

## Work-Family Conflict & Family-Work Conflict: A Gender Perspective with Impact on Life Satisfaction

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### ABSTRACT

Nowadays most employed adults are found to be struggling with the work and family conflict which adversely impact their life-satisfaction, thus, the current study aims to bring forth the gender differences in work-family conflict (WFC) and family-work conflict (FWC) and their impact on the life satisfaction of the employed adults. Measures of the constructs were obtained by a questionnaire which consists of Work-Family Conflict & Family-Work Conflict Scale (Netemeyer et. al., 1996) and The Satisfaction with Life scale (SWLS) (Diener et. al., 1985), from a sample of 80 employed adults aged 30-50 yrs, who are full-time employed and working in Lucknow, India. Work-family conflict (WFC) and family-work conflict (FWC) were treated as predictor variables whilst life satisfaction of the employed adults constituted the criterion variable. Two-way ANOVA were employed. Results show that working women experiences high overall work and family conflict as compared to working men (df= 78; t= 13.95; p> 0.05); significant inverse relationships are observed in the mean life-satisfaction scores of High WFC and Low WFC in working women (df= 38; t=5.94; p>0.05) and working men (df= 38; t=10.04; p>0.05) as well as for High FWC and Low FWC in working women (df= 38; t=4.27; p>0.05) and working men (df= 38; t=2.95; p>0.05). Gender differences were clearly evident in WFC where working women are experiencing higher WFC as compared to working men but nominal gender differences are seen in FWC. It was concluded that Work-family conflict (WFC) and family-work conflict (FWC) exert a significant negative impact on the of life satisfaction of the employed adults.

**Keywords:** *Work-family conflict (WFC), family-work conflict (FWC), life satisfaction*

Work and family are two important aspects of any employed adults' life. Family fulfils the need of love and affiliation whereas work fulfils the need of achievement and self-worth. When demands from work and family interferes with each other, they produce conflict. Work and family conflict has been defined as the inter-role conflict in which the role pressures from the work and family domains are mutually incompatible and the demands of participation in one role makes participation in another role difficult (Greenhaus & Beutell, 1985; 2006). Conflict between work and family is bi-directional (Lavassani & Movahedi, Kayvan Miri & Bahar 2014). Work and family conflict can be further differentiated into two distinct but related conflicts; **work-family conflict-**

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(WFC- work demands interfering in family roles) and **family-work conflict** (FWC-family demands interfering in work roles). WFC and FWC may be related through spill over where attitudes carry over from one domain to the other and in a counter-balancing fashion or segmented so that individuals compartmentalize potentially competing role demands. But WFC and FWC differ depending on the focus of the conflict (work-spouse, work-parent, work-housework etc role conflicts). Researches shows that the level of conflict from work interference with family (WFC) is higher compared to the level of family interference with work (FWC) among the respondents (Panatik et. al 2011; Qiu and Fan ,2015).

Life- satisfaction can be defined as the extent to which a person finds its life rich, meaningful and of high quality (APA Dictionary of Psychology, 2020). Life satisfaction or global quality of life is the broadest concept which is influenced by all the dimensions of life that contribute to its richness, reward and pleasure. The subjective quality of experiences an individual has in both work and family roles is a critical determinant of life satisfaction of the person and conflicts among these domains either work-family conflict (WFC) or family-work conflict (FWC) has a negative impact on the overall life-satisfaction of the person (Greenhaus & Beutell, 2006; Panatik et. al 2011; Qiu and Fan, 2015; Gözükarar and Çolakoglu, 2016).

Gender differences have been intensively studied in context of work and family conflict. Kaufman and Taniguchi, 2020 conducted an international survey based on multilevel mixed-effects logistic models, through data from International Social Survey Program (2012) and Human Development Report (2011-2015) of 24,547 respondents from 37 countries and found that women are more likely than men to experience WFC and FWC. At the individual level, traditional gender ideology positively predicts WFC and FWC. Women and men who reside in more gender-unequal countries have a higher likelihood of FWC while men in these contexts also are more likely to experience WFC. Societal gender inequality is more consequential for those who hold less traditional gender ideology. In conclusion, gender egalitarianism at the individual level and gender equality at the country level are both associated with less WFC and FWC (Kaufman and Taniguchi, 2020). Traditional gender roles still affect the way men and women manage the work and family interaction, although the increased WFC due to involvement in housework is not exclusive to women, but also occurs in men (Cerrato and Cifre, 2018).

On the basis of empirical evidences and the theoretical background presented, the current study aims to bring forth the gender differences in work-family conflict (WFC) and family-work conflict (FWC) and their impact on life satisfaction of the employed adults. The study looked at three specific objectives and their five corresponding hypotheses. The first objective was to study the gender difference in overall conflict of work and family of the employed adults and the corresponding hypothesis was,

*H<sub>1</sub>: There will be a significant difference in the overall work and family conflict among working women and working men.*

The second objective was to compare the gender differences in the life-satisfaction of employed adults experiencing different levels of work-family conflict (Low WFC and High WFC) and its corresponding two hypotheses were,

*H<sub>2</sub>: There will be a significant difference between life-satisfaction of working women experiencing different levels of work-family conflict.*

*H<sub>3</sub>: There will be a significant difference between life-satisfaction of working men experiencing different levels of work-family conflict*

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The third objective was to compare the gender differences in the life-satisfaction of employed adults experiencing different levels of family-work conflict (Low FWC and High FWC) and its two corresponding hypotheses were,

*H<sub>4</sub>: There will be a significant difference between life-satisfaction of working women experiencing different levels of family-work conflict.*

*H<sub>5</sub>: There will be a significant difference between life-satisfaction of working men experiencing different levels of family-work conflict.*

### METHODS

The current study used a quantitative and non-experimental ex-post facto research design which lay emphasis on work-family conflict as predictor variable whilst life satisfaction of the employed adults was treated as criterion variable. The sample consists of 80 married adults (40 working women and 40 working men) aged 30-50 yrs, who are full time employed and working in Lucknow, Uttar Pradesh, India. The study has undertaken non-random sampling techniques such as convenience and snowball sampling.

An informed consent sheet and the socio-demographic sheet-including the participant's age, gender, marital status, location and profession was prepared [refer Appendix A]. The current study used Work-Family Conflict & Family-Work Conflict Scale developed by Netemeyer et. al (1996) (Refer Appendix B) and The Satisfaction with Life scale (SWLS) (Diener et. al., 1985) (refer Appendix C) to access the variables. The data was collected through a questionnaire which was constructed for the purpose which includes the informed consent, socio-demographic sheet followed by both the scales (refer Appendix-A, B & C). The collected data was scored and interpreted based on the norms specified. The data obtained was analyzed by using t-test to analyze the gender differences in work-family conflict (WFC) and family-work conflict (FWC) and their impact on life satisfaction of the employed adults.

### RESULTS

The analysis of the socio-demographic variables indicates that the sample consisted of 80 married full time employed adults (40 men and 40 women) in the age group 30-50 years (M= 39.13; SD=15.95) from Lucknow, Uttar Pradesh, India. Descriptive Analysis of the sample (N=80) shows that the mean score of the overall conflict in work and family among working women is found to be (N=40; M= 42.56; SD= 10.30) and the mean score of the overall conflict in work and family among working men is found to be (N=40; M= 35.85; SD= 9.25), which indicates that working women are experiencing high level of conflict between work and family as compared to working men (MD= 6.71) [ Refer Table-1].

**Table-1 showing descriptive statistics for overall conflict of work and family for working women and working men**

	Groups	N	Mean	Std. Deviation	Std. Error
Overall and Family Conflict	Working women	40	42.56	10.30	1.63
	Working men	40	35.85	9.25	1.46

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In order to further compare the gender differences in the overall conflict between work and family, Independent sample t-test was employed. Results shows that for working women and working men  $df= 78$ ;  $t= 13.95$ ;  $p> 0.05$  is significant (refer Table-2).

**Table 2: Showing the results of Independent sample t-test of overall conflict between work and family among working women and working men**

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Overall Work and Family Conflict	Equal variances assumed	.062	.675	13.97	78	.556	6.710	4.11	1.99	2.64
	Equal variances not assumed			13.97	77.965	.556	6.710	4.59	1.99	2.64

Therefore, hypothesis  $H_1$ : *There will be a significant difference in overall conflict between work and family among working women and working men* is accepted indicating that working women are experiencing higher levels of overall conflict between work and family as compared to working men which can be attributed to more societal demands, child care and family obligations on the women associated with their Indian community gender roles as compared to working men, which often lead to the conflict between work and family domains.

**Work- Family conflict (WFC):** Then the gender differences and the impact of different levels (low and high) of work-family conflict (WFC) on corresponding life-satisfaction scores of the working women and working men was assessed separately. Descriptive Analysis of the working women sample ( $N=40$ ) shows that the mean score of life satisfaction of working women experiencing Low WFC is found to be ( $N = 12$ ;  $M= 33.17$ ;  $SD= 4.18$ ), whereas working women experiencing High WFC is found to be ( $N=28$ ;  $M= 30.08$ ;  $SD=3.96$ ), which indicates that working women experiencing High WFC and Low WFC differ inversely significant with regard to their level of life-satisfaction i.e. working women experiencing High WFC has Low life-satisfaction mean scores and vice-versa[Refer Table-3].

**Table-3 showing descriptive statistics for mean score of life-satisfaction among working women experiencing different levels of work-family conflict (WFC)**

Groups	Work-family conflict (WFC)	N	Mean	Std. Deviation	Std. Error Mean
Working women	low	12	33.17	4.18	1.20
	high	28	30.08	3.96	0.74

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For further comparing the levels of life-satisfaction among working women experiencing high WFC and low WFC, Independent sample t-test was employed. Result shows that mean life-satisfaction score among working women  $df= 38$ ;  $t=5.94$ ;  $p>0.05$  experiencing different levels of work-family conflict is significant (refer Table- 4).

**Table 4: Showing the results of Independent sample t-test of life satisfaction among working women experiencing different levels of work-family conflict (WFC)**

Groups		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Working women	Equal variances assumed	.367	.546	5.94	38	.556	3.09	2.575	2.02	2.71
	Equal variances not assumed			5.94	37.887	.556	3.09	4.175	2.02	2.71

Therefore, hypothesis  $H_2$ : *There will be a significant difference between life-satisfaction of working women experiencing different levels of work-family conflict* is accepted indicating that working women experiencing High WFC has Low life-satisfaction and vice-versa. Thus, it can be said that work-family conflict (WFC) exerts an influential negative impact on the life satisfaction of the working women.

Similarly, Descriptive Analysis of the working men sample ( $N=40$ ) shows that the mean score of life satisfaction of working men experiencing Low WFC is found to be ( $N = 24$ ;  $M= 35.04$ ;  $SD= 4.65$ ), whereas working men experiencing High WFC is found to be ( $N=16$ ;  $M= 30.12$ ;  $SD=4.47$ ), which indicates that working men experiencing high and low work-family conflict also differ inversely significant with regard to their levels of life-satisfaction i.e. working men experiencing High WFC has Low life-satisfaction mean scores and vice-versa [Refer Table-5].

**Table-5 showing descriptive statistics for mean score of life-satisfaction among working men experiencing different levels of work-family conflict (WFC)**

Groups	Work-family conflict (WFC)	N	Mean	Std. Deviation	Std. Error Mean
Working men	low	24	35.04	4.65	0.95
	high	16	30.12	4.47	1.12

For further comparing the levels of life-satisfaction among working men experiencing work-family conflict (WFC), Independent sample t-test was employed. Result shows that mean life-satisfaction score among working men  $df= 38$ ;  $t=10.04$ ;  $p>0.05$ , experiencing different levels of work-family conflict (WFC), is significant [refer Table- 6].

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**Table 6: Showing the results of independent sample t-test of life satisfaction among working men experiencing different levels of work-family conflict (WFC)**

Groups		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Working men	Equal variances assumed	.367	.546	10.04	38	.556	4.92	5.178	2.02	2.71
	Equal variances not assumed			10.04	37.887	.556	4.92	4.392	2.02	2.71

Therefore, hypothesis  $H_3$ : *There will be a significant difference between life-satisfaction of working men experiencing different levels of work-family conflict* is accepted indicating that working men experiencing High WFC and Low WFC experiences different levels of life-satisfaction. Thus, it can be said that work-family conflict (WFC) exerts an influential negative impact on life satisfaction of the working men.

Analysis of the gender differences in work-family conflict-WFC clearly depicts that working women (N=28; M= 30.08; SD=3.96) are experiencing High WFC as compared to working men (N=16; M= 30.12; SD=4.47) [Refer Table- 3 and Table-5].

**Family-work conflict (FWC)** -Then the impact of different levels (low and high) of family-work conflict (FWC) on corresponding life-satisfaction of the employed adults was assessed. Descriptive Analysis of the sample (N=40) shows that the mean score of life satisfaction of working women experiencing Low FWC is found to be (N = 15; M= 34.00; SD= 4.44), whereas working women experiencing High FWC is found to be (N=25; M= 32.16; SD=2.7), which indicates that working women experiencing high and low family-work conflict differ inversely significant with regard to their level of life-satisfaction i.e. working women experiencing High FWC has Low life-satisfaction mean scores and vice-versa [Refer Table-7].

**Table-7 showing descriptive statistics for mean scores of life-satisfaction among working women experiencing different levels of family-work conflict (FWC)**

Groups	Family-work conflict (FWC)	N	Mean	Std. Deviation	Std. Error Mean
Working women	low	15	34.00	4.44	1.14
	high	25	32.16	2.70	0.54

In order to further comparing the levels of life-satisfaction among working women experiencing different levels of family-work conflict (FWC), Independent sample t-test was employed. Result shows that mean life-satisfaction score among working women

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experiencing Low FWC and High FWC,  $df= 38$ ;  $t=4.27$ ;  $p>0.05$  is significant [Refer Table-8].

**Table 8: Showing the results of Independent sample t-test of life satisfaction among working women experiencing different levels of family-work conflict (FWC)**

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Life-satisfaction	Equal variances assumed	.367	.546	4.27	38	.556	1.84	1.614	2.02	2.71
	Equal variances not assumed			4.27	37.887	.556	1.84	3.407	2.02	2.71

Therefore, hypothesis  $H_4$ : *There will be a significant difference between life-satisfaction of working women experiencing different levels of family-work conflict* is accepted indicating that working women experiencing High FWC has Low life-satisfaction and vice-versa. Thus, it is proven that family- work conflict (FWC) exerts an influential negative impact on the life satisfaction of the working women.

Descriptive Analysis of the sample ( $N=40$ ) shows that the mean score of life satisfaction of working men experiencing Low FWC is found to be ( $N = 4$ ;  $M= 34.30$ ;  $SD= 4.09$ ), whereas working men experiencing High FWC is found to be ( $N=36$ ;  $M= 32.50$ ;  $SD=2.5$ ), which indicates that working men experiencing high and low work-family conflict also differ inversely significant with regard to their levels of life-satisfaction i.e. working men experiencing High FWC has Low life-satisfaction mean scores and vice-versa[Refer Table-9].

**Table-9 showing descriptive statistics for mean scores of life-satisfaction among working men experiencing different levels of family-work conflict (FWC)**

Groups	Family-work conflict (FWC)	N	Mean	Std. Deviation	Std. Error Mean
Working men	low	04	34.30	4.09	2.045
	high	36	32.50	2.50	0.416

In order to further comparing the levels of life-satisfaction among working men experiencing Low FWC and High FWC, Independent sample t-test was employed. Result shows that mean life-satisfaction score among working men experiencing Low FWC and High FWC,  $df= 38$ ;  $t=2.95$ ;  $p>0.05$  is significant [Refer Table-10].

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**Table 10: Showing the results of Independent sample t-test of life satisfaction among working men experiencing different levels of family-work conflict (FWC)**

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Life-satisfaction	Equal variances assumed	.367	.546	2.95	38	.556	1.80	0.880	2.02	2.71
	Equal variances not assumed			2.95	37.887	.556	1.80	4.327	2.02	2.71

Therefore, hypothesis  $H_5$ : *There will be a significant difference between life-satisfaction of working men experiencing different levels of family-work conflict* is accepted indicating that working men experiencing Low FWC and High FWC had different levels of life-satisfaction. Thus, it can be said that family-work conflict (FWC) exerts an influential negative impact on life satisfaction of the working men.

Analysis of the gender differences in family-work conflict (FWC) depicts that working women (N=25; M= 32.16; SD=2.7) are experiencing similar level of FWC as compared to working men (N=36; M= 32.50; SD=2.5) [Refer Table-7 and Table-9].

**DISCUSSION**

Several researchers had proven inverse associations between work and family conflict and life-satisfaction of the employed adults (Greenhaus & Beutell, 2006; Panatik et. al 2011; Lavassani & Movahedi, Kayvan Miri & Bahar 2014; Qiu and Fan, 2015; Gözükarar and Çolakoğlu, 2016). This study aims to investigate the gender differences and impact of work-family conflict (WFC) and family-work conflict (FWC) on the life satisfaction of the employed adults. In consistent with the previous researches, the empirical findings of the current study also found significant inverse relationship between work-family conflict (WFC) and family-work conflict (FWC) with the life-satisfaction of the employed adults, which can be explained as when people struggle between role demands in work and family domains their subjective experience of life satisfaction decreases.

With respect to the gender perspective working women are experiencing more overall work and family conflict as compared to working men, which can be attributed to the *Gender Roles-are shared beliefs that apply to individuals based on their socially identified sex which are the basis of the division of labor in most societies (Wood and Eagly, 2010)*. Indian society is exerting more gender role responsibilities on women as compared to men. Further analysis of the gender differences has shown that working women are experiencing higher WFC as compared to working men, which means that for working women work is interfering more in the fulfillment of their family role responsibilities. But in the case of family-work conflict (FWC) results shows that both working women and working men

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experiences similar level of FWC, which means that regardless of the gender the family interference in the work is similar which means that nowadays societal norms are evolving and even working men wants to contribute to family roles equally like working women. Interestingly both working women and working men are found to be facing more FWC than WFC.

### *Limitations and Directions for Future Research*

The current study has few limitations; the sample consists of participants employed in different sectors and from Lucknow city only. People from different professions may have different organizational conditions and pressures that may be affecting their level of work and family conflicts and its impact onto corresponding life-satisfaction. Therefore, future study can be done with the people from same professional background and from other cities of India or around the globe as well. The variables employed in the present study may be studied on different combination of samples like- working men with working/non-working wives; working adults with or without children etc and other psychometric devices can be used to establish or confirm the direction of the results obtained in the present investigation.

### *Implications of the study*

The present study contributes to the understanding of gender differences in the conflicts of work and family domains and its impact on life-satisfaction of the employed adults. The empirical findings shows that the work and family conflict have significant inverse relationship with life-satisfaction of the employed adults. Working women are found to be facing higher overall work and family conflict and WFC than working men whereas FWC is more or less similar for both of them. Regardless of the gender FWC is found to be affecting more employed adults as compared to WFC. Proper social support- from spouse, family, paid domestic help in family domain and congenial work environment, good interpersonal relations and psychological guidance at workplace can help to overcome the negative impact of work and family conflicts among the employed adults.

## REFERENCES

- Binti Panatik, S. A.; ZainalBadria S. K.; Hamidah A. R; Abdul Rahman; MadShaha I. (2011). The Impact of Work Family Conflict on Psychological Well-Being among School Teachers in Malaysia. *Procedia - Social and Behavioral Sciences*. Volume 29, 2011, Pages 1500-1507. <https://doi.org/10.1016/j.sbspro.2011.11.390>
- Cerrato J and Cifre E (2018) Gender Inequality in Household Chores and Work-Family Conflict. *Front. Psychol.* 9:1330. doi: 10.3389/fpsyg.2018.01330
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, 49(1), 71-75.
- Gözükara, İzlem and Çolakoğlu, Nurdan(2016)The Mediating Effect of Work Family Conflict on the Relationship between Job Autonomy and Job Satisfaction. *Procedia - Social and Behavioral Sciences*. Volume 229, 19 August 2016, Pages 253-266. <https://doi.org/10.1016/j.sbspro.2016.07.136>
- Greenhaus, J. H., & Beutell, N. J. (1985). Sources and conflict between work and family roles. *Academy of Management Review*, 10(1), 76-88.
- Greenhaus, J. H., Powell, G. N. (2006). When work and family are allies: A theory of work-family enrichment. *Academy of Management Review* 31: 72–92. doi:10.5465/AMR.2006.19379625.

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- HailinQu and Xinyuan (Roy) Zhao.(January 2012) Employees' work–family conflict moderating life and job satisfaction. *Journal of Business Research*. Volume 65, Issue 1, Pages 22-28.
- Kaufman G, Taniguchi H. Gender equality and work–family conflict from a cross-national perspective. *International Journal of Comparative Sociology*. 2019;60(6):385-408. doi:10.1177/0020715219893750
- Lavassani & Movahedi, Kayvan Miri & Bahar (2014). "Developments in theories and measures of work-family relationships: from conflict to balance" (pdf). *Contemporary Research on Organization Management and Administration*. Vol. 2: pp 2335–7959.
- Lin Qiu and Jinyan Fan(2014). Family boundary characteristics, work–family conflict and life satisfaction: A moderated mediation model. *International Journal of Psychology*. Volume50, Issue5. October 2015. Pages 336-344. <https://doi.org/10.1002/ijop.12107>
- López-Ortega, M., Torres-Castro, S. & Rosas-Carrasco, O. Psychometric properties of the Satisfaction with Life Scale (SWLS): secondary analysis of the Mexican Health and Aging Study. *Health Qual Life Outcomes* 14, 170 (2016). <https://doi.org/10.1186/s12955-016-0573-9>
- Netemeyer, R.G., Boles, J.S; & Mc Mursian, R (1996). Development and validation of work-family conflict and family-work conflict scales. *Journal of applied psychology*. 81 (4), 400-410
- Wood, W., and Eagly, A. H. (2010). “Gender,” in *Handbook of Social Psychology*, Vol. 1, 5th Edn, eds S. T. Fiske, D. T. Gilbert, and G. Lindzey (Hoboken, NJ: John Wiley & Sons), 629–667.

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### **Conflict of Interest**

The author(s) declared no conflict of interest.

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