indian soldiers. This signifies that working long hours, completing tasks within insufficient time, too many tasks or those that are too complicated, inadequate rest breaks and unachievable targets create workload and job pressure for the soldiers. With reference to this finding, Gignac and Appelbaum (1997) established that having too many tasks and their linkage to deadlines leads to time pressure. Also, Keenan and Newton (1984) found strong association between anxiety and having too much work to do in the time available. Moreover, complexity at work results in high workload and high role conflict (Tummers et al., 2002). Similarly, sleep deprivation was related to demanding work schedules among junior hospital doctors, especially due to on-call night duties (Antoniou et al., 2003). Contrary to this, Ng et al. (2005) emphasised that inadequate recess is not related to most of the other stressors and concluded that an individual's sufficient rest depends largely upon his personal time management, rather than the requirements of the job.

The variable with the highest factor loading, viz., working more than defined working hours, confirms its major contribution towards the factor and occupational stress among soldiers. In relation to this result, White, O'Connor, and Garrett (1997) found that working excessive hours and on-call duties result in fatigue which may lead to increased perception of job pressures among hospital doctors, since it causes a reduction in their leisure time and social life. Further, the variable unachievable targets attained the least factor loading of .71 under the factor but contributes sizeably towards workload and job pressure among soldiers. In a study by Puffer and Brakefield (1989), heavy workload, time pressures, and unrealistic deadlines were found to be the most stress-producing job aspects among three-fourths of the respondents. Also, Valk and Srinivasan (2011) found that majority of women IT professionals emphasised that the projects with tight deadlines, extensive travelling and long and/or odd working hours affected their work–family balance. Thus, considering the detrimental effect of workload and job pressure on soldiers' stress levels, the Indian army needs to make appropriate changes in the work allocation process.

Lack of control at work

Lack of control at work acquired the highest mean amongst all the factors (Table 1). Such a high mean value suggests that inadequate autonomy inherent in the army job in the form of lack of control over breaks during work, inflexible working hours, and inadequate authority over techniques and timing of work amounts to severe work-related stress in the soldiers. This might be due to the fact that the soldiers have to work strictly as per the directions of their officers and seniors and do not have the authority to choose how and when to work. Besides, there is little flexibility in their working hours.

In this context, several women doctors left hospital medicine as a result of inflexible working arrangements (White et al., 1997). At present, a similar pattern is observed among the Indian army soldiers (both in officer and below officer rank) resorting to premature retirement, thus leaving the army with a shortage of soldiers (Indian Military News, 2013).

Inadequate control over breaks between work and insufficient authority over techniques and timing of work emerged as the highest and lowest loaded variables of this factor. However all the variables obtained factor loadings above .70 signifying their strong contribution to the factor. From a similar perspective, according to Liu et al. (2005) low job control holders may have passive feeling about their jobs, since they always have to listen to somebody and this passive feeling could lead to physical ill-health, even without their being conscious of it. During the interviews, the soldiers emphasised their helplessness when their seniors did not pay adequate attention to their break time while working.

Role ambiguity

An average mean score (2.76) was reflected by role ambiguity suggesting its influence on the stress experienced by the Indian soldiers. Parallel to this finding, Menon and Akhilesh (1994) identified that personnel managers are usually unclear about the scope of their job as compared to maintenance, sales, production, and finance managers and this increased their stress levels. Also, more than 50% of the representatives studied by Gignac and Appelbaum (1997) disclosed high levels of stress and work pressure due to lack of sufficient information about products and services to serve customers.

The variable, viz., inadequate understanding of duties and responsibilities, obtained a very high loading (Table 1) depicting that improper understanding of duties and responsibilities of the job increases the role ambiguity of soldiers considerably. Hemingway and Smith (1999) highlighted that nurses might place themselves in unfamiliar circumstances where potential for injury is greater if they are unclear about their job responsibilities, since this might make them perform roles for which they are not properly trained or qualified. Another variable of role ambiguity, i.e., unclear about others' expectations acquired the lowest loading. Frone et al. (1995) noted that ambiguity regarding role expectations may arise due to lack of adequate information exchange, which can in turn result in poor performance.

Role conflict

The last factor, namely, role conflict, achieved the second highest mean score (see Table 1) portraying its significant impact on augmenting the stress levels of the Indian soldiers. Role conflict occurs when a combination of expectations one holds and the demands made by the organisation are incompatible (Gignac & Appelbaum, 1997). Savery et al. (1983) opine that unsatisfied role expectations may turn into role conflict. The Indian soldiers remarked in the interviews that they were highly stressed as expected work was not assigned to them and the tasks allotted to them were not up to the level of the soldiers. This result is in line with the findings from Antoniou et al. (2003) study, where more than a

quarter of junior hospital doctors (JHDs) complained that they were forced to spend at least half of their working day dealing with clerical duties.

The variable, viz., perceptual gap between tasks undertaken and army initiatives, is the foremost contributor to the factor (Table 1), signifying that soldiers feel distress owing to the gap between their perceptions about the tasks allotted to them and the army's initiatives and directives. In relation to this, Dornstein (1977) demonstrated that the chief executives do not experience role conflict, i.e., they do not feel that they have to act against their best judgement or bypass directives or policies of their organisation. Thus, Dornstein found that chief executives perceive themselves as quite powerful, which means that they do not have to succumb to pressures of any kind and so can act as they deem fit. Hence, Dornstein's study results support our research finding. The army being an organisation of strict rules, regulations, orders and pressures, does not give the discretion to its soldiers to act as per their perceptions or best judgement. Thus, lack of discretionary power to judge and act makes them feel this perceptual gap.

Therefore, out of the nine dimensions of occupational stressors in the Indian army identified through exploratory factor analysis, the strongest stressor is lack of control at work, followed by role conflict, inadequate awareness about profession, workload and job pressure, indifferent organisational attitude, unsupportive colleagues, inadequate training, role ambiguity and ineffective leadership style. However, all the stressors explored were found to engender normal to severe stress among the soldiers.

Confirmatory factor analysis

After performing Exploratory Factor Analysis (EFA), Confirmatory factor Analysis (CFA) was applied on the resultant factors emerging from Exploratory Factor Analysis (EFA) to check the applicability of the scale used to measure occupational stressors. Exploratory Factor Analysis run on the construct of occupational stressors resulted in nine factors while CFA confirmed only eight factors as the indicators of occupational stressors in the Indian army, i.e., ineffective leadership style, unsupportive colleagues, indifferent organisational attitude, inadequate training, workload and job pressure, lack of control at work, role ambiguity, and role conflict. The overall model's chi-square, the Goodness of Fit Index (GFI), the Comparative Fit Index (CFI), the Tucker Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA) were used to assess the model fit (Hair, Black, Babin, Anderson, & Tatham, 2009). Initially, the measurement model showed a poor fit with values of χ^2 (27) = 150.84, p < .01; GFI = .923, CFI = .926, TLI = .901 and RMSEA = .105. Therefore, inadequate awareness about profession was dropped in this process as its standardised regression weight was below .50. The appropriateness of the model was confirmed through various fit indices, viz., χ^2 (18) = 59.8, p < .01; GFI = .965, CFI = .973, TLI = .958 and RMSEA = .075. Validity of the measurement model was also established since all the standardised regression weights and Average Variance Explained (AVE) were above .50 and composite reliability came to be .92. Thus, the result of CFA confirms that
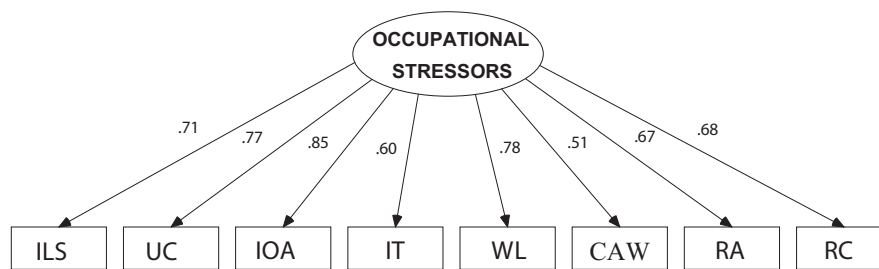
Figure 1 Measurement model of occupational stressors. **Abbreviations used**: **ILS** (ineffective leadership style), **UC** (unsupportive colleagues), **IOA** (indifferent organisational attitude), **IT** (inadequate training), **WL** (workload and job pressure), **CAW** (lack of control at work), **RA** (role ambiguity), **RC** (role conflict).

Table 2 Results of confirmatory factor analysis (CFA).

Retained factors	Standardised regression weights	Sig. level (p)	Critical ratios
Ineffective leadership style	.71	***	–
Unsupportive colleagues	.77	***	14.41
Indifferent organisational climate	.85	***	15.84
Inadequate training	.60	***	11.46
Workload and job pressure	.78	***	14.59
Lack of control at work	.51	***	9.61
Role ambiguity	.67	***	12.60
Role conflict	.68	***	12.74

*** $p < 0.001$.

occupational stressor is an eight factor model and not a nine factor model in the Indian army (see Fig. 1).

The highly significant standardised regression weights in Table 2 suggest that all the retained factors are important in terms of overall stress model ($p < .001$). The measurement model also reveals that stress in the Indian army is due to factors other than inadequate awareness about profession. This may be due to the fact that pressure on account of other factors is more severe and unmanageable for the soldiers.

Nevertheless, the results from CFA support the results of EFA which disclose that all the dimensions of occupational stressors explored (except inadequate awareness about profession) contribute in the emergence of occupational stress prevailing in the Indian army.

Discussion and practical implications

The present study highlighted that lack of control at work is the most severe and influential stressor in the Indian army, followed by role conflict, and workload. Since the army/military is a control-based, hierarchical system, such a system may lead to lack of control at work, role ambiguity, and role conflict. The highly control-based system in the army may have led to the soldiers developing feelings of helplessness, frustration, stress and low morale which have generated negative emotional energy among them. An alternative approach to control-based management for effective management of employees would be a commitment-based management approach, as emphasised by Khatri, Baveja, Boren, and Mammo (2006).

The authors have contrasted the two approaches on the basis of their assumptions and consequences. The control-based approach assumes that it is difficult to trust people since they are unable to self-regulate their behaviour (McGregor, 1985). Therefore, this approach emphasises close monitoring of employee behaviour through an assortment of control mechanisms to enable employees to do everything essential for the success of the enterprise aided by a highly structured machinery of direction and control. The alternative approach of commitment involves two underlying assumptions: firstly, people can be self-disciplined, and hunt for responsibility and employ initiative if they are provided opportunity and developmental experiences; and secondly, people demonstrate best performance when they are totally committed to the organisation, and their commitment increases if they are trusted and granted autonomy at work. Therefore, this approach emphasises building an environment that promotes commitment among employees towards organisational objectives and providing them with opportunities for employing initiative, ingenuity, and self-direction to achieve these objectives (Khatri et al., 2006; Khatri, Halbesleben, Petroski, & Meyer, 2007). The employees view close monitoring behaviour as constraining and demoralising as it imposes an unintended restriction on the initiative, creativity, and morale of the majority of the employees who are capable of performing better in the absence of control (Khatri et al., 2006). Since the army is a closed organisation, the failures within the army are not made public due to the existing culture of security and confidentiality in the army, except for suicidal and fratricidal cases. Consequently, control-based management practices succeed in preventing unpleasant actions and behaviours only among a small fraction of

employees, thereby demoralising learning from mistakes and provoking a culture of blame (Khatri et al., 2006).

Though the Indian government and army have taken several steps to counteract the problem of stress in the army, such as recruiting psychiatrists in the army, discussions by the defence ministry with the expert panel of psychiatrists, initiating stress-busting therapies in recuperation centres set up in certain geographies prone to stress, practising meditation, introducing regular lectures on yoga techniques, etc. (Gupta, 2008), suicides and fratricides in the army are recurrent since most of the measures are executed in an extremely control-based framework. Until these stress reduction measures are initiated in a commitment-based supportive organisational culture, the efforts of the army are not expected to be significant in controlling such incidents.

In the discussion of the results of factor analysis, the present study recommends the introduction of certain measures in the Indian army, such as building a supportive organisational culture; reduction of communication gap between the officers/seniors and soldiers; providing adequate autonomy to soldiers at work; considering soldiers' views before finalising training programmes; encouraging soldiers to maintain good informal working relationships with each other; increasing the awareness of soldiers regarding armed profession and ambiguous roles; and reforming the work allocation process by paying more attention to the fixed working hours and rest breaks. All these measures are a by-product of adopting commitment-based management practices and thus can be implemented through a gradual shift from a control-based army system to a commitment-based army system.

A control-based, bureaucratic model would be maladaptive in situations involving immense change, environmental dynamism, and substantial uncertainty. In such situations, the key resources for modern organisations are self-regulating capacities of employees acclimatised through expertise, since present day dynamic organisations call for flexible and adjustable employees, self-sufficient in coping with swiftly changing business conditions and welcoming others to work cooperatively in problem-solving and decision-making situations. In times of change, employees having faith in their managers and the organisation are committed towards the organisational objectives and are potentially more self-regulating, thereby lessening the need to be regulated by sanctions and external pressures (Khatri et al., 2006). Buker and Wiecko (2007) identified bureaucracy as an important predictor of stress among police officers suggesting higher stress levels induced by greater rate of bureaucracy in the department. Further, excessive workload, inadequate staff, inadequately specific policies/procedures, inadequate supervision/direction and too much "red tape" within the department were strongly related to the individual level of stress in the police department. On the other hand, satisfaction of police officers with their supervisors, co-workers, and work itself helped in reducing their level of occupational stress. Thus, stress in the army can be managed by endorsing self-disciplined and self-regulating troops of soldiers, since in the times of change and uncertainty they would understand the excessive workload and ambiguous roles by being flexible and adaptable to challenges imposed by the external environment, trusting their seniors and officers, ensuring commitment to the aim of the army, and radiating a positive effect rather than being mentally and emotionally affected by adverse circumstances.

In this context, Khatri et al. (2006) and Khatri et al. (2007) further explain the motivational effect of commitment-based management practices by explaining its impact on the employee's behaviour. The researchers assert that the control-based management system lays emphasis on lower-level needs (e.g., basic pay) and lacks the fulfilment of higher-level needs (e.g., need for independence, achievement, self-confidence and recognition). As a result, it affects the intellectual level of the individuals concerned by making them "sick," not physically, but mentally due to absence of opportunities to gratify their higher-level needs. Thus, it lowers the morale of the employees and increases turnover in the organisation by making the employees helpless, frustrated, and insecure. Moreover, excessive importance given to compliance/obedience rather than commitment undermines the full utilisation of the knowledge and emotional energy of the employees. This is exactly the scenario in the Indian army at present since excessive control of soldiers does not allow them to fulfil their higher-level needs, thus, making them dissatisfied, demotivated, helpless, frustrated, insecure and ultimately less committed and mentally "sick"; and the consequences of psychological sickness of employees is demonstrated by the fatal steps taken by Indian soldiers. On the contrary, it has been highlighted that in a commitment-based organisation, the employees engage actively in their work and feel empowered and fully energised. In consequence, generally in such organisations, the utilisation of human capacity is high and turnover rate of employees is low. This makes the employees generate positive emotional energy and they take pride in the organisation and its mission. Moreover, committed employees display a higher degree of trust in colleagues and seniors, openness to cooperation, and more support for teamwork. Thus, organisations must employ a commitment-based framework by facilitating employee participation in decision-making, and creating just, fair, and egalitarian management practices to develop an open and trusting culture (Khatri et al., 2006). Adopting a commitment-based approach in the army would definitely result in reduction of communication gap between the officers/seniors and soldiers; improving cooperation, trust, and openness among the soldiers thereby promoting superior informal working relationships in the army; intensive participation of soldiers in decision-making concerning themselves (e.g., before finalising training programmes); building a supportive organisational culture; and enhancing the performance, morale, and real commitment of soldiers.

Khatri et al. (2006) further remark that adopting a commitment-based management approach does not mean the absence of control in the organisation. Control in a commitment-based context is attained by generating commitment among the employees towards the objectives of the organisation. Further, the understanding of a control-based approach is clear-cut, i.e., strict and close monitoring of employees, granting minimum obligatory financial benefits to employees to control overheads, and chastising them in case they deviate from the rules. On the contrary, the authors emphasise that the implementation of a commitment-based approach is relatively more difficult, since individuals and organisations are less acquainted with it, as it is a comparatively new approach.

In order to avoid the ill effects of a control-based management system, a steady shift from control-based to commitment-based management system should be facilitated in the Indian army. In this regard, the implementation of the commitment-based management approach can be achieved by placing transformational leaders in key positions, as it requires skilful managers with good leadership skills, proficiency in understanding human psychology and behaviour, and ability to foster a willingness to change among the employees (Khatri et al., 2006). In line with this, the researchers suggest that the managers should be selected not only on the basis of their technical competence, but also their managerial and interpersonal skills.

In addition, although the Indian army has initiated regular yoga and meditation practices in the past few years, and particularly in view of the stress related deaths (reported earlier in the study), in addition to commitment-based management practices, the present study strongly recommends the introduction of regular Sahaja Yoga meditation in the army to improve the psychological and physical well-being of the Indian soldiers[1]. Regular mental exercise such as Sahaja Yoga meditation would help in restoring positivity in the minds of the soldiers, especially when in situations out of their control. Thus, the Indian army should focus on building a resilient workforce which can accommodate the pressures of the present stressful scenario.

Strengths of the study

This study is probably the first empirical study focussing on identifying the occupational stressors in the Indian army. Secondly, the data are generated from one of the most sensitive areas of the nation where a majority of suicidal and fratricidal cases have been reported in the past. Further, all the three arms of the Indian army, viz., combat arms, combat support arms, and services are included in the study.

Limitations and future research

The research, being sensitive in nature, might have led the soldiers to underplay their stress responses. However, personal interaction with the soldiers in addition to structured schedules helped to overcome this limitation to a large extent. Also, since the study is cross-sectional in nature, it cannot be generalised to other occupations. Further, the study concentrates only on the organisational factors. Thus, further research including other factors such as domestic problems and personality types can be considered. Moreover, consequences of occupational stress and impact of stressors on consequences can be studied in future.

Conclusion

To conclude, the study highlights that the major factors imposing occupational stress among the Indian soldiers are lack of control at work, role conflict, inadequate awareness about profession, workload and job pressure, and indifferent organisational attitude. Further, confirmatory factor analysis confirmed an eight factor model of occupational stressors in the Indian army (excluding inadequate awareness about profession), which shows that the scale used in the present study for measuring occupational stressors has high diagnostic ability for identifying areas requiring strategic focus in the Indian army. Thus, the Indian army should redirect its resources towards controlling and minimising these negative organisational factors. The study recommends a gradual shift from control-based management system in the army to a commitment-based management system by placing transformational leaders at key positions; and creating just, fair and egalitarian management practices to develop an open and trusting culture; and fostering empowerment and participation of soldiers in decision-making in order to enhance integration, communication, teamwork, motivation, commitment and performance of the soldiers to create a healthy and stress-free working environment at large. Further, practices such as Sahaja Yoga meditation should be introduced as a regular morning exercise to treat mental stress in the armed forces.

The military is responsible for defending the integrity of the nation and this necessitates the armed force to be physically, psychologically and emotionally healthy. A "sick" army can negatively impact the country in terms of health care, unhealthy working relationships, suicides, and killing of fellow soldiers, which have been frequently witnessed in the past decade. Although the army performs well at the border and in insurgency areas, occupational stress is a major risk for the soldiers at these crucial spots and can even hamper their performance to a large extent. It appears imperative, therefore, that the government and the army authorities address these pertinent issues to ensure the holistic well-being of the soldiers of the nation.

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[1] Sahaja Yoga meditation is a scientifically proven meditation technique which works through the subtle system and maintains a balanced state of mind of the individual. Recent medical investigations disclose that individuals suffering from anxiety, depression, occupational stress (Manocha, Black, Sarris, & Stough, 2011; Morgan, 2001), hypertension, cancer, chronic asthma, epilepsy, diabetes, arthritis and heart ailments (http://www.lifepositive.com/Mind/Stress/Stress_Management_through_Sahaja_Yoga.asp) have recuperated after regular practice of Sahaja Yoga meditation. Moreover, Sahaja Yoga meditation experimented on the soldiers of different regiments of the Indian Army during the survey showed substantial positive effect in the form of relaxed psychological and physical state after meditation (Sharma, 2012).

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