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# Development and Validation of an Instrument for Measuring Work-Life Balance Culture Among Employees of IT Industry in South India

<sup>1</sup>Vidyavathi Manupadu and <sup>2</sup>Surendra Prasad <sup>1</sup>University College of Commerce and Business Management, <sup>2</sup>David Memorial PG College, Osmania University, Hyderabad, India

Abstract: Most of the existing literature concentrates on Work-Life Balance (WLB) and many measurement scales have been developed. But very limited studies have been conducted to assess the Work-Life balance Culture (WLC). The fact that no such study existed to assess the WLC in Indian context motivated to take up the present work. Employees of IT organizations of South India were chosen for the study and an instrument consisting of 20 statements was developed to measure WLC. The data needed was collected from 852 employees and the developed instrument possessed strong reliability scores and validity. Kaiser-Meyer-Olkin test and Bartlett's test conducted to check the sampling adequacy and sphericity of the data yielded acceptable results. Dimensions (factors) were resolved through factor analysis and Pearson correlation analysis and regression analysis were used to test the hypotheses. The study conducted finds agreement and adds to the existing works by other researchers and identifies the issues for ameliorating the prevailing situation of WLC in IT organizations.

**Key words:** Work-life balance culture, IT organizations, factor analysis, regression analysis, ameliorating, agreement

### INTRODUCTION

Currently, almost all IT organisations in India do not have fixed working timings. Employees of IT organizations are generally expected to be engaged on the job and this extension of work beyond office timings has obliterated the boundary between work and life and work has now become an inseparable component of a person's life. IT organisations have introduced flexible working schedules and work from home option to their employees to help them maintain Work-Life Balance (WLB). WLB is the ability to experience a sense of control and to stay productive and competitive at work while maintaining a happy, healthy home life with sufficient leisure. It encompasses everything that is required to lead healthy and satisfactory personal life and also a productive and progressive work life.

Meaning of Work-Life balance Culture (WLC): Work-family culture (Thompson *et al.*, 1999) is defined as "the shared assumptions, beliefs and values regarding the extent to an supports values integration of employee's work and family lives". Work-family culture is different

from work-family balance as it assesses the perception of the individuals towards organisation's support for work-family balance. It would be (Bradley *et al.*, 2010), appropriate to substitute 'family' in work-family culture with 'life' to include all the non-work aspects of an individual's life. This substitution will enable studying the work-life balance culture of individuals who do not have families.

Based on the literature, the support from the organisation is crucial for bridging the gap between the policy provision and utilization of the policies. Hence, it is pertinent to study the cultural aspects of the organizations which influence the work-life balance. The present study envisages studying such work-life balance culture of the employees of IT sector in South India.

**Literature review:** Culture (Thompson *et al.*, 1999) was showed as an important concept that was related to work attitudes above and beyond what is accounted for by the availability of flexible work arrangements. The use of organizational work-life programs provides a number of individual and organizational benefits including the reduction of work-family conflict (Allen, 2001;

Greenhaus and Parasuraman, 1994; Thomas and Ganster, 1995). Reduction in absenteeism and turnover intention observed in a study was (Baltes *et al.*, 1999) due to organisational support. Improved life satisfaction and well-being (Frone *et al.*, 1997) and higher organizational performance and productivity (Konard and Mangel, 2000) were found to be products of positive organizational environment.

Two more dimensions were added (Bradley et al., 2010) to the existing work (Thompson et al., 1999) reported earlier. The impact of the organizational context related to work-family culture compared with the impact of broader perceived organizational support was studied (Behson, 2002). It was found that supportive work-life culture in terms of work-time commitment reduces work-family conflict (Frone et al., 1997). Improved job satisfaction (Rothausen, 1994) and increase in productivity (Solomon, 1994) were also found to be direct result of supportive work atmosphere.

A study by Allen and Russel (1999) reported that employees were rewarded less compared to those who did not utilize family-friendly policies. Another study by Bragger *et al.* (2005) indicated that there was a tendency for women for accessing the policies which assist in balancing work and family than men. Research revealed the details that are crucial to understanding the tensions experienced at the nexus of work and other life roles (Friedman and Greenhaus, 2000).

Relation between work-family balance and quality of life among professionals employed in public accounting was examined (Greenhaus *et al.*, 2003). It was found that individuals who spent more time on family than work experienced a higher quality of life than balanced individuals who in turn, experienced a higher quality of life than those who spent more time on work than family.

Organization-change approach was proposed to promoting work-family balance (Hall, 1990). An examination of the literature on conflict between work and family roles suggests that work-family conflict exists when time devoted to the requirements of one role makes it difficult to fulfill requirements of another; strain from participation in one role makes it difficult to fulfill requirements of another and specific behaviors required by one role make it difficult to fulfill the requirements of another (Greenhaus and Beutell, 1985).

Relationship between work-family culture with the organizational commitment of employee and controlling socio-demographical variables was analysed (Mauno *et al.*, 2005). There was a significant relationship between work-family culture variables and organizational commitment where the culture appears strongly associated to the commitment.

A study by Perry-Smith and Blum (2000) suggested that organizations with more extensive work-family policies have higher perceived firm-level performance. Comprehensive model of the work-family interface was developed and tested (Frone *et al.*, 1992). The proposed model extended prior research by explicitly distinguishing between work interfering with family and family interfering with work which allowed testing of hypotheses concerning the unique antecedents and outcomes of both forms of work-family conflict and a reciprocal relationship between them.

A study by Greenhaus *et al.* (2001) extended prior analyses (Greenhaus *et al.*, 1997) by examining relationships between 2 directions of work-family conflict (work-to-family conflict and family-to-work conflict) and withdrawal intentions from public accounting. It was found that work-to-family conflict (but not family-to-work conflict) was positively related to withdrawal intentions. A 3-sample study (Netemeyer *et al.*, 1996) which developed and validated short, self-report scales of Work-Family Conflict (WFC) and Family-Work Conflict (FWC) was reported.

Results from the survey by Sumer and Knight (2001) suggested that individuals with a preoccupied attachment pattern were more likely to experience negative spillover from the family/home to the work domain than those with a secure or dismissing style and securely attached individuals experienced positive spillover in both work and family domains. Two new dimensions: gender expectations and co-worker support for measuring work-family balance culture were first proposed (McDonald *et al.*, 2005) as explanations for why WLB policy usage was low.

Research gap and objectives: In the literature, extensive discussion and study of Work-Life Balance (WLB) is available. All the studies have been restricted to study the WLB and its relation with various dimensions like quality of work life (Greenhaus *et al.*, 2003) or organisational factors. Studies have been conducted to identify the factors of conflict between work and family lives (Greenhaus and Beutell, 1985; Greenhaus and Parasuraman, 1994; Friedman and Greenhaus, 2000). The existing studies do not try to assess the WLC prevailing in the Indian IT organizations. Relatively, WLC has not been discussed or studied as much as WLB. Though some work is reported by Thompson *et al.* (1999) and

Bradley *et al.* (2010) such study seems to be not carried in Indian context to the best of our knowledge. The present work undertaken addresses this gap and envisages studying the WLC of the employees of IT industry in South India. Specifically, the aim of the study is to:

- Develop a measurement tool for WLC
- Determine the factors affecting the WLC
- Study the relation between such factors and WLC

Based on the extensive literature review, two hypotheses are formulated.

Null Hypothesis- $H_{10}$ : Manager support and organisational support have no significant impact on the work-life balance culture.

Alternate Hypothesis- $H_{la}$ : Manager support and organisational support have significant impact on the work-life balance culture.

**Null Hypothesis-H<sub>20</sub>:** Negative career consequences and gender imbalance have no significant relationship with work-life balance culture.

Alternate Hypothesis-H<sub>2a</sub>: Negative career consequences and gender imbalance have significant relationship with work-life balance culture.

## MATERIALS AND METHODS

Conceptual model for development of scale: An idea to (Thompson et al., 1999) measure the culture concept was first proposed and defined three dimensions for the same. The first dimension measured time demands defined as the extent to which an organization expected an employee to put work before their family responsibilities. The second dimension measured the perceived negative career consequences of using work-family benefits. The third dimension measured support from management and sensitivity to employee's family demands. As mentioned in the literature review, two more dimensions were extended and added (Bradley et al., 2010): gender expectations and co-worker support. As indicated earlier, 'family' in work-family balance culture is substituted with 'life', so as to allow individuals to incorporate all the non-work aspects of their lives.

So, to measure the WLC of the employees of IT industry in South India, open ended questions and informal semi structured interviews were used to determine the dimensions underlying the WLC. Based on the personal interactions and qualitative research, a questionnaire of 20 statements was prepared to assess the WLC. The preparation of the statements was largely

influenced by the earlier work reported by Thompson *et al.* (1999) and Bradley *et al.* (2010) and some of the statements related to the dimensions mentioned in these works were adapted to Indian context.

Finally, the questionnaire consisted of two parts: 10 statements to determine the demographic profile of the participants and 22 statements to assess the WLC. The second part of the questionnaire employed 5 point Likert's scale ranging from strongly disagree, disagree, neutral, agree and strongly agree for obtaining the responses. As a pre-test, the questionnaire was administered to 40 employees of IT organisations before going to the actual data collection. The employees were comfortable in answering the questionnaire and the data provided in the pre-test had some agreement with the earlier findings (Thompson *et al.*, 1999; Bradley *et al.*, 2010).

**Data collection:** Data required for the present study was collected through survey method from a sample population consisting of employees of various IT organisations in South India. The cities covered in this study are; Hyderabad, Chennai, Bangalore, Pune, Mumbai, Thiruwananthapuram. Most of the IT organizations have established their business centres in these cities and hence, South India was chosen for the study. Random sampling technique was adopted and a total of 1220 employees were invited by e-Mail to participate in the survey. The questionnaire statements were posted in a google-form at a web-link and the web-link was sent over e-Mail to participants. Out of 1220 employees who were invited, 852 employees filled in the questionnaire and submitted.

Statistical analysis: The underlying dimensions (factors) pertaining to 20 statements of WLC were determined by factor analysis using principal components analysis with varimax rotation method. The reliability of the statements was estimated using Cronbach alpha coefficient (Lee, 1951). Kaiser-Meyer Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity was conducted to test the fitness of the data. Relationship between dimensions and WLC was determined by Pearson's correlation analysis. Regression analysis was used for hypothesis testing and determining the directions and magnitudes of associations between the factors and WLC.

## RESULTS AND DISCUSSION

A total of 852 respondents participated in the survey. The 66.7% of the respondents are males and 33.3% are females. Most of the respondents are of the age: 21-30 years. More than half of the respondents are

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Demographic factor/Categories	Percentage
Sex	
Male	66.70
Female	33.30
Age	
21-30	53.80
31-40	35.90
41-50	7.70
>50	2.60
Marital status	
Married	52.60
Single	43.60
Divorced	2.60
Separated	1.30
No. of dependents	
0	53.80
1	28.20
2	16.70
>2	1.30
Qualification	
Diploma	1.30
Bachelors	25.60
Masters	69.20
Doctorate	3.80
Employment status	
Full time	100.00
Part time	0.00
Casual	0.00
Salary	
25000-50000	25.60
50001-75000	17.90
75001-100000	19.20
>100000	37.20
Experience	
0-5	50.00
6-10	41.00
11-20	5.10
>20	3.80
Place of work	12.00
Chennai (120)	12.90
Bangalore (204) Hy derabad (324)	22.07 35.06
• • •	
Pune (72)	7.70 10.30
Mumbai (96) Trivandrum (72)	7.70
Delhi (36)	3.80
Delili (50)	3.80

married. The social demographic details are presented in the Table 1. The mean ratings of the statements in the questionnaire are presented in Table 2.

Statement #10 was rated the highest with mean score: 3.64 and statement #22 was rated the lowest with mean score 2.99. KMO and Bartlett's test of sphericity was conducted and resulted in 0.892 and 1525.01 at 0.000 significance level, respectively which indicates the sampling adequacy and appropriateness of the responses received. The responses received for the statements in the questionnaire were factor analysed using principal component analysis with varimax rotation method to determine the factors or dimensions underlying the latent construct WLC. Factor analysis resulted in determining the following six constructs: Manager

Support (MS), Organisational Support (OS), Negative Career Consequences (NCC), Co-worker Non-Support (CNS), Gender Imbalance (GI) and Time Demands (TD). During the factor analysis, only those factors were considered whose eigen values were >1, (Hair et al., 1998) and whose factor loadings were >0.4. The factor loadings and reliability estimates of the constructs along with the eigen and their variances are presented in Table 3. OS has the largest eigen value 6.542 and contributes about 32.71% of the variance making it the most significant dimension of WLC. GI has the lowest eigen value 1.115 and contributes about 5.58%. Construct validity of the questionnaire is established through the factor analysis. The factor analysis resulted in the constructs as agreed upon earlier (Bradley et al., 2010).

Statement 22 was deleted to increase the reliability and statement 15 was removed as its factor loading was <0.4. Finally, the second part of the questionnaire consisted of 20 statements only. Statements 4-8 were loaded on to the construct: OS with a reliability alpha coefficient 0.841 and this factor was positively scored. Statements 1-3 and 14 were loaded on to the construct: MS with a reliability alpha coefficient 0.813. This factor was positively scored and most of the respondents agreed that this construct was most crucial construct in determining a positive WLC. Statements 9-11, 12-13, 16-18 and 19-21 contributed to the constructs: NCC, TD, CNC and GI with reliability alpha coefficients 0.862, 0.855, 0.895 and 0.802, respectively. All these constructs were negatively scored in the measurement scale.

The sum of all the scores of the statements for each respondent is taken as total score for WLC. The descriptive statistics for WLC and its six constructs are presented in Table 4. WLC has a mean score of 59.68 with 10.79 as standard deviation. Among the constructs, OS has highest mean score 16.24 with 4.03 as standard deviation and TD has the lowest mean score 6.45 with 1.84 as standard deviation.

#### Hypothesis testing

**Correlation analysis:** Pearson correlation analysis (using t-test) was done on WLC and its constructs to determine the relationships between them. Table 5 presents the correlation matrix. Correlation analysis revealed that MS and OS are positively correlated with WLC with correlation coefficients 0.788 and 0.835, respectively.

Rest of the constructs NCC, CNS, GI and TD are negatively correlated with WLC with correlation coefficients -0.540, -0.651, -0.494 and -0.667, respectively. The t-values and the corresponding p-values obtained for

Table 2: Mean ratings of the responses

Item No.	Mean	SD
My manager is sensitive to my non-work needs	3.35	1.010
My manager is sympathetic towards employee's childcare/elder care responsibilities	3.54	0.900
In the event of a conflict, managers are understanding when employees have to put their non-work responsibilities first	3.27	1.070
Employees are allowed to work from home/shifts when required	3.59	1.070
The workplace is supportive of employees who want to switch to less demanding jobs for family reasons	3.12	0.970
My organization has well laid down work life balance policies	3.24	0.095
The work life balance policies are applied the same way at all levels of management	3.03	1.060
In this work environment, employees can easily balance their work and non-work lives	3.23	1.080
Employees who avail work-life balance policies are perceived to be less serious about their careers than those who do	3.10	1.020
not participate		
Turning down a promotion or transfer for personal reasons will hurt career progress	3.64	0.920
Employees who use work-life balance policies are less likely to advance in their careers than those who do not use	3.14	0.990
Employees are expected to work overtime	3.10	1.110
Employees are expected to put their jobs before their personal responsibilities to move ahead in their careers	3.35	1.020
Colleagues encourage their team member's use of work-life balance policies	3.34	0.920
Employees generally have to spend weekends at office to advance in the career	3.01	0.560
If an employee is away from work due to a work-life balance arrangement, colleagues generally resent to help	3.19	0.990
Workloads are not shared equally in this workplace because some employees are not around for part of the week	3.23	0.920
Some employees in this workplace have to do more than their fair share to compensate for the people using work-life policies	3.45	0.890
Flexible work arrangements and policies are available mainly for women in this organization	3.27	1.060
Male employees are more reluctant than women to ask for time off to deal with their family and non-work responsibilities	3.32	1.050
Men who put their non-work responsibilities before their jobs are thought of more negatively than women who do this	3.20	1.020
Men are not considered for any work life balance arrangement	2.99	1.360

Table 3: Factor loading schedule along with reliability coefficient of constructs during factor analysis

Statements No.	Factors loading	Factor name	Eigen value	Variance (%)	Cumulative variance (%)	Cronbach alpha
4	0.74	Organisational Support	6.542	32.71	32.71	0.841
5	0.60	(OS)				
6	0.42					
7	0.43					
8	0.75					
1	0.70	Manager Support (MS)	1.785	8.93	41.64	0.813
2	0.77					
3	0.40					
14	0.82					
12	0.53	Time Demands (TD)	1.657	8.29	49.92	0.855
13	0.48					
9	0.64	Negative Career	1.442	7.21	57.14	0.862
10	0.79	Consequences (NCC)				
11	0.71					
16	0.68	Co-worker Non-Support	1.218	6.09	63.23	0.895
1	0.73	(CNS)				
18	0.72					
19	0.73	Gender Imbalance (GI)	1.115	5.58	68.81	0.802
20	0.65					
21	0.72					

Table 4: Descriptive statistics

Table 4. Descr	Table 4: Descriptive statistics									
Variables	WLC	os	MS	NCC	CNS	GI	TD			
Mean	59.688310	16.246750	13.480520	9.896104	9.883117	9.805195	6.454545			
SD	10.799200	4.030758	3.155866	2.050878	2.217896	2.338245	1.843406			
Skewness	-0.732610	-0.615630	-0.838710	0.222476	-0.462900	-0.113430	-0.271830			
Kurtosis	1.693221	0.538028	1.600942	-0.539140	0.373839	0.087878	-0.463090			

Table 5: Correlation matrix

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Variables	WLC	MS	OS	NCC	CNS	GI	TD		
WLC	1.000000	0.788427	0.835982	-0.540930	-0.651970	-0.494130	-0.667580		
MS	0.788427	1.000000	0.648553	-0.211460	-0.406620	-0.278310	-0.411240		
OS	0.835982	0.648553	1.000000	-0.294460	-0.458280	-0.228270	-0.432020		
NCC	-0.540930	-0.211460	-0.294460	1.000000	0.237677	0.242750	0.456617		
CNS	-0.651970	-0.406620	-0.458280	0.237677	1.000000	0.168768	0.439595		
GI	-0.494130	-0.278310	-0.228270	0.242750	0.168768	1.000000	0.177603		
TD	-0.667580	-0.411240	-0.432020	0.456617	0.439595	0.177603	1.000000		

All calculations at 0.05 significant level

Table 6: Pearson correlation analysis

Pearson correlation						
analysis (using t-test)	WLC and MS	WLC and OS	WLC and NCC	WLC and CNS	WLC and TD	WLC and GI
Alpha	0.05	0.05	0.05	0.05	0.05	0.05
Tails	2	2	2	2	2	2
Corr. Coeff.	0.788427	0.83598	-0.54093	-0.65197	-0.66758	-0.49413
SE	0.02868	0.02559	0.03922	0.03535	0.03471	0.04054
T	27.49004	32.6735	-13.7939	-18.4416	-19.2306	-12.19
P	4E-99	6E-122	1.8E-36	2.9E-57	6.5E-61	82E-30

All calculations at 0.05 significant level two tailed

Table 7: Regression analysis

Overall fit	Values
Multiple R	0.914618
$\mathbb{R}^2$	0.836527
Adjusted R <sup>2</sup>	0.836171
SE	7.22638
Observations	852

Table 8: ANOVA results

				Alpha 0.0	5	
		Sum of the	Mean			
Variables	df	squares	square	F-value	p-value	Sig.
Regression	6	122922.6	20487.1	720.6731	0	Yes
Residual	845	24021.5	28.4278			
Total	851	146944.1				

Anova

Table 9: Regression coefficients

Factors	Coefficients	SE	t-stat	p-values
Intercept	66	7.53E-15	8.76E+15	0
MS	0.956	2.8E-16	3.41E+15	0
OS	0.982	2.24E-16	4.38E+15	0
NCC	-0.895	3.63E-16	-2.46E+15	0
CNS	-0.785	3.46E-16	-2.26E+15	0
GI	-0.941	2.93E-16	-3.21E+15	0
TD	-0.862	4.43E-16	-1.94E+15	0

two tailed tests at 0.05 significance level are presented in Table 6. It is clearly evident that there exists a positive relationship between WLC and MS and OS. A negative relationship exists between WLC and NCC and GI.

**Regression analysis:** To study the magnitudes of association between WLC and its constructs, linear regression analysis is done. WLC is taken as the dependent variable and its six constructs are taken as independent variables for performing the linear regression analysis. Parameters of the overall fit are presented in Table 7. The multiple regression coefficient R is 0.914618 and the coefficient of determination R<sup>2</sup> = 0.836527 indicates that 83.65% of the variance of the latent construct WLC is explained by its six factors proving that this regression model is a good fit. ANOVA results are presented in Table 8 and the F-value is found to be 720.6731 with p<0.05. The regression beta coefficients are presented in Table 9.

To test the null hypothesis  $H_{10}$ : From Table 6, it is evident that WLC is positively correlated to MS (0.788) and OS (0.835) and the p-value from the correlation analysis using t-test was <0.05 alpha value. From Table 9, it is clear from regression analysis that MS and OS are significant positive predictors of WLC with beta coefficients 0.956 and 0.982, respectively and p<0.05 and hence from the above results,  $H_{10}$  may comfortably be rejected and hence alternate hypothesis,  $H_{1a}$ , is accepted.

To test the null hypothesis  $H_{20}$ : From Table 6, it is evident that WLC is negatively correlated to NCC (-0.540) and GI (-0.494) and the p-value from the correlation analysis using t-test was <0.05 alpha value. From Table 9, it is clear from regression analysis that NCC and GI are significant negative predictors of WLC with beta coefficients -0.895 and -0.941, respectively and p<0.05 and hence, from these results,  $H_{20}$  may comfortably be rejected and hence alternate hypothesis,  $H_{2a}$  is accepted.

## CONCLUSION

The present study developed a 20 statement instrument to evaluate the WLC of the IT employees belonging to various IT organizations of South India. The responses received for the statements of the instrument were factor analysed and the underlying constructs were extracted. Reliability coefficients were calculated and were found to be acceptable. The instrument possesses acceptable validity which was confirmed through factor analysis. Since, WLC is a measure of the perception of the employees about the support and encouragement received from the organization, this study could be utilised as an effective tool for enhancing the WLC of the organizations involved. WLC measured has a mean score of only 59.688 whereas, the maximum score a participant can get for the 20 statement questionnaire is 100. Even though there seems to be good organizational support from the data collected, it is clearly evident from the study that the organizations have to focus on mitigating the issues: negative career consequences, co-worker

non-support, gender imbalance and time demands to improve WLC. This study has provided good insights about the employee's perceptions and concepts about WLC. This study also adds to the existing literature and has a very good agreement with the ideas and results generated from previous studies on WLC.

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