

Psycho-physiological Problems among Dual Career Women: A Cause of Stress

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ABSTRACT As women enter the work force, they have to face some physical and psychological stresses in the work environment. They have to bear pressure created by the multiple roles they have to play in conflicting situations, which may adversely affect their job performance. More than a quarter million working women surveyed and observed difficulty in balancing work and family. Keeping in mind the above situation, the study was planned with the objectives to study the effects of stress on physiological and psychological parameters and to suggest possible approaches to stress management. For this an experimental research design was chosen. Various physiological and psychological tests and observation sheets were used to ascertain the effects of stress. Nearby areas of Uttarakhand state were selected for the study and the purposive sampling design was used to select the study area and sample size. A total sample size of 125 respondents, having equal representatives (25 each) from the five job categories was taken. The major findings of the study are that a considerable average difference in blood pressure (7.9 mmHg) and pulse pressure (5.0 mmHg) was found among the people working in private sector, whereas the difference in heart rate, respiration rate and temperature was found more among the workers of bank/LIC as 9.2 beats/min, 5.8 cycles/min and 0.56°F respectively. In case of psychological parameters, aptitude test and letter cancellation test was done and found that the performance of the workers reduces in the evening as compare to morning and the difference was 7.16 and 5.68 respectively, which altogether shows the physical as well as psychological stress among them.

INTRODUCTION

The modern world, which is said to be a world of achievements, is also a world of stress (Tyagi and Sen 2000). The occupational stress is the by-product of complex industrial organization. Role stress may occur because of conflict between work and non-work activities (O'Driscall et al. 1992).

Stress is a part of every employee's life. However, where stress is excessive, personal and organizational performance is at best damaged. At the worst, stress is a liability and a threat to the survival of an organization and it is the harmful physical and emotional responses that occur when the requirements of the job do not match with the capabilities, resources, and needs of the worker.

A study by David and Smith (2003) has shown that while dual careers frequently provide psychological compensations and financial benefits, multiple roles may cause stress. This in turn, may generate strain and work discord, especially when work and family life interfere with each other. It has been suggested that stress in one domain is not caused by events in another, but rather the stress results from the interaction between the two domains. Stress commonly results from work overload, role conflict and role ambiguity, which may combine to generate work-family conflict.

Professional stress or job stress poses a threat to physical and psychological health. Work related stress in the life of organized workers, consequently, affects the health of organization. Job stress can be defined as the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker. Job stress can lead to poor health and even injury.

In order to understand the occupational aspects of health, it is necessary to have a detailed examination of women's work and its effects in terms of physical and mental health. It is necessary to analyze them in terms of physical stresses, the postural positions and their effects, and occupation related health problems.

Keeping in mind the above facts, there is a need to study the work-related stress of the dual career women. Thus the study was planned keeping in mind the following objectives;

1. To study the effects of stress on physiological and psychological parameters.
2. To suggest possible approaches to stress management.

METHODOLOGY

Selection of Sample and Locale: Four areas of Uttarakhand state were purposively selected for the data collection, that is, Pantnagar, Kichha, Rudrapur and Haldwani. For this mul-

tistage purposive random sampling design was used to select the study area and respondents. For collection of data, total sample size of 125, 25 from each representative group (scientists, teachers, bank and LIC employees, clerical staff and private section) were selected.

Description and Selection of Tool: Experimental research design was planned to carry out the study. For collection of experimental data, various physiological tables were developed to assess the heart rate with the help of Polar Heart rate monitor, blood pressure and pulse rate from Blood Pressure Monitor, respiration rate by self counting of number of inhale and exhale and body temperature with the use of Doctor's thermometer and the readings were noted on a morning evening basis. Total leukocyte count and differential leukocyte count of the selected respondents was also tested. For psychological stress aptitude and letter cancellation test were taken which shows the impact of stress among the respondents.

Aptitude Test: The aptitude test sheet consisted of different questions related to analogy, dissimilarity and coding making in total of twenty questions to be answered in three minutes. On the basis of total number of questions attempted and the total number of corrected responses given in the allotted time period the percentage scores were calculated differently for morning and evening.

Letter Cancellation Test: The sheet was consisted of a random block of alphabets (A-Z). The respondents were asked to cancel out total number of one target alphabet at a time in a given time period of 30 seconds. Likely they were asked to cancel out five different alphabets and write their responses in the space provided. The test was performed morning evening basis.

RESULTS AND DISCUSSION

Effects of Stress on Physiological Parameters: Study conducted by French (2004) indicated that social support moderated the association between job stressors and physiological outcomes (blood pressure, hypertension, serum and glucose) but not between job stressors and psychological outcomes. In the present study the physiological data was collected on the following parameters on a morning and evening basis. Difference between both the readings was calculated and mean as well as standard deviation of the same were also calculated for the whole experimental data.

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Blood Pressure: Guimont (2006) found that cumulative exposure to job strain resulted in significant increase in systolic blood pressure among white collar workers especially those with low levels of social support at work. High blood pressure increases the risk of cardiovascular diseases. Here we can see that the most affected group in case of blood pressure is, the women working in private sector as they were having maximum increase in the readings from morning to evening and the difference was 7.9 mmHg followed by scientist (8.33 mmHg) and female workers of bank/LIC (6.99 mmHg).

Pulse Pressure: The pulse pressure is the difference between the systolic and diastolic pressure. The average pulse pressure of a young adult is 40 mmHg. Cumin and Cooper (2006) reported that elevated heart rates produce raised pulse pressures caused by one mechanism (stress), while in the other, lowered heart rates produce raised pulse pressures, because of the other mechanism, the ratio of stroke volume to pulse rate. This second one is vastly more potent than the first, and can easily double pulse pressure with just a few b.p.m. lowering of heart rate. The most affected group in case of pulse rate are the women working in private sector as well as school teachers as they were having maximum increase in the readings from morning to evening and the difference was 5.0 mmHg each followed by scientist (4.0 mmHg) and clerical staff (3.0) (Table 1).

Heart Rate: To characterize the physiological effect of stress, five readings of heart rate was taken at an interval of one minute at the starting of the work (in the morning) and similarly five readings were taken at the end of the work (in the evening) to determine the stress due to dual responsibilities of the respondents.

The heart rate was taken with the help of Polar heart rate monitor and the readings showed that the female workers of bank/LIC were suffering from more fluctuations in heart rate as having the difference 9.2 beats/min followed by scientists (8.4 beats/min) and female workers of private sector (7.8. beats/min)

A depressed mood, in and of itself, is the critical determinant, as depressed mood is necessarily accompanied by a significant increase in heart rate variability, although it has been reported to be associated with stress (Hughes and Stoney 2000). Similar results were reported by

Table 1: Effect of stress on physiological parameters

Parameters	Scientist	School Teacher	Bank/LIC	Clerical	Private Sector
<i>Blood Pressure</i>					
Morning	86.99 (7.8)	93.99 (10.38)	90.33 (6.27)	93.99 (6.8)	90.33 (6.9)
Evening	95.33 (7.2)	99.66 (10.56)	97.33 (4.50)	97.66 (7.1)	98.33 (7.2)
Difference	8.33 (1.6)	5.66 (3.24)	6.99 (2.17)	3.66 (4.3)	7.99 (0.75)
<i>Pulse Rate</i>					
Morning	33 (6.7)	33 (8.3)	34 (9.6)	36 (5.4)	34 (4.1)
Evening	31 (9.6)	32 (9.0)	34 (11.4)	35 (6.1)	31 (6.5)
Difference	4 (4.2)	5 (3.5)	2 (2.7)	3 (2.7)	5 (0)
<i>Heart Rate</i>					
Morning	82.24 (8.1)	85.32 (9.06)	87.88 (8.1)	80.88 (7.4)	82.24 (6.1)
Evening	90.64 (9.3)	91.48 (7.2)	97.08 (6.1)	86.88 (6.2)	90.04 (6.5)
Difference	8.4 (3.2)	6.16 (3.3)	9.2 (4.7)	5.12 (2.3)	7.8 (3.9)
<i>Respiration Rate</i>					
Morning	25.4 (3.4)	26.8 (6.3)	24.8 (2.7)	26 (3.16)	28.6 (1.7)
Evening	30 (3.8)	31.4 (5.7)	30.6 (1.14)	31.6 (2.4)	33 (2.6)
Difference	4.6 (1.9)	4.6 (1.9)	5.8 (2.16)	5.4 (1.14)	4.4 (1.5)
<i>Temperature</i>					
Morning	97.74 (0.83)	98.08 (0.25)	98.38 (0.8)	98.28 (0.8)	98.14 (0.6)
Evening	98.06 (0.61)	98.36 (0.30)	98.94 (0.5)	98.66 (0.75)	98.48 (0.5)
Difference	0.32 (0.27)	0.28 (0.08)	0.56 (0.4)	0.38 (0.3)	0.34 (0.13)

Figure in parenthesis shows SD value

different researches conducted by NIOSH suggesting that psychologically demanding jobs that allow employees little control over the work process increase the risk of cardiovascular diseases.

Respiration Rate: Table 1 clearly envisages that the women working in bank/LIC (Life Insurance Corporation) were having more sufferings due to stress as the readings increases more in the evening and the difference was found as 5.8 cycles/min followed by clerical staff. When someone is stressed the body needs more oxygen from the environment. To do this, the body attempts to elevate the respiratory rate, which helps to gather more oxygen (www.stress-relief-resources.com).

Temperature: The term core temperature means the temperature of the deep tissues of the body. But this is rather difficult to measure. Therefore, there are certain specific regions in our body where we can measure the body temperature very close to the core temperature. Among that oral temperature is considered as the normal body temperature which ranges from 36.7° C (98.0°F) to 37 ° C (98.6°F), whereas in the study it was found that the changes in temperature were more among the female workers of bank/LIC as the difference in the reading was 0.56 ° F.

Total Leukocyte Count and Differential Leukocyte Count (TLC and DLC): The TLC and DLC reports of the selected respondents

showed that all the respondents were in a normal health condition. A little difference in the TLC of the respondents occurred due to temperature change that is, rise in body temperature of respondents from morning to evening. It is believed that with change in the temperature of the body the different units of blood cells start sticking to each other in a piled up manner resulting in decrease in the count of TLC and different components of DLC.

For the present study inter venial blood samples were collected on a morning evening basis and testing of TLC and DLC was done in the pathological labs. The reports of the respondents on the basis of specifications given in Table 2 showed a decline of nearly 50-700/cumm in the TLC from morning to evening and slight differences of 1-5 per cent in different components of the DLC among the selected samples.

Table 2: Specifications for TLC and DLC

Total Leukocyte Count (cumm)	4000-10000/cumm
Differential Leukocyte Count (cumm)	
Polymorphs (%)	40-75
Lymphocytes (%)	20-40
Eosinophils (%)	01-06
Monocytes (%)	01-03
Basophile (%)	00-01

Effect of Stress on Psychological Parameters: Thompson (2007) said stress, cognitive ability and emotional intelligence over the last

25 years has led to the conclusion that when a person's stress level is sufficiently elevated, whether on the front line of a manufacturing process, in the emergency room, the boardroom or on the battlefield, his ability to fully and effectively use his cognitive ability and emotional intelligence in tandem to make timely and effective decisions is significantly impaired. This often leads to catastrophic results. In the present study to ascertain the psychological effect of stress different tests were performed;

Aptitude Test: The overall scores revealed that the average score in the morning was 81.48 per cent which decreased in the evening with an average score of 74.32 per cent and the average difference was 7.16 per cent as shown in Figure 1. It has been mentioned in the newsletter of the Institute of HeartMath (2002) that anxiety creates a kind of "noise" or "mental static" in the brain that blocks our ability to retrieve what's stored in memory and also greatly impairs our ability to comprehend and reason

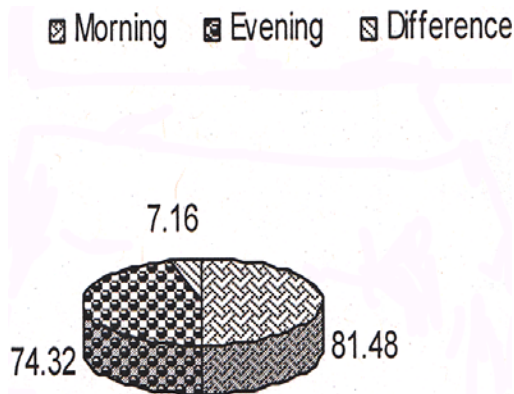


Fig. 1. Aptitude test

Letter Cancellation Test: The average score for the LCT in morning was obtained to be 35.40 and the same was calculated in the evening and found as 29.72, thus the difference was 5.68 (Fig. 2). Goleman (2004) also describes that stress can lead to learning difficulties such as hyperactivity difficulty focusing on a task, and poor physical coordination.

Work Related Stress Model: Segal et al. (2011) reported that when you feel overwhelmed at work, you lose confidence and may become irritable or withdrawn. This can make you less productive and less effective in your job, and make the work seem less rewarding. If you ig-

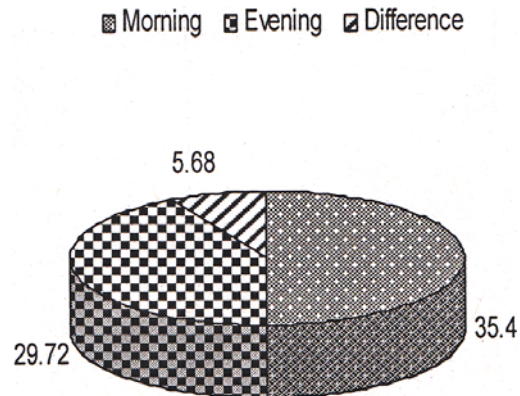


Fig. 2. Letter cancellation test

nore the warning signs of work stress, they can lead to bigger problems. Beyond interfering with job performance and satisfaction, chronic or intense stress can also lead to physical and emotional health problems, that is why the model of work stress (Fig. 3) was developed which highlights the relationship between potential work related stress hazards, individual and organizational symptoms of stress and its negative outcomes to avoid stressful situations. By applying the tips of stress management one can avoid the physical as well as psychological disorders caused by stress.

Approaches to Stress Management

In this difficult economy, many of us are finding it harder than ever to cope with stress in the workplace. Regardless of occupation, seniority, or salary level, we're spending more and more of our work days feeling frazzled and out of control, instead of alert and relaxed. While some stress is a normal part of the workplace, excessive stress can interfere with your productivity and reduce your physical and emotional health. Finding ways to manage workplace stress is not about making huge changes to every aspect of your work life or rethinking career ambitions. Rather, stress management requires focus on the one thing that's always within your control.

Under this study a manual was designed which comprises of the tips for effective stress management strategies. These are some most important points which one should consider while suffering from stress. By keeping in mind the circumstances of yourself select those from the list those are most useful to your own cir-

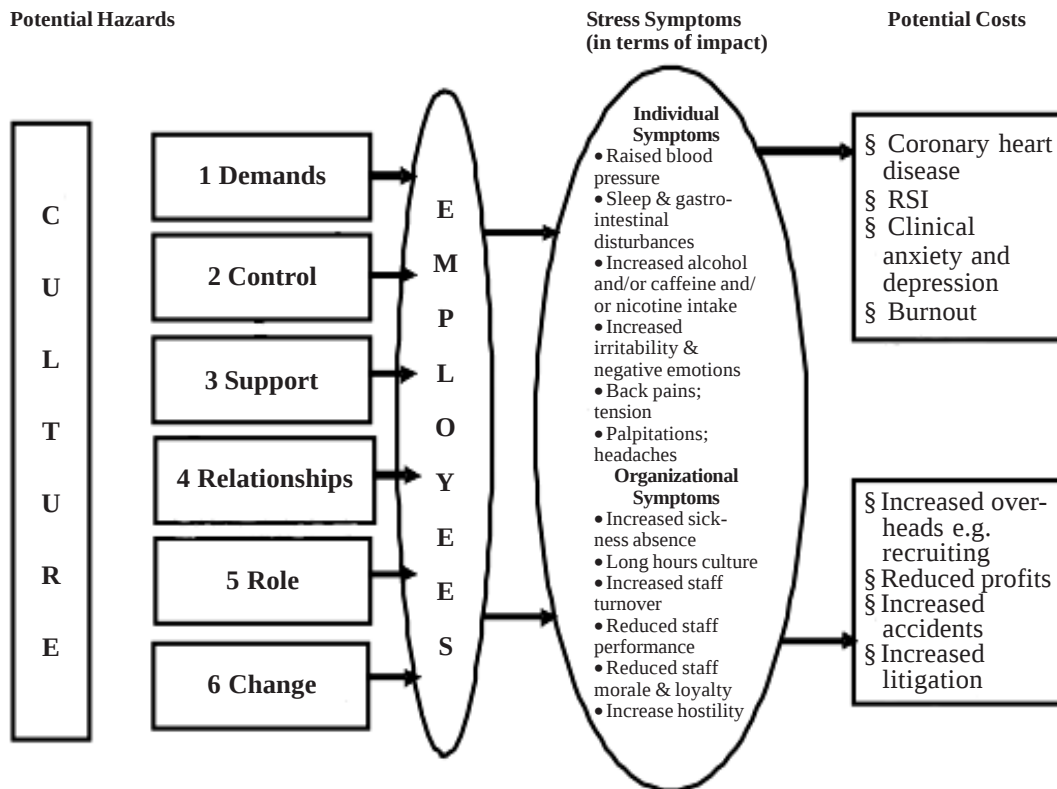


Fig. 3. Model of work stress

cumstances and work on making one or two changes at a time.

Focus on what's really important to you and your family (Develop a list of priorities). Try having regularly scheduled meetings to talk about family matters. Person should Practice saying "No" to added demands on your personal time. Involve family members in household responsibilities. Get outside help if necessary. Learn to value yourself and what you do; don't wait for the approval of others. Live in the present; don't dwell on the past or worry about the future. Try to be more flexible and forget about being perfect; you only need to do your best and continue to grow. Build fun and relaxation into your daily and long-term plans. Plan ahead. Allow sufficient time for making important decisions and developing alternative plans. Focus on your accomplishments rather than on your shortcomings. Discard your negative beliefs, and learn to talk yourself in positive ways. Invest in your health. Eat a balanced diet, exercise regularly and sleep enough hours. Learn to

listen well and communicate your needs and preferences clearly. Keep a sense of humor and laugh often. Avoid taking everything too seriously. Learn to negotiate. When faced with conflict, seek solutions that maintain positive feelings. Establish networks of cooperation, support and friendship at work and in your community. Learn to delegate responsibilities to capable others. Learn to accept disappointments, and go on. Let anger go off in physically healthy ways. Brisk exercise is one of the best tension relievers. Do one thing at a time. When faced with a demanding project, break into manageable steps, and avoid procrastination. Remember to celebrate small successes. Reduce tension by becoming more organized. At work and at home, adopt methods for keeping track of commitments, due dates and events. Develop problem solving skills and explore a variety of alternatives. Work with others to establish more family-friendly policies in the community and the work place. Take advantage of the various human resources in your community. Stress can

make you feel bankrupt in the form of being depleted of the energy to do the things you want to do and drained of any hope for a better future. All of us are under stress all the time.

CONCLUSION

Hence, it can be concluded that stress is not necessarily something bad, it all depends on how you take it. The stresses of exhilarating creative successful work are beneficial or infection is detrimental. It is not an inevitable consequence of an event: it depends a lot on peoples perception of a situation and their real ability to cope with it. Efforts have been made to inculcate little knowledge on stress management strategies so that people can take advantage over it. As the same goes by Thomas Jefferson, "Nothing gives one person so much advantage over another as to remain always cool and unruffled under all circumstances". A sense of confidence shall be instilled among the people so that they feel more secure and improve their work efficiency.

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