An Empirical Study to Establish Relationship between Technology, Techno-Stress and Work-Life Integration among North Indian Women Academicians

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Abstract

With an increase in working couples and long working hours the need for a balanced life is also increasing. The ongoing pandemic has forced organisations to go remote that included educational institutions too taking home all their professional work.With fewer distractions, no commutes, and work flexibilities, it offered benefits in certain ways but also bring a host of concerns, too, like how far will it help academicians to keep a balance between their work and personal life. The definition of work-life balance is kept on changing based on the nature of work, gender, family, social norms, economy, financial conditions etc. Technology has promoted an environment where two domains work and personal life co-exist. Through this study, we intend to find out whether e-technology helps or hinders the Integration of work and life of academicians in higher education. The study will try to identify the perceptions of academicians in higher education about technology's influence on their work and life through the interrelationship of technology, techno stress, ICT competencies and their personal and social factors. After studying the review of literature, we found out that some people perceive technology as an intrusion into their personal lives while some welcome the integration of technology for completion of official work and personal work.

Keywords: Technology, Women Academicians, Work-Life Integration, ICT

Objectives:

1. To identify and understand the macro, meso and micro factors causing techno-stress among woman academicians.
2. To establish the relations between technology and techno-stress based on the empirical data collected.

1. Introduction

Concept of Work Life Balance and Work Life Integration

Work-life balance and Work-life Integration: Various definitions are given in previous studies. Work-Life Balance (WLB) depends on individual's perception about work and non-work activities, whether these activities are harmonious with their priorities and helpful in the growth of their life (Kalliath and Brough, 2008). The work-family balance was defined by Greenhaus, Collins, Shaw (2003) as equal engagement and satisfaction in work and family role. In other words, WLB is maintained when an individual achieve balance in the psychological needs of independence, connectedness and competence. It is achieved when in limited time an individual can manage the simultaneous demands made by his/her life. The traditional way of work life Balance invokes binary opposition between the work and life and creates a sense of competition among these two elements.

Ayudhya and Lewis (2011) gave four types of patterns related to WLB, first is balancers- try to maintain a balance and create clear cut boundaries between work and non-work activities, second is Careerists- more career oriented at early stage of their professional life, third is Career-Sacrificers- give more importance to personal life and their relations and work or or organisation is secondary to them, fourth is Integrators- instead of creating fixed boundaries between work and non-work role they prefer flexibility and merge both the activities. It has new dimensions to it e.g., satisfaction achieved in work and non-work role (paid and non-paid work) and the level of psychological involvement in doing work and distribution of available time in work and non-work activities (D Rangreji, 2010).

2. Tracing history of Technology and Work-Life

As economy develops, the trajectory of development driven by technological advancement, underlies the relationship between the work and the rest of the life. The concerns over the effects of development on Work-Life Balance have a long history. Tracing from the days before the emergence of industrial revolution, the work and the other aspects of life were tightly integrated. With the advent of industrialisation, the jobs of workers were largely uprooted except for the agrarian or artisanal predecessors. The idea of life outside workplace has appeared and with this the days of dictates of family over the business or employment were gone. (Thompson, 1996). The assembly line and factory workers become the first examples of a split between work life and personal life. Thinker Marx has famously quoted that for a worker life begins when work ceases.

Post-industrial age, technology appeared as the new show stopper. Somehow, it promised for reversing the pre-established trend of work and life when automation started appearing, low skilled jobs were eliminated. Now the question of balancing both the aspect had been replaced by other societal problem which were to arise with displaced workforce, and filling of hours which

were once spent at work stations. (Bell 1973, Rifkin, 1995). In the second half of twentieth century, technology rises rapidly and economy see influx of new trends like women participation in workforce from 30% to 60 %, from mid of twentieth century to the beginning of 21st century. Instead of reducing work hours, technological advancement seems to have been associated with the work intensification. Technology has actually not ended the work by decline the workforce in manufacturing but the concomitant increase in the work force suggests that workers shifted from manufacturing to service sector. The reason was- more flexibility, job sharing and freedom associated with later sector of work, hence more integration of work and personal life. For instance- Indian economy is dominated by service sector. (Hunter, 2000)

This rosy view of effect of automation and technology was directly challenged by Harry Braverman (1975) who posits that instead of job enlargement, and worker autonomy, ICT merely serves the interest of capitalists. He further describes that despite a variety of means used in innovation or ICT we have been talking about, their unique feature is the progressive elimination of the control functions of the workers and transferring them to a device that is controlled by management from outside the direct work process. (Sasyk, Zorian M, 2017)

In addition to reducing autonomy, technology has also kept employers under close managerial scrutiny by facilitating comprehensive monitoring of their work. Sophisticated computer systems have replaced mechanical systems and increased the ability for senior to track when employees start and stop. A software on their computers can easily track exactly when they log on and log off, as well as inactivity Period and number (Epstein, Seron, Oglensky, &Saute, 1999). Instant messaging has served the same purpose; When employees log off, or even fail to respond immediately, it is clear to others that they are not at their desk. Many companies have installed monitoring software that tracks their employees' use of the Internet and records all keystrokes performed by employees. (Valcour& Hunter, 2004)

3. Technology and Work-Life Balance

Information and communication Technology (ICT) promote a virtual environment which combines activities related to both the work and life domains, which are seen as the separate activities in the physical environment (Petros, Chamakiotis, et.al). Boswell and Buchnan (2007) explained how communication technologies interfere in an individual's personal life. ICT is a double-edged sword, on one hand, it ensures productivity at work place but on the other hand, it extends work to home (Gazibaric, 2015). WLB was classified in two terms- Segmentation and Integration; when there is no clear psychological boundaries or separation between work-life and an individual is either able to segment or integrate the work and life (haddonet.el 2008; Nippert-Eng. 1996; Pranav Naithani 2010).

Williams, Long, and Mercy (2010) explained in their study that although technology ensures flexibility in doing work it also leads to long work hour culture due to high expectations from students, administrations etc. and any-time work email makes it impossible to restrict the work to

working hours. It was found that ICT like smartphones is intrusive in maintaining a balance between work and life, but much depends on an individual's perception that how he/she takes these devices an intrusion in their life or not (Harris T.R., 2014). ICT cluster i.e., emails, mobiles, internet act as a facilitator in blurring the boundaries between work and life and have a spill over effect on all the directions of an individuals' life (Tennnakoon, 2007). Technology usage acts as a facilitator and ensures greater flexibility in work, means a person can complete the work anytime, but on the other side it also increases the work-load, stress due to all-time connectivity with work (Nam T, 2014; Mazmanian et.al 2013; Mustafa Al-Saidi, R..2015). From the previous studies and review of literature it is found out that although there's extensive research on work-life balance, few studies are there on the impact of technology usage and WLI or WLB, especially in India. Faculty faces continuous work pressure and stress which effect their work efficiency and work life (S. Mari, O.M. HajaMohideen, 2015). Although most of the respondents were spending less time on personal activities and more than half time doing official work but they were of the opinion that technology is not affecting their work and life (Fageria G. 2016). Emotional Intelligence and work life balance are affected by many factors – use of technology, exertion, work-life policies and programmes, career risk, recognition at work etc. (D Rangreji, 2010). Most of the respondents were not happy with their work life due to increased work load and less time for family. They were of the opinion that WLB is a joint responsibility of the employees and employers (Senthilkumar et.al 2012).

Researchers interested in work-life integration have modelled several outcomes under the conceptual umbrella of work-life or work-family integration or balance, including: job satisfaction; Family satisfaction; Interruption in work with family; Family interference with work; Work-family conflict that is time-based, stress-based or behaviour-based; Role overload; And psychological distress or well-being (eg, Carlson and Perrewe; 1999; Clarke, 2001; Frone, Russell, and Cooper, 1992; Garris and Barnett, 2002; Higgins et al., 2000; Mark; Houston, Johnson, and McDermid, 2001; Milkie&Peltola, 1999; Thomas &Ganster, 1995). Research has shown that ICT can have differential effects on various components of work-life integration. For instance, greater use of IT increases people's autonomy and work functioning, as well as their perceived conflict between work and family (Battle &Valcour, 2003; Valcour& Batt, 2003b). This research will illuminate the mixed and sometimes conflicting nature of these relationships.

4. Research Methodology-

Data Collected: Primary and Secondary Sources. Out of 2000 questionnaires floated via email, the response rate remained 40 %. The data was analysed using One-way ANOVA, Pearson Product Moment Correlation and t-ratios.

Questionnaires are personally administered to gather data about work life integration on the variable- Technology and Techno-stress. For this purpose, independent variable remained- Personal, Social and Community Environment

Data Analysis and Interpretation

Demographic Profile		
Age	Frequency	Percent
<=20	27	4.5
21-30	214	35.7
31-40	267	44.5
41-50	92	15.3
Total	600	100.0
Marital status		
Unmarried	216	36.0
Married	354	59.0
Divorced	16	2.7
Separated	5	.8
Widowed	9	1.5
Total	600	100.0
Duration of Work Experience		
0-3	132	22.0
3-5	90	15.0
5-10	183	30.5
10-15	106	17.7
Above 15	89	14.8
Total	600	100.0
Role in the Institution/University		
Academic	520	86.7
Non-Academic	80	13.3
Total	600	100.0
Type of Family		
Joint	245	40.8
Nuclear	355	59.2
Total	600	100.0

CORRELATIONAL ANALYSIS

Correlation Analysis is used to discover if there is a relationship between two variables. To evaluate the strength of relationship between two quantitative variables Pearson correlation was calculated. Following hypothesis were framed to test the correlation:

H01: There is no correlation between Technology and Techno-stress and Competencies.

H02: There is no correlation between Technology and Techno-stress and Personal and Social/ Community.

H03: There is no correlation between Competencies and Personal and Social/ Community.

Table 4.1 Correlation between Technology and Techno stress, Competencies and Personal and Social/ Community variables

Correlations				
		Technology and Techno stress	Competencies	Personal and Social/ Community
Technology and Techno stress	Pearson Correlation	1	.414**	.691**
	p-value		.000	.000
	N	600	600	600
Competencies	Pearson Correlation	.414**	1	.626**
	p-value	.000		.000
	N	600	600	600
Personal and Social/ Community	Pearson Correlation	.691**	.626**	1
	p-value	.000	.000	
	N	600	600	600
**. Correlation is significant at the 0.01 level (2-tailed).				

Discussion of table 4.1

Table no 4.2.1 interprets that Technology and Techno stress is positively correlated with Competencies r (598) =0.414, p<0.000. Thus, hypothesis H01 is rejected. Technology and Techno stress is positively correlated with Personal and Social/ Community r(598)= 0.691, p<0.000. Thus, hypothesis H02 is rejected. Competencies is positively correlated with Personal and Social/ Community r (598) = 0.626, p<0.000. Thus, hypothesis H03 is rejected.

COMPARATIVE ANALYSIS

In this section, the significance means difference (t-ratio) of Technology and Techno stress, Competencies and Personal and Social/ Community between Academic and Non Academic workers and between Joint and Nuclear family worker was worked out. The values of t-ratio along with the means and standard deviations of the variables Technology and Techno stress,

Competencies and Personal and Social/ Community were tested under the following framed hypothesis:

H04: There will be no significant mean difference of Technology and Techno stress between Joint family worker and nuclear family worker.

H05: There will be no significant mean difference of Competencies between Joint family worker and nuclear family worker**.**

H06: There will be no significant mean difference of Personal and Social/ Community between Joint family worker and nuclear family worker.

Table 4.2Comparison of Technology and Techno stress, Competencies and Personal and Social/ Community between Joint and Nuclear family

Type of Family		N	Mean	Std. Deviation	t-value	p-value
Technology and Technostress	Joint	245	3.355	0.855	.802	.423
	Nuclear	355	3.413	0.890		
Competencies	Joint	245	3.566	1.002	1.024	.306
	Nuclear	355	3.648	0.921		
Personal and Social/ Community	Joint	245	3.504	1.258	.978	.328
	Nuclear	355	3.598	1.073		

The t-ratio in the table 4.2 tests whether there exists a significant difference of means between Joint and Nuclear family with regard to variables Technology and Techno stress, Competencies and Personal and Social/ Community. As seen in the table, mean scores of Joint and Nuclear familiesare almost equal with regard to variables Technology and Techno stress, Competencies and Personal and Social/ Community. There is no significant difference found between the mean scores as p value is found to be greater than 0.05 levels of significance. Thus, hypothesis $H_{04,}$ H_{05} and $H_{06,}$ are not rejected.

4.3ANOVA (Analysis of Variance)

4.3Comparison of Technology and Techno stress, Competencies and Personal and Social/ Community between different age groups

 Following set of null hypotheses were tested through this analysis:

H07: There will be no significant mean difference of Technology and Techno stress between different age groups

H08: There will be no significant mean difference of Competencies between different age groups

H09: There will be no significant mean difference of Personal and Social/ Community between different age groups

Table 4.3.1: Descriptive statistics of Technology and Techno stress, Competencies and Personal and Social/ Community between different age groups

Descriptive		N	Mean	Std. Deviation
Technology and Technostress	<=20	27	3.587	0.716
	21-30	214	3.379	0.911
	31-40	267	3.420	0.847
	41-50	92	3.264	0.913
Competencies	<=20	27	3.343	0.960
	21-30	214	3.580	0.959
	31-40	267	3.727	0.909
	41-50	92	3.448	1.041
Personal and Social/ Community	<=20	27	3.540	1.431
	21-30	214	3.589	1.127
	31-40	267	3.590	1.105
	41-50	92	3.410	1.259

Table 4.3.2: ANOVA Tableof Technology and Techno stress, Competencies and Personal and Social/ Community between different age groups

ANOVA		Sum of Squares	Df	Mean Square	F-value	p-value
Technology and Technostress	Between Groups	2.777	3	.926	1.209	.306
	Within Groups	456.530	596	.766		
	Total	459.308	599			
Competencies	Between Groups	8.144	3	2.715	3.006	.030*
	Within Groups	538.303	596	.903		
	Total	546.448	599			

Personal and Social/ Community	Between Groups	2.503	3	.834	.627	.598
	Within Groups	792.987	596	1.331		
	Total	795.490	599			

Table 4.3.1 articulates means and standard deviations of Technology and Techno stress, Competencies and Personal and Social/ Community between different age groups. Table 4.3.2 is showing that there exists a mean difference of Competencies between different age groups as p value is found to be less than 0.05 levels of significance. The age group 31-40 has highest mean of Competencies 3.727 and age group <=20 has lowest mean of Competencies 3.343. Thus, hypothesis H07 is rejected but hypothesis H08 and H09are not rejected.

4.3 Comparison of Technology and Techno stress, Competencies and Personal and Social/ Community between different marital status

Following set of null hypotheses were tested through this analysis:

H10: There will be no significant mean difference of Technology and Techno stress between different marital status

H11: There will be no significant mean difference of Competencies between different marital status

H12: There will be no significant mean difference of Personal and Social/ Community between different marital status

Table 4.3.1: Descriptive statistics of Technology and Techno stress, Competencies and Personal and Social/ Community between different marital status

Descriptive				
		N	Mean	Std. Deviation
Technology and Techno stress	Unmarried	216	3.39	0.89
	Married	354	3.39	0.87
	Divorced/Separated/Widowed	30	3.35	0.85
Competencies	Unmarried	216	3.53	1.00
	Married	354	3.68	0.93
	Divorced/Separated/Widowed	30	3.41	0.96
Personal and	Unmarried	216	3.55	1.21

Social/ Community	Married	354	3.57	1.12
	Divorced/Separated/Widowed	30	3.55	1.10

Table 4.3.2: ANOVA Tableof Technology and Techno stress, Competencies and Personal and Social/ Community between different marital status

ANOVA						
		Sum of Squares	Df	Mean Square	F-value	p-value
Technology and Techno stress	Between Groups	.056	2	.028	.036	.964
	Within Groups	459.252	597	.769		
	Total	459.308	599			
Competencies	Between Groups	4.337	2	2.168	2.388	.093
	Within Groups	542.111	597	.908		
	Total	546.448	599			
Personal and Social/ Community	Between Groups	.031	2	.016	.012	.988
	Within Groups	795.458	597	1.332		
	Total	795.490	599			

Table 4.3.2 interprets means and standard deviations of Technology and Techno stress, Competencies and Personal and Social/ Community between different marital status. Table 4.3.2 is showing that there exists no mean difference of any variable between Unmarried or Married or Divorced/Separated/Widowed as p value is found to be greater than 0.05 levels of significance. Thus, hypothesis H10, H11 and H12are not rejected.

5. Findings

- Technology and Techno-stress are positively corelated with Competencies, Personal and Social/ Community factors.
- There will be no significant mean difference of Technology and Techno stress, competencies between Joint family worker and nuclear family worker.
- Technology and Techno stress, Competencies and Personal and Social/ Community between Joint and Nuclear family
- The age group 31-40 has highest mean of Competencies 3.727 and age group <=20 has lowest mean of Competencies 3.343.

- There will be no significant mean difference of Technology and Techno stress, Competencies and Personal and Social/ Community between different marital status between different marital status

6. Conclusion

Technology per se has unpredictable implication for balancing life at work and life at home. It is naïve to perceive technology as a liberating counterweight to work activities as it might destroy work-life integration. However, to depict technological advances as a villain is also a misleading thing at the same time. In fact, the use and configuration of technology may either exacerbate work-family conflict or may provide opportunity to balance the both successfully.

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