Work - Life Balance and Employee Health : A Cross-Sectional Analysis of Manufacturing and Service Sectors

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Abstract

Work - life balance and its association/impact have been studied separately in different settings/industries. In the present study, we performed a cross-sectional analysis of the impact of work-life balance on employee health in the manufacturing as well as service sectors. Responses were sought from 150 middle and senior level employees working in various manufacturing and service sector organizations in the North-Western region of India through a structured questionnaire. This sector-wise research examined the interrelationships amongst various demographic variables, health, and work-life balance. The results substantiated that pressure from work causes an imbalance in life, which leads to several health problems including stress. The results also revealed the commonalities and differences in work-life balance across the two sectors.

Key words : **work-life balance, employee health, stress**

JEL Classification : M12, M54, M59

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The interface between work and life, the two most important spheres of an individual's life, have been the object of investigation for researchers worldwide. It has been necessitated by contemporary work mutations (Jones, Burke & Westman, 2006 ; MacInnes, 2006), specifically the increasing demands of employees, the rise of consumerism, the power of money, and the negative impact of overwork on life quality at personal and professional levels (Harris & Foster, 2008). In this context, it is important to investigate : how the imbalance between work and life affects the health of employees working in manufacturing and service sectors ? The present study examines the relationship between work-life imbalance and aspects related to the psychological and physical health of employees.

Theoretical Framework

(1) Work - Life Balance : The definition and meaning of the term work life balance (WLB) has been evolving from earlier definitions like work, which has been defined as paid employment and life has been conceptualized as activities outside work (Guest, 2001) ; WLB is regarded as satisfaction and proper functioning at work and home

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with a minimum of role conflict (Campbell - Clark, 2000). Shah (2014) defined work - life balance as a multi-dimensional notion whose hardcore is formed by the work - family balance and of other areas of life beyond family as well. Thus, the two paramount aspects of work- life balance found were (a) lack of time and scheduling conflicts (work-to-family interference/family-to-work interference), (b) feeling overwhelmed, overloaded, or stressed by the pressures of multiple roles (Canadian Centre for Occupational Health and Safety, 2008). Stein (2007) highlighted achievement and enjoyment as the two key concepts at the core of an effective work - life balance.

(2) Employee Health : The World Health Organization (2006) gave a very comprehensive definition of health as a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity. Griffiths, Jewell, and Donnelly (2005) suggested classification of public health in three domains: Health improvement, health protection, and health services. Occupational Safety and Health (n.d.) highlighted that due to an increase in the number of service sector jobs, employees working in the service sector started facing more health problems such as the growing rate of obesity and issues relating to stress and overwork as compared to employees working in manufacturing and the primary sector due to the sedentary lifestyle of employees in the service sector.

Review of Literature

Work plays a central role in the development, expression, and maintenance of psychological health (Blustein, 2008). Eighty three percent of employees were reported going to work even while sick, cited heavy workload, and needed to save time off to meet family needs (Zheng, Molineux, Mirshekary, & Scarparo, 2015). The struggle to juggle was found to be increasing through increased job stress, declining physical and mental health, increased absenteeism, declining job satisfaction, weakening employee commitment, lower workplace morale, and reduced satisfaction with family life (Stein, 2007).

Kshirsagar (2015) found that there was an association between WLB and gender differences in small and medium manufacturing sector units. Saeed and Farooqi (2014) investigated the relationship between WLB, job stress, and job satisfaction among university teachers and found WLB had a moderate positive relationship with job satisfaction. Sinha (2013) found that when WLB practices were between moderate to good, employees were fairly satisfied with organizational practices and had low turnover intentions. Rani, Kamalanabhan, and Marriapan (2011) found that job satisfaction had a positive correlation with WLB.

Jnaneswar (2016) found a significant correlation between WLB, turnover intention, and organizational support ; and observed a significant gender wise difference in respect to WLB. Sigroha (2014) observed that absence of WLB had a negative effect on the personal life of employees leading to social hazards such as increasing number of divorces, infertility due to high-stress levels, etc. (with significant inter-sectoral differences) in manufacturing, service, and IT sectors.

Purohit and Patil (2013) conducted an intra-sectoral (manufacturing, IT, educational, and banking sector) analysis of the work-life policies in various organizations and found the commonalities and differences in work-life balance provisions across the four sectors. Sarwar (2013) observed that the service sector employees were more stressed as compared to the employees working in the manufacturing sector.

On the basis of these studies, the following hypotheses were formulated:

↳ **H_{01} :** There is no significant difference between work-life balance amongst employees working in the manufacturing and service sectors.

↳ **H_{a1}:** There is a significant difference between work-life balance amongst employees working in the manufacturing and service sectors.

Work - Life Balance and Health : Rao and Ummul (2012) found that shift work was linked to a series of acute and chronic effects. Workers suffering from sleep disturbances was above 50% as compared to 5-20% for day workers; and the corresponding fatigue further lead to psychological problems: irritation, anger, depression, and mental stress. By providing a 'family-friendly,' work environment, organizations could significantly benefit through increased job satisfaction (Breaugh & Frye, 2007).

Chavan and Potdar (2011) observed that the WLB imbalance had negative effects like headache, digestive disorders, exhaustion, cold, restless sleep, muscular and cardiovascular disorders, and lack of appetite. Parekh, Singh, Sarkar, and Sharma (2006) found that visual strain was related to musculoskeletal complaints and work stress. Kotwal, Gupta, and Manhas (2008) too found a strong relationship between women's work lives and health.

Stress from work leads to permanent, psychological, as well as physical health problems. Stress in itself was not found to be an illness, but it triggered some physical health problems ; physical signs were difficult to miss, but the mental and behavioral signs were more elusive. Newth (2011) found that stressed workers incurred 46% more health care cost than non-stressed employees and 60% - 90% of doctor visits were attributed to stress-related illnesses and symptoms (Humana, 2009).

Chandel and Kaur (2015) found that organizational initiatives were significant in reducing stress and maintaining WLB of employees. The availability and use of work - life balance policies by individuals and organizations lead to reduction in stress. Even a 30 - minute nap could reverse the hormonal impact of a night of poor sleep, and also reduces stress and strengthens the immune system (Faraut, Nakib, Drogou, Elbaz, Sauvet, De Bandt, & Léger, 2015).

Bukhari and Sharma (2012) found that level of stress diminished when employees were able to spend about 6-8 hours daily with their families. Babu, Aryasri, and Raj (2010) found a positive correlation between employee stress reduction and flexi-time. Vasiliu (2015) found that 83.33% of the respondents were declared to be less stressed in daily lives after joining aerobics classes; they were more cheerful, enthusiastic, slept better, and became more friendly and social.

Zheng et al. (2015) found that employees who used WLB strategies showed better health conditions and well-being than others. Ljungblad, Granström, Dellve, and Åkerlind (2014) observed that employers with more favourable employee ratings of the psychosocial work conditions, and specific health-promoting measures had lower sickness absence level among employees.

Walia and Narang (2015) suggested use of person-organization-fit approach and offering challenging job roles to reduce the stress from work and augment employees' WLB. Singh (2014) too recommended development of customized WLB policies as a support system to minimize work- life conflicts.

Based on these studies, the following hypotheses were formulated :

H_{02}: There is no significant difference between the health of employees working in manufacturing and service sectors.

H_{a2}: There is a significant difference between the health of employees working in manufacturing and service sectors.

H_{03} : There is no relationship between WLB and employees' health in manufacturing and service sectors.

H_{a3} : There is a relationship between WLB and employees' health in manufacturing and service sectors.

H_{04} : Work-life balance has no significant impact on employees' health in manufacturing and service sectors.

H_{a4} : Work-life balance has a significant impact on the employees' health in manufacturing and service sectors.

H_{04i} : WLB has no significant impact on employees' psychological health.

- H_{a4i} : WLB has a significant impact on employees' psychological health.
- H_{04ii} : WLB has no significant impact on employees' physical health.
- H_{a4ii} : WLB has a significant impact on employees' physical health.

The survey of literature reveals that the topic of work-life imbalance and its impact on employees' health has become an issue of great concern in the current socioeconomic scenario. Butcher (2011) found that businesses are beginning to realize that unless employees can have balance in their lives, productivity will suffer.

There exists a dearth of studies that portray a comparative analysis of the impact of work-life balance in the manufacturing and service sectors. The present study aims to fill this gap. India is emerging as one of the fastest growing economies of the world, but this phenomenon has not been investigated in a comprehensive manner in the Indian context. This calls for an in-depth study that examines the phenomenon of work-life imbalance and its ill effects on employees' health both in manufacturing as well as service sectors in the Indian context.

Objectives of the Study

Through this empirical study, an endeavor has been made to understand the relationship between work-life balance and the physical and psychological health of employees working in various organizations in the manufacturing and service sectors. The specific objectives of the present study are as follows :

(i) To examine the work-life balance amongst employees working in manufacturing and service sectors.

(ii) To study the relationship between work-life balance and psychological and physical health of employees working in the service and manufacturing sectors.

(iii) To depict the impact of work-life balance on employees' health.

Methodology

(1) Research Instrument : A structured questionnaire was prepared for the purpose of collecting the primary data for the study from January to March 2017. The reliability and validity of the research instrument were determined before conducting the survey through a pilot study, wherein a sample of 30 respondents was interviewed using the instrument. The Cronbach's alpha score was calculated and was found to be 0.837, which is well above the required level of 0.70. The Cronbach's alpha for the data collected from 150 respondents too was found to be 0.751, which indicates the reliability of the data collected for the study.

(2) Sampling Plan : The research was conducted in major cities and industrial hubs of the North Western region of India. Non-probability convenience sampling method was employed for selecting the respondents for the study. Responses were sought from 150 middle and senior level employees working in manufacturing and service sectors. The sectors included in this study were banking, education, telecom, pharma, automobile, and consumer goods.

(3) Data Analysis : Factor analysis was employed to extract factors that contributed towards work-life balance and employee health. The primary data was statistically validated to test the hypotheses by applying tools like chi-square, Karl Pearson correlation, *t* - test, ANOVA, and forward regression analysis.

Analysis and Results

(1) Demographic Statistics - Description of the Sample Distribution : The Table 1 shows that majority of 77.2% of the respondents belonged to the service sector. The majority of the respondents were male ; 93.1% in the case of the manufacturing sector and 77.2% in the case of the service sector. Majority of the respondents working in the service sector had work experience of less than 5 years, and 31% of the respondents belonging to the manufacturing sector had experience in the range of 5 -10 years ; 46.7% of the respondents belonging to service sector and 31% of the respondents from the manufacturing sector were in the age group of 30 - 40 years. Nearly two - thirds of the respondents were married. Half of the respondents belonging to the service sector had an income of ₹ 25,000 to ₹ 50,000, and 41.4% of the respondents belonging to the manufacturing sector had income in the range of ₹ 50,000 to ₹ 75,000.

(2) Descriptive Analysis : Cross tabulation was performed (Table 2) to explore the current level of work-life balance amongst the respondents working in the service and manufacturing sectors ; 60.8% of the respondents working in service sector and 44.8% of the employees working in the manufacturing sector reported experiencing work-life imbalance.

A significant number of respondents reported imbalance in their work and family life, but the incidence of imbalance was higher in the case of employees working in the service sector than in the manufacturing sector. The majority, that is, about 74.7% of the respondents reported having stress in their life due to work and family conflict.

Table 1. Sample Distribution (Sector Wise Classification of the Respondents)

		Sector					
		Service		Manufacturing		Total	
Gender	Male	71	77.2%	54	93.1%	125	83.3%
	Female	21	22.8%	4	6.9%	25	16.7%
Experience	Less than 5 years	46	50.0%	14	24.1%	60	40.0%
	5 to 10 years	29	31.5%	18	31.0%	47	31.3%
	10 to 15 years	7	7.6%	13	22.4%	20	13.3%
	15 to 20 years	4	4.3%	5	8.6%	9	6.0%
	More than 20 years	6	6.5%	8	13.8%	14	9.3%
Age	20 - 30	1	1.1%	1	1.7%	2	1.3%
	30 - 40	43	46.7%	18	31.0%	61	40.7%
	40 - 50	34	37.0%	17	29.3%	51	34.0%
	50 - 60	7	7.6%	15	25.9%	22	14.7%
	Above 60	7	7.6%	7	12.1%	14	9.3%
Marital Status	Married	68	73.9%	45	77.6%	113	75.3%
	Unmarried	24	26.1%	13	22.4%	37	24.7%
Income	Below 25000	6	6.5%	2	3.4%	8	5.3%
(in ₹)	25000 - 50000	46	50.0%	18	31.0%	64	42.7%
	50000 - 75000	37	40.2%	24	41.4%	61	40.7%
	75000 - 100000	1	1.1%	10	17.2%	11	7.3%
	Above 100000	2	2.2%	4	6.9%	6	4.0%
Total		**92**	**100.0%**	**58**	**100.0%**	**150**	**100.0%**

Table 2. Cross Tabulation

			Balance Statement(22)					Total
			Strongly Disagree	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*	
Sector	**Service**	Count	13	43	21	14	1	92
		% within Sector	14.1%	46.7%	22.8%	15.2%	1.1%	100.0%
	Manufacturing	Count	2	24	16	11	5	58
		% within Sector	3.4%	41.4%	27.6%	19.0%	8.6%	100.0%
Total		Count	15	67	37	25	6	150
		% within Sector	10.0%	44.7%	24.7%	16.7%	4.0%	100.0%

(3) Factor and Reliability Analysis : Before performing the relationship analysis between the dimensions, the structural validity and reliability levels of measures were tested. The data concerning work-life balance and employee health were analyzed using factor analysis and Varimax rotation results were obtained.

A KMO value of 0.694 and significant value of Bartlett's test of sphericity chi-square = 852.806, *df* = 210, *p*-value 000** indicates the appropriateness of factor analysis for 22 items of the WLB scale and adequacy of the sample. Bartlett's test score of 0.000** also supports the strength of the relationship among variables.

On the basis of the results of factor analysis, seven factors that contribute towards 63.36% of variance were extracted with commonalities ranging from 0.2 to 0.9. These extracted factors are named as: Job Burnout, Balanced Living, Work Spillover/Interference, Personal Fulfillment, Family & Social Commitment, Family Spillover, and Exhaustion (Table 3). Factor analysis of 11 items on health attributes was also performed using Varimax rotation. A KMO value of 0.856 and significant value of Bartlett's test of sphericity (chi-square = 681.151, *df* = 55, *p*-value 0.000**) indicates the appropriateness of factor analysis and adequacy of the sample.

Table 3. Rotated Component Matrix

	Job Burnout	Balanced Living	Work Spillover / Interference	Personal Fulfillment	Family & Social Commitment	Family Spillover	Exhaustion
My family frequently complains about me not spending time with them.	0.794						
I do not get time to keep myself fit.	0.687						
I am so overburdened with official work that I have to carry work home.	0.639						
I always think or worry about work.	0.590						
I work even when unwell.	0.570						
I always get home on time.		0.783					
I am living my ideal life.		0.678					
I am able to balance both my job and family responsibilities.		0.626					
I have to cancel or cut short my outings with my family due to work.			0.785				
I have to cancel my personal appointments due to work.			0.668				

Table is contd. on next page

	Job Burnout	Balanced Living	Work Spillover / Interference	Personal Fulfillment	Family & social commitment	Family spillover	Exhaustion
Due to work pressure, I am not able to give time to my family.			0.594				
I am satisfied with the current work-life policies of my organization.			0.422				
I do not find time for rest or things I want to do.				0.671			
I am not able to use my allotted vacations.				0.648			
When I am at home, I feel relaxed and comfortable.				0.612			
I regularly attend my children's parent - teacher meetings.					0.722		
I participate in socio-religious and community functions.					0.616		
I generally go with my family for movies, outings, other leisure activities.					0.567		
Due to family commitments, my work suffers.						0.861	
I am generally late for my office.						0.590	
Due to work pressure, I have developed poor eating habits.							0.700
I generally feel a lack of time and energy for work at office.							0.628
Eigen value	**2.365**	**2.089**	**2.081**	**1.844**	**1.820**	**1.636**	**1.472**
Variance Explained	**11.260**	**9.949**	**9.908**	**8.780**	**8.666**	**7.793**	**7.008**
Cumulative Explained	**11.260**	**21.209**	**31.118**	**39.898**	**48.564**	**56.357**	**63.364**

Table 4. Rotated Component Matrix

	Psychological Health	Physical Health
I always feel depressed.	0.771	
Due to workload, I have become rude and unapproachable.	0.768	
I face memory loss eg. I misplace files, etc.	0.738	
Sometimes, I feel like crying without any reason.	0.713	
I am generally anxious.	0.708	
I am generally too tired at the end of the day.		0.808
I take more leaves due to sickness arising out of work-family pressures.		0.690
I am generally not able to concentrate due to stress at work and family pressures.		0.677
I generally suffer from a headache.		0.616
I generally spend sleepless nights due to work and family pressures.		0.610
Due to work overload, I have gained/lost weight.		0.599
Eigen value	**3.255**	**3.018**
Variance Explained	**29.589**	**27.436**
Cumulative Explained	**29.589**	**57.024**

Bartlett's test score of 0.000** supports the strength of the relationship among variables. From the factor analysis, two factors: Psychological Health and Physical Health were extracted, which explain 57.024% of the total variance, with communalities after extraction ranging from 0.2 to 0.9 (Table 4).

(4) Hypotheses Testing:

(i) WLB in Manufacturing and Service Sectors : *t* - test was employed to compare the averages of responses from those working in the service and manufacturing sectors for the various components of work-life balance. Out of the seven factors of WLB, only two, namely Family & Social Commitment and Balanced Living are found to be significantly different in the two sectors.

The results reported in the Table 5 indicate that the mean values for Family & Social Commitment are 7.63 and 8.84, respectively and mean values for Balanced Living are 11.11 and 12.51 in the service and manufacturing sectors, respectively. This indicates that on the basis of these two parameters, the level of WLB of those working in the manufacturing sector was higher as compared to those working in the service sector. The *t*-value and *p*-value between the means of two sectors are found to be 2.981, 0.004, 2.834, and 0.005 (*p* - value < 0.01).

Table 5. Group Statistics

	Sector	*Mean*	*t* - value	*p* - value
Family Spillover/Interference	Service	6.7500	0.892	0.374
	Manufacturing	7.0517		
Family & Social Commitment	Service	7.6304	2.981	0.004**
	Manufacturing	8.8448		
Work Spillover/Interference	Service	8.6630	0.518	0.606
	Manufacturing	8.8966		
Personal Fulfillment	Service	8.1304	0.237	0.813
	Manufacturing	8.0345		
Balanced Living	Service	11.1196	2.834	0.005**
	Manufacturing	12.5172		
Job Burnout	Service	11.5870	1.462	0.146
	Manufacturing	12.3793		
Exhaustion	Service	6.4891	1.011	0.314
	Manufacturing	6.1897		

**p < or = 0.01= highly significant

Table 6. Group Statistics

	Sector	*Mean*	*t* - value	*p* - value
Health	Service	30.9348	0.846	0.399
	Manufacturing	31.8621		
Psychological	Service	15.2391	0.229	0.819
	Manufacturing	15.3966		
Physical	Service	15.6196	1.186	0.238
	Manufacturing	16.4655		

**p < or = .01= highly significant

Thus, a significant difference exists between work-life balance amongst employees working in the manufacturing and service sectors. Hence, the hypothesis H_{01} is rejected.

(ii) Employee Health in Manufacturing and Service Sectors : *t* - test was also performed to compare the averages between the responses from the respondents working in the service and manufacturing sectors concerning various health components. The *p*-values are found to be 0.819 and 0.238 (Table 6), which are not significant. Thus, on the basis of overall health and the two homogeneous sub-scales of health namely, Psychological Health and Physical Health, no statistically significance difference is observed between the manufacturing and service sectors. Hence, hypothesis H_{02} is accepted.

(iii) Relationship Between WLB and Employee Health : Pearson correlation was employed to determine the relationship between WLB and employee health. The results of interrelationships between the variables presented in Table 7 indicate that the health of employees has a significant positive relationship with Family Spillover (r=0.166*, p-value <0.05), Family & Social Commitment (r=0.407**, p-value <0.01), Work Spillover/Interference (r=0.172*, p-value <0.05), Balanced Living (r=0.270**, p-value <0.01), Job Burnout (r=0.280**, p-value <0.01), and the Exhaustion of Employees (r=0.582**, p-value <0.01). Overall Health of Employees has the strongest relationship with the Exhaustion of Employees, Family & Social Commitment, Job Burnout, and Balanced Living. Hence, hypothesis H_{03} is rejected.

The results also indicate that Psychological and Physical Health of employees has a strong significant positive relationship with Employee Exhaustion (r = 0.516**, 0.390**), Family & Social Commitment (r = 0.268**, 0.364**), and Job Burnout (r = 0.234**, 0.211**). Psychological Health also has a significant positive relationship with Work Spillover/Interference (r = 0.185*).

(iv) Impact of WLB on Overall Employee Health : To discover the impact of work-life balance on the overall health of employees, forward regression was employed on the seven factors of work-life balance. Before employing forward regression, the goodness of fit was determined by performing ANOVA on the collected data for overall health. The *F*-value in Table 8 is satisfactory and validates the application of regression model on overall health.

Table 7. Correlation Values

	Job Burnout	Balanced Living	Work Spillover / Interference	Family & Social Commitment	Personal Fulfillment	Family Spillover	Exhaustion
Psychological Health	0.234**	0.146	0.185*	0.268**	0.095	0.112	0.516**
Physical Health	0.211* *	0.274**	0.100	0.364**	0.136	0.152	0.390**
Overall Health	0.280**	0.270**	0.172*	0.407**	0.150	0.166*	0.582**

**p < or = 0.01= highly significant

*p < or = 0.05= significant

Table 8. ANOVA Findings for Overall Health of Respondents

	Model		Sum of Squares	*Df*	Mean Square	*F*-value	*p*-value
Overall Health	3	Regression	3278.260	3	1092.753	51.752	.001**
		Residual	3082.833	146	21.115		
		Total	6361.093	149			

**p < or = 0.01= highly significant

Table 9. Forward Regression Analysis

Model Summary									
Model	***R***	***R* Square**	**Adjusted *R* Square**	**Std. Error of the Estimate**	**Change Statistics**				
					***R* Square Change**	***F* Change**	***df1***	***df2***	***p*-value *F* Change**
Model 1	0.582	0.339	0.335	5.32981	0.339	75.928	1	148	0.001**
Model 2	0.696	0.484	0.477	4.72447	0.145	41.356	1	147	0.001**
Model 3	0.718	0.515	0.505	4.59514	0.031	9.391	1	146	0.003**

Dependent Variable: Health

**p < or = 0.01= highly significant

Table 10. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	*t*-value	*p*-value	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
3	(Constant)	5.888	2.204		2.672	0.008**		
	Exhaustion	2.163	0.215	0.585	10.078	0.001**	0.985	1.015
	Family and Social Commitment	0.825	0.175	0.300	4.727	0.001**	0.824	1.214
	Balanced Living	0.423	0.138	0.195	3.064	0.003**	0.820	1.220

(Predictors: (Constant), Job Burnout, Balanced Living, Work Spillover/Interference, Personal Fulfilment, Family & Social Commitment, Family Spillover, and Exhaustion)

**p < or = 0.01= highly significant

The findings of forward regression analysis on the overall health of employees is tabulated in the Table 9. At 95% significance level and alpha value of 0.05, the R^2 is found to be 0.515 (Table 8). Therefore, it can be concluded that the work-life balance has a statistically significant impact on the overall Employee Health. Hence, hypothesis H_{04} is rejected.

The findings in Table 10 show that the independent variables : Exhaustion, Family & Social Commitment, and Balanced Living with the standardized coefficient of Beta being 0.585, 0.300, and 0.195, respectively have a significant positive impact on the overall Employee Health.

Exhaustion, Balanced Living, and Family & Social Commitment level explain 52% of the total variation in the dependent variable, that is, Overall Health of the employees in both service and manufacturing sectors. Since **p-value < or = 0.01, the regression model is a good fit of the data. On the basis of the coefficients, we can derive a model for Overall Health of Employees *(Y)*, Exhaustion *(X_1)*, Family & Social Commitment Level (X_2), and Balanced Living (X_3) as :

$$Y = 5.888 + 2.163X_1 + 0.825X_2 + 0.423X_3$$

(v) Impact of WLB on Employees' Psychological Health : To examine the impact of WLB on the Psychological Health of employees, forward regression was employed. Before employing the forward regression, goodness of fit was determined by performing ANOVA on the collected data for Psychological Health. The *F*-values in Table 11 are satisfactory and validate the application of regression model on Psychological Health.

The findings of forward regression analysis for Psychological Health tabulated in Table 12 report that at 95% significance level and alpha value of 0.05, R^2 is found to be 0.326. Thus, it can be concluded that the relationship between work-life balance and employees' psychological health is found to be statistically significant. Hence, hypothesis H_{04i} is rejected.

Table 11. ANOVA Findings

	Model		Sum of Squares	*Df*	Mean Square	*F*-value	*p*-value
Psychological Health	2	Regression	811.652	2	405.826	35.555	0.001**
		Residual	1677.848	147	11.414		
		Total	2489.500	149			

**p < or = 0.01= highly significant

Table 12. Regression Analysis : Psychological Health

Model	*R*	*R* Square	Adjusted *R* Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	*F* Change	*df1*	*df2*	Sig. *F* Change
Model 1	0.516[a]	0.266	0.261	3.51323	0.266	53.696	1	148	0.001**
Model 2	0.571[b]	0.326	0.317	3.37845	0.060	13.044	1	147	0.001**

Dependent Variable: Health

**p < or = 0.01= highly significant

Table 13. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	*t*-value	*p*-value	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
2	(Constant)	4.445	1.372		3.241	0.001**		
	Exhaustion	1.168	0.157	0.505	7.448	0.001**	0.998	1.002
	Family and Social Commitment	0.421	0.117	0.245	3.612	0.001**	0.998	1.002

(Predictors: (Constant), Job Burnout, Balanced Living, Work Spillover/Interference, Personal Fulfilment, Family & Social Commitment, Family Spillover, and Exhaustion)

**p < or = 0.01 = highly significant

The findings in Table 13 depict that the independent variables : Exhaustion Level and Commitment Level (Family and Social) have a significant positive impact on the Psychological Health of the employees with the standardized coefficient of Beta being 0.505 and 0.245, respectively.

The Exhaustion Level and Commitment Level (Family and Social) explain 32% of the total variation in the dependent variable, that is, the Psychological Health of the employees in both service and manufacturing sectors. On the basis of the coefficients, we can derive a model for the Psychological Health of employees *(Y)*, Exhaustion (X_1), Family & Social Commitment (X_2) as :

$$Y = 4.445 + 1.168X_1 + 0.421X_2$$

(vi) Impact of WLB on Employees' Physical Health : To examine the impact of WLB on the physical health of employees, forward regression was employed. Before applying forward regression, the goodness of fit was determined by performing ANOVA on the collected data for Physical Health. The *F*-values in Table 14 are satisfactory and validate the application of forward regression model on Physical Health. At 95% significance level and alpha value of 0.05, the R^2 is found to be 0.305 (Table 15). Thus, it can be concluded that work-life balance has a significant impact on employees' physical health. Hence, hypothesis H_{04ii} is rejected.

The coefficients in Table 15 indicate how much the dependent variable varies with an independent variable

Table 14. ANOVA Findings

Model			Sum of Squares	*df*	Mean Square	*F*-value	*p*-value
Physical Health	3	Regression	825.320	3	275.107	21.362	.001**
		Residual	1880.253	146	12.878		
		Total	2705.573	149			

***p* < or = 0.01= highly significant

Table 15. Regression Analysis : Physical Health

Model Summary									
Model	***R***	***R* Square**	**Adjusted *R* Square**	**Std. Error of the Estimate**	**Change Statistics**				
					***R* Square Change**	***F* Change**	***df1***	***df2***	**Sig. *F* Change**
Model 1	0.390	0.152	0.147	3.93624	0.152	26.621	1	148	0.001**
Model 2	0.522	0.273	0.263	3.65830	0.120	24.343	1	147	0.001**
Model 3	0.552	0.305	0.291	3.58866	0.032	6.761	1	146	0.010**

Dependent Variable: Health

***p* < or = 0.01= highly significant

Table 16. Coefficients

Model			Unstandardized Coefficients		Standardized Coefficients	*t*-value	*p*-value	Collinearity Statistics	
			B	Std. Error	Beta			Tolerance	VIF
Physical Health	3	(Constant)	2.759	1.721		1.603	0.111		
		Exhaustion	0.953	0.168	0.395	5.682	0.001**	0.985	1.015
		Family & Social Commitment	0.475	0.136	0.265	3.484	0.001**	0.824	1.214
		Balanced Living	0.281	0.108	0.198	2.600	0.010**	0.820	1.220

(Predictors: (Constant), Job Burnout, Balanced Living, Work Spillover/Interference, Personal Fulfilment, Family & Social Commitment, Family Spillover, and Exhaustion)

***p* < or = 0.01= highly significant

when all other independent variables are held constant. The findings in Table 16 depict that the independent variables : Exhaustion Level, Commitment Level (Family and Social), and Balance Level have a significant positive impact on the Physical Health of employees with the standardized coefficient of Beta being 0.395, 0.265, and 0.198, respectively.

The Exhaustion Level, Commitment Level (Family and Social), and Balance Level explain 31% of the total variation in the dependent variable, that is, the Physical Health of the employees in both service and manufacturing sectors.

On the basis of the coefficients, we can derive a model for Physical Health of employees *(Y)*, Exhaustion (X_1), Family and Social Commitment Level (X_2), and Balanced Living (X_3) as:

$$Y = 2.759 + 0.953X_1 + 0.475X_2 + 0.281X_3$$

Discussion

More than half of the respondents reported imbalance concerning their work and family responsibilities. However, the percentage of respondents reporting imbalance was significantly higher in the service sector than those working in the manufacturing sector. Nearly two-thirds of the respondents reported to have stress in their lives due to work and family imbalance. A significant difference is observed between work-life balance amongst employees working in manufacturing and service sectors.

Out of the seven factors of WLB, a significant difference is observed in the WLB of employees working in both the sectors only on the basis of two factors, that is, Family & Social Commitment and Balanced Living. The results of the interrelationship indicate that the Health of employees has the strongest relationship with Exhaustion of Employees, Family & Social Commitment, Job Burnout, and Balanced Living.

A relationship is observed between the WLB and health of employees in the two sectors. Regression analysis statistically validates that work-life balance has a significant impact on the Overall Health of employees as well as its two constituents : Employees' Psychological and Physical Health. However, no significant difference is observed with respect to the health of those working in the manufacturing and service sectors.

Managerial Implications and Conclusion

Majority of the respondents (74.7%) reported having stress in their lives due to work - life imbalance, and a significant difference is found between work-life balance amongst employees working in manufacturing and service sectors. This calls for greater attention and better implementation of WLB strategies by organizations. The quantum of work-life imbalance reported by the respondents operating in the service sector was relatively higher ; therefore, service sector organizations need to take it even more seriously.

The various models derived through this research can practically be used by practising managers to predict and measure the impact of work - life imbalance/balance on the health (physical as well as psychological) of their employees. Understanding these facets would contribute towards achievement of better WLB for the benefit of individuals, industries, the nation, and society at large.

The study examines the interrelationships amongst various demographic variables, health, and work-life balance of employees working in the manufacturing and service sector organizations in the North-Western region of India. The results substantiate that pressure from work is causing an imbalance in life, which is further leading to several physical as well as psychological health problems, including stress. The study also reveals that work-life imbalance is relatively more in the service sector as compared to the manufacturing sector.

Recommendations

The findings of this study have serious implications as it has been statistically validated that work-life imbalance seriously affects the physical and psychological health of employees. This empirical study brings forth to the attention of practitioners, businesses, and government agencies that we must rise to this challenge and devise strategies for attaining better work-life balance.

As the health of employees has the strongest relationship with the exhaustion experienced by employees, family & social commitments, job burnout, and balanced living, these factors can be given higher priority while designing and implementing the interventions to attain work-life balance. However, it must be kept in mind that there exists a significant difference between work-life balance amongst employees working in manufacturing and service sectors, which necessitates different approaches to be adopted for the two sectors.

Limitations of the Study and the Way Forward

As the sample in this research was restricted to middle level and senior managers, future research should examine this phenomenon amongst workers, junior staff, and entry-level managers for determining the applicability of these results to different levels in an organization. This study did not include self-employed professionals like advocates, doctors, and entrepreneurs. A separate study can be undertaken for them as even these self-employed persons constitute a large portion of the workforce and also face critical work-life imbalance issues. Future researchers need to undertake more experiment based empirical research to develop interventions and strategies that can guide the organizations to develop a healthy work-life balance.

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