Relationship between age and occupational stress among IT employees

ABSTRACT

The Present Study attempts to assess the relationship between age and occupational stress among employees of Information Technology companies. A total of 600 respondents, belonging to different age groups completed the Occupational Stress Index questionnaire (Srivastava & Singh, 1984).One-way ANOVA was employed to find out the significance of differences between different age groups on subscales of occupational stress and total occupational stress. Results revealed that the sample had moderate levels of stress in 'total occupational stresses. The minimum and maximum scores obtained under total of subscales are 74 and 222 respectively. However significant differences were observed between different age groups, in subscales- responsibility for persons, under participation, powerlessness and on subscales like, role overload, role ambiguity, role conflict, unreasonable group and political pressure, poor peer relations, intrinsic impoverishment, low status, strenuous working condition and unpredictability non-significant differences were observed. Implications of the study have been discussed.

Key words, Information technology, age and stress.

Introduction

There is no age at which we are exempted from stress. Most of us are well aware that as a person chronologically ages, there are more responsibilities and situational stressors that become part of our lives which subsequently can bring about consequences affecting our well being. As adults, stress is a daily event, but children are not exempt from its impact and subsequent consequences. Symptoms of stress are especially apparent in teenagers (Bittman, 1999).

Aging is a natural and gradual process, except when exposed to extreme circumstances of stress or grief. Exposure to constant stressors or stress conditions can result in a loss in neural and hormonal balance. This loss of balance will cause increased oxidative damage

accelerating the aging process. Research suggests that long-term exposure to adrenal stress hormones may result in increased brain aging in later life.

In a survey of U.S. adults aged 25 to 74 years of age, just 8% of young adults said they never had even one stress-free day in a given week, compared with 12% of mid-lifers and 19% of those over 60. The difference appears to be one of attitude according to Almeida of The University of Arizona. “We’re finding that older people are mellowing a bit”, he said. According to his research, the older we get, we kind of realize that “hey, it’s not worth getting upset about the small things” (Mundell, 2002).

In the study, Almeida (2006) and his colleagues examined data from a large government survey of over 1,000 American adults known as The National Study of Midlife in the United States. And they found that, in sheer number of stressors that people reported, there was no difference between younger adults and midlife adults While these daily hassles tended to really upset those aged 25 to 39, “boomer” types aged 40 to 59 were more likely to shrug them off. “For example, being stuck in traffic presented a different result for the various age groups. The younger people in our sample would report that as more disruptive, more upsetting, than older people,” Almeida said. The solution was in the “people’s own perceptions, how they view their stressors,” he further stated. The nature of what stresses us out as we age appears to change as well. In our 20s and 30s, “it was likely to be over some interpersonal tension or disagreement they have with somebody,’ such as a lover, coworker or friend, Almeida stated. “Whereas midlife adults, their stressors were more related to being overloaded or having too many demands made on them.” “This makes sense,” he said, “because midlife is typically our most productive period, with many of us forced to juggle the demands of career, spouse, children and aging parents”. For the third group in the study,

those aged 60 to 74; one concern – health problems – puts all others in the shade. At this age, "we're going to deal with the little things much better – so we perceive things as being less severe," Almeida said. But the oldest age group still beat out the others when it came to overall trouble-free days:

Objective:

The present study is aimed at assessing the Occupational Stress among Information Technology (IT) employees of different age groups in and around Mysore and Bangalore city. Studies related to IT employees are scanty and since IT, BT, Call centers and MNC's are quite a recent phenomenon, there is a need to study stress and the effect of age on stress among them.

Hypothesis:

It is hypothesized that employees from different age groups differ significantly in their occupational stress. Higher the age lower would be the stress.

Sample:

Stratified Random Sampling was adopted to gather data; a total of 600 (476 men, 124 women) respondents (40 top level employees, 154 middle level employees and 406 lower level employees) working in Information Technology companies in and around cities of Mysore and Bangalore participated in the study.

Instrument:

Occupational Stress Index

Occupational Stress Index (OSI) by Srivastava and Singh (1984) was administered to assess the level of stress among the three groups. The scale consists of 46 items, each to rated on a five-point scale. Out of 46 items, 28 are 'true' keyed and the rest 18 are 'false' keyed. Two

different patterns of scoring have to be adopted for two types of items. For true items, strongly disagree-1, disagree-2, undecided-3, agree-4, strongly agree-5 and for false keyed items, the reverse of the true keyed items are used. The items related to almost all relevant components of the job life, which cause in one way or the other, such as role overload, role ambiguity, role conflict, group and political pressure, responsibility for persons, under participation, powerlessness, poor peer relations, intrinsic impoverishment, low status, strenuous working conditions and un- profitability. The reliability index ascertained by split half (odd-even) method and Cronbach's alpha co-efficient for the scale as a whole were found to be .94 and .90 respectively. Srivastava and Singh (1984) determined these indices exclusively on Indian population exclusively on 700 employees of different cadres operating in various producing and non-producing organizations. The validity of the OSI was determined by computing co-efficient of correlation between the scores on OSI and various measures of job attitudes and behavior and they were found to sufficiently high.

Procedure:

The questionnaire was given to each participant, who was requested to fill up and to return the same in four days. They were also briefed about the purpose of the study and their informed consent was obtained. It was made sure that they would read each question carefully and answer later, rather than stereotyped answering. Later, the answers were scrutinized, and incomplete questionnaires were rejected. Scoring was done according to the manual provided.

Scoring and Analysis:

One way ANOVA has been employed (using SPSS package version 16.0) to test significance of the difference between means of subscales of occupational stress among employees of IT companies in different age groups like 20-25, 26-40 and 41-55

Results:

Table 1 presents mean scores on different subscales and total occupational stress of employees of IT companies in different age groups like 20-25, 26-40 and 41-55 and results of One Way ANOVA

--Table-1 here

Role Overload: A non-significant difference was observed between software employees belonging to age groups as the obtained F value of .978 was found to be non-significant (P=.377). The mean 'role overload' scores obtained by software employees of different age groups like 20-25, 26-40 and 41-55 are 19.35, 19.49, and 16.33 respectively, which are all same statistically.

Role Ambiguity: Software employees belonging to different age groups did not differ significantly on subscale 'role ambiguity' as the obtained F value of 1.305 was found to be non-significant (P=.272). The mean 'role ambiguity' scores obtained by software employees of different age groups like 20-25, 26-40 and 41-55 are 10.88, 10.54, and 10.67 respectively, which are all same statistically.

Role Conflict: Age groups did not influence software employees on subscale, 'role conflict' as the obtained F value of .693 was found to be non-significant (P=.501). The mean 'role

ambiguity' scores obtained by software employees of different age groups like 20-25, 26-40 and 41-55 are 13.63, 13.65 and 14.83 respectively, which are all same statistically.

Unreasonable Group and Political Pressure: IT employees belonging to age groups did not differ significantly on subscale. 'Unreasonable group and political pressure' as the obtained F value of .430 was found to be non-significant (P=.501). The mean 'role ambiguity' scores obtained by software employees of different age groups like 20-25, 26-40 and 41-55 are 11.74, 11.92, and 12.17 respectively, which are all same statistically.

Responsibility for Person: Software employees belonging to different age groups differed significantly on subscale 'responsibility for persons' as the obtained F value of 18.404 was found to be significant (P=.000). The mean 'responsibility for persons' scores obtained by software employees of different age groups like 20-25, 26-40 and 41-55 are 9.15, 10.09, and 11.67 respectively. This indicates that the influence of age on stress in the subscale 'responsibility for persons' is significantly more among employees of age group 26-40 and least among age group 41-55.

Under Participation: There was a significant difference among software employees belonging to different age groups as the obtained F value of 6.001 was found to be significant (P=.003). The mean 'under participation' scores obtained by software employees of different age groups like 20-25, 26-40 and 41-55 are 12.06, 11.61, and 9.67 respectively. This indicates that the influence of age on stress in the subscale 'under participation' is significantly more among employees of age group 26-40 and least among age group 41-55.

Powerlessness: Age groups did influence software employees belonging on subscale 'powerlessness' as the obtained F value of 6.088 was found to be significant (P=.002). The mean 'under participation' scores obtained by software employees of different age groups like 20-25, 26-40 and 41-55 are 8.88, 8.36, and 7.50 respectively. It indicates that the influence of age on stress in the subscale 'under participation' is significantly more among employees of age group 26-40 and least among age group 20-25.

Poor Peer Relations: A non-significant difference was observed between software employees belonging to age groups as the obtained F value of .333 was found to be non-significant (P=.717). The mean 'poor peer relations' scores obtained by software employees of different age groups like 20-25, 26-40 and 41-55 are 10.44, 10.51, and 11.17 respectively, which are all same statistically.

Intrinsic Impoverishment: Software employees belonging to age groups did not differ significantly on subscale, 'intrinsic impoverishment' as the obtained F value of 1.436 was found to be non-significant (P=.239). The mean 'intrinsic impoverishment' scores obtained by software employees of different age groups like 20-25, 26-40 and 41-55 are 10.92, 10.60, and 10.17 respectively, which are all same statistically.

Low Status: A non-significant difference was observed between software employees belonging to age groups as the obtained F value of .484 was found to be non-significant (P=.617). The mean 'low status' scores obtained by software employees of different age groups like 20-25, 26-40 and 41-55 are 7.50, 7.46, and 6.67 respectively, which are all same statistically.

Strenuous Working Condition: Age groups did not influence software employees on subscale, 'strenuous working condition' as the obtained F value of 1.033 was found to be non-significant (P=.357). The mean 'strenuous working condition' scores obtained by software employees of different age groups like 20-25, 26-40 and 41-55 are 11.59, 11.85, and 10.67 respectively, which are all same statistically.

Unprofitability: There was a non-significant difference observed among software employees belonging to different age groups on subscale, 'unprofitability' as the obtained F value of .463 was found to be non-significant (P=.629). The mean 'unprofitability' scores obtained by software employees of different age groups like 20-25, 26-40 and 41-55 are 6.30, 6.29, and 5.67 respectively, which are all same statistically.

Total: A non-significant difference was observed between software employees belonging to different age groups as the obtained F value of .277 was found to be non-significant (P=.758). The mean 'total' scores obtained by software employees of different age groups like 20-25, 26-40 and 41-55 are 132.43, 132.36, and 127.17 respectively, which are all same statistically.

Discussion:

1. In total occupational stress, employees belonging to different age groups did not differ significantly.
2. On subscales, *responsibility for persons, under participation, and powerlessness* employees in different age groups differed significantly, and the employees in age group 26- 40 showed significantly higher score as compared to the other two groups.
3. On the remaining subscales, IT employees did not differ significantly.

It is clear from our data that IT employees who were aged 40 and above showed lower levels of stress in few subscales as compared to the age group 26-40. It was also found that the entry level (age group 20-25) IT professionals' also experienced lower stress as compared to the 26-40 age group. This is because they generally are new to the environment and have less experience about their jobs and as a result they tend to have fewer expectations from their jobs. This perception of them itself, is a cause for lower stress.

While young and middle-aged individuals reported significant stressors on an average of about 3 out of the 8 study days, that number dropped to close to 2 days among those 60 and over (Mundell, 2002). According to his research, the older we get, we kind of realize that "hey, it's not worth getting upset about the small things" (Mundell, 2002).

The subjects in the young adult group must have put in 1 to10 years of service in their job which is relatively a short period. They may be getting adjusted to their jobs as well as to the demands and adjustments of young married life. Under such circumstances it may be expected that, compared to the middle aged who are more or less settled in their personal as well as work life's, young adults found their jobs much more stressful (Chandraiah 2003).

A study by Holmes and Rahe (1967) indicated that changing to different lines of work is more stressful to elderly people than younger ones. In a study on the effects of computers on work place stress by Zhengxi Lin and Andrija Popovic (2002) it was observed that to learn new computer skills is more likely to cause workplace stress for older workers. IT professionals also have to work under constant time pressure having to work for long hours to complete the work under tight schedules and time deadlines to meet. This also causes additional stress for

older persons who are more troubled with health, family and social matters (Sunetra Bhattacharyya & Jayanti Basu 2007).

Suggestions:

1. On the subscale *responsibility for persons, under participation and powerlessness* IT employees in the age group, 26- 40 showed significantly higher score as compared to the other two groups. "This makes sense, because midlife is typically one's most productive period, with many of them forced to juggle the demands of career, spouse, children and aging parents" Another reason is employees in this age group tend to be in middle level in the organizational hierarchy, where they need to co-ordinate various activities between the employees in the higher and the lower level hierarchies. This has contributed to increased stress levels on subscale responsibility for persons. The perception, (among this category of employees) that they have less power and less participation has led to the increase in the stress levels among this group. They need motivation and initiative to change their way of thinking. Training the employees of lower and higher levels to co-operate with the middle level employees is necessary. It is also necessary to bring about a change in the attitude and perception of the people, motivating them to think positively and develop cool personality. It is also necessary to develop relaxation skills among them through various forms of interventions. Practices like yoga and meditation are the need of the hour. The earlier findings indicate that the relaxation skills taught through intervention were effective. However, the intervention is effective only if participants regularly practice the skills that they learn. (Eisen 2006)

2. On the whole, *age* did not influence *stress* significantly as it was not significant on the total of all subscales. Stress is more a factor of individual personality than other variables, though

their influence cannot be ignored. The IT discipline is subject to continuous and fast-paced changes that require continuous upgrading of knowledge on the part of the professionals. This also plays a significant part in contributing to stressful situation.

References:

Almeida**,** D.M. (2004-06) National survey of midlife development in the United States of America.(MIDUS), Midlife Development in the United States (MIDUS II), 2004-2006. www.icpsr.umich.edu/cocoon/ICPSR-STUDY/04652.xml - 34k

Bittman, B. (1999). *Stress begins at an early age: before you might imagine*. http://www.mindbody.org/stress%20early%20age.html

Chandraiah, K., Kenswar, D.K., Prasad, P., & Chaudary, R.N. (1996). Occupational stress and job satisfaction among middle and senior managers. *Indian Journal of Clinical Psychology,* 23 (4), 146-155.

Eisen, Katherine Pollak; (2006) "Stress management in the workplace: A comparison of a computer-based and a group-based stress management intervention", *The Sciences and Engineering,* Vol 66(10-B), pp. 5679.

Holmes, T. H., & Rahe, R. H. (1967). "Scaling of life events by psychiatric patients and normals". *Journal of PsychosomaticMedicine,* 20, 131-137

Mundell, E. (2002). *Relax! Aging puts stress in perspective.* http://www.cliving.org/stress.htm

Srivastava .A.K., & Singh .A.P.(1984). A manual of occupational stress index .Varanasi: Prakashana Sansthan.

Sunetra Bhattacharya and Jayanthi Basu (2007). Distress, Wellness and Organizational Role Stress among IT Professionals: Role of life events and Coping Resources, *Journal of Indian Academy of Applied Psychology*, Vol 2, 169- 178.

Zhengxi, Lin; & Andrija, Popovic; (2002) *The effects of computers on workplace stress, job security and work interest in Canada*, National government publication; English. Applied Research Branch, Human Resources Development Canada, 2002.ISBN:0662338979 9780662338970

Table 1
Mean scores of software employees in different age groups on different subscales of Occupational stress and results of One-way ANOVA

Sub Scale		Mean	SD	F	P
Role over load	20-25	19.35	6.78	.978	.377
	26-40	19.49	3.71		
	41-55	16.33	2.73		
	Total	19.39	5.50		
Role ambiguity	20-25	10.88	2.64	1.305	.272
	26-40	10.54	2.58		
	41-55	10.67	2.66		
	Total	10.72	2.62		
Role Conflict	20-25	13.63	2.51	.693	.501
	26-40	13.65	2.45		
	41-55	14.83	2.93		
	Total	13.65	2.48		
Un reasonable grp, & pol. Pressure	20-25	11.74	2.37	.430	.650
	26-40	11.92	2.65		
	41-55	12.17	2.32		
	Total	11.83	2.50		
Responsibility for persons	20-25	9.15	1.99	18.404	**.000***
	26-40	10.09	2.15		
	41-55	11.67	1.63		
	Total	9.62	2.12		
Under participation	20-25	12.06	2.03	6.001	**.003***
	26-40	11.61	2.41		
	41-55	9.67	1.63		
	Total	11.83	2.23		
Powerlessness	20-25	8.88	1.85	6.088	**.002***
	26-40	8.36	2.10		
	41-55	7.50	1.97		
	Total	8.62	1.99		
Poor peer relations	20-25	10.44	2.18	.333	.717
	26-40	10.51	2.44		
	41-55	11.17	2.48		
	Total	10.48	2.31		
Intrinsic Impoverishment	20-25	10.92	2.48	1.436	.239
	26-40	10.60	2.41		
	41-55	10.17	2.79		
	Total	10.76	2.45		
Low status	20-25	7.50	2.11	.484	.617
	26-40	7.46	2.01		
	41-55	6.67	1.21		
	Total	7.47	2.06		
Strenuous Working Condition	20-25	11.59	2.92	1.033	.357
	26-40	11.85	2.74		
	41-55	10.67	2.07		
	Total	11.70	2.83		
Unprofitability	20-25	6.30	1.67	.463	.629
	26-40	6.29	1.54		
	41-55	5.67	1.03		
	Total	6.29	1.61		
Total	20-25	132.43	17.68	.277	.758
	26-40	132.36	16.65		
	41-55	127.17	13.79		
	Total	132.35	17.15		

*Statistically significant