ORIGINAL ARTICLE

Correlational Link of Work Family Conflict and Religiosity with Mental Well-Being Among Medical Doctors

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ABSTRACT

Objective: The present study aimed to measure correlational link of bidirectional work family conflict (work to family conflict & family to work conflict) and religiosity with mental well-being among medical doctors.

Study Design: The design of present study was correlational research design.

Place and Duration of Study: Study was conducted under research supervision of University of Gujrat. Gujranwala Hospitals including DHQ Hospital, Med care International, Gondal Medical Complex, Chattha Hospital, Jinnah Memorial Trust Hospital, Social Security hospital were approached for the data collection. Duration of the study March 2020 to October 2020.

Materials and Methods: Population of the present study included medical professionals of Gujranwala hospitals. Sample of 130 medical doctors were selected through simple random sampling technique. Questionnaires involved Work Family Conflict Scale to measure work to family conflict & family to work conflict, Religious Commitment Inventory-10 to measure religiosity and Warwick Edinburgh's Mental Well-being Scale to measure mental well-being. Artificial neural network model and multiple regression analysis was run to analyze the data.

Results: Analyses of artificial neural network revealed the predictive relationship between the independent variables and the mental well-being. Regression analysis revealed that work to family conflict & family to work conflict both are the negative predictors and religiosity is the positive predictor of mental wellbeing.

Conclusion: Present study revealed the association between the variables which were under consideration. Based on findings it can be concluded that work family conflict may negatively impact mental health of a professional and religiosity can reduce that influence and improve mental health. Study identified the need of organizational and individual level strategic plans and interventions to reduce the work life imbalance problem and to raise the mental wellbeing of medical professionals.

Key Words: *Family to Work Conflict, Mental Well-being, Religiosity, Work Family Conflict, Work to Family Conflict.*

Introduction

Work Family Conflict construct was originated from "Role Theory" and "Role Strain Hypothesis".[1] Greenhaus and Beutell explained work family conflict is the incompatibility of the roles of work and family domains and is a form of inter role conflict.[2] It is bidirectional in nature. Family can be the root of interference in the work-related responsibilities (work role) or work can be the source of interference in the family related responsibilities (family role).

Interference caused by family in the work role is called "Family to Work Conflict(F-WC)"and if work hinders family role it is called as the "Work to Family Conflict(W-FC)".[3]

Influence of work family conflict on individuals' mental wellbeing is well established. Mental wellbeing, a state of persons in which they realize their own abilities and can deal with normal stressors of life, they can work fruitfully and productively contribute to the community.[4]

Religiosity has been studied in relevance to work family conflict. It is a complicated term because every discipline views it from different angle. It is considered in terms of faith, devotion, holiness, piousness and sometimes it refers to religious commitment.[5]

Literature revealed that people with high level of work family conflict reported lower level of

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wellbeing.[6] A longitudinal research revealed the negative relationship between work family conflict and wellbeing.[7] Other research also revealed significant positive relationship between religiosity and wellbeing.[8] Moreover, a research reported the positive relationship between religious commitment and wellbeing.[9] Khelak and Tekke's[10] research also revealed similar findings. To the best of our knowledge, most of the previous studies on work family conflict measured work family conflict as a unidirectional construct.[11] So due to this the effects and management of work family conflict has not been fully understood. So, there was the need to investigate it more.

Work, family, health, and religion are crucial aspects of human life, and they all have some direct and indirect effects on each other. Disturbance or conflict between work life and family life may affect other aspects of life such as person's health. With the passage of time person roles, values, organizational dynamics, and family dynamics have changed, now people must face bulk of challenges and pressures from both sides that lead towards disequilibrium and causing deterioration of organizational as well as family setups by affecting the individuals.[12]

To deal with this global issue of professionals, research is focusing on the effective ways to reduce them and one of them is religion. It is being focused in research that religious copying is very much effective for decreasing the negative influence of work family conflict especially in those cultures where religious healing is considered as an important de-stressor.[13] And Pakistani culture is one of those where religious practices are perceived a vital source of psychological wellbeing.[14] So here the present study aimed to examine these vital sides of life: religiosity, work family conflict and mental wellbeing. It inquired the bifacial construct of work family conflict and investigated the correlational link between W-FC, F-WC and religiosity variable with mental wellbeing among medical professionals. Based on theoretical framework, hypothesis was formulated that W-FC, F-WC would be the negative predictors and religiosity would be the positive predictor of mental wellbeing. Findings of the present study identified the need for interventions at organizational level to enhance professionals' mental wellbeing. It generated the knowledge vital for organizations that the work family conflict among professionals may affect their wellbeing and religious or meditation-based strategies may work to enhance their mental wellbeing. Present study is also a valuable contribution to the research literature relevant to the problems of medical professionals.

Materials and Methods

Correlation research design was used. Study was conducted under research supervision of University of Gujrat and data collection done in Gujranwala hospitals (DHQ Hospital, Medcare International, Gondal Medical Complex, Chattha Hospital, Jinnah Memorial Trust Hospital, Social Security hospital. Study duration was March 2020 to October 2020. Population of the study was medical doctors and sampling was done at two stages. Firstly, hospitals of Gujranwala city were selected randomly and at next stage the sample size of 130 doctors working in those selected hospitals were chosen through Simple Random Sampling.

The study was conducted after approval of the ethical review committee of the Department of Psychology, University of Gujrat (Ref no: Psy/UOG/21/2710 on 12th April 2021). And all other concerned authorities of the institutes where data was collected, were approached for permission.

Medical doctors working in Gujranwala hospitals (government or private or both) either in morning shifts or regular day schedules were included in the sample. Medical doctors working at night shifts were excluded from the sample because majority of previous research on same topic have already revealed the higher level of work family conflict among night shift professionals and present study tried to investigate the phenomena differently by including new participants those work in morning shifts or in regular day schedules.[15]

A scale battery was used for the data collection which includes inform consent form, demographic form, three questionnaires named as Work Family Conflict Scale, Religious Commitment Inventory-10, and Warwick Edinburgh Mental Wellbeing Scale.

Work Family Conflict Scale[16] was used to measure W-FC and F-WC. Religious Commitment Inventory-10[17] was used to measure religiosity. Warwick Edinburgh Mental Wellbeing Scale[18] was used to measure mental wellbeing.

Data was scored, analyzed, interpreted, and

tabulated with the help of IBM SPSS version 21. Type of data was parametric. To analyze the data multiple linear regression was used to measure the predictive relationship (correlation not cause-&-effect) and p-value less than 0.05 was considered significant. The unstandardized Beta (B coefficient) used to denote direction of predictive link (positive/negative relationship) present between the variables.

Another standarized statistical analysis named Artificial Neural Network(ANN) was used.

The present study run artificial neural network analysis to drive clearer picture of the relationships between variables. In ANN through synaptic weights, model summary and independent variable importance analysis (sensitivity analysis) the inferences were drawn.

Results

Present research run the multiple linear regression analysis before developing the Artifical neural network strucutre because literature evidences have been suggested that regression analysis could be a good preliminary step for generating more sophisticated relationship models[21].

Table I:Multiple Linear Regression Analysis for Predicting Effect of W-FC, F-WC and Religiosity on Mental Wellbeing

Predictors	Model 1	Outcome: Mental Wellbeing	
		B	P-value
W-FC		-0.15	0.12
F-WC		-0.28	0.01
Religiosity		0.26	0.00
F	8.70		
R^2	0.17		
ΔR^2	0.15		

Note: W-FC=Work to family conflict, F-WC=Family to work conflict, B==Unstandardized Beta, P-value=level of statistical significance
**p < .01, *p < .05

Table I. shows that F-WC was significant negative predictor and religiosity was significant positive predictor of mental well-being among medical doctors. W-FC were negative non-significant predictor of mental wellbeing. From the value of R square and adjusted R^2 (ΔR^2=.15) it can be said that variance (17%) in data was acceptable, and the model was fit for the hypothesis testing. This statement was further supported by significant F

ratio (F = 8.70, p = .001).

Additionally, artificial neural network model named 'multilayer perceptron(MLP) was used to test relationship of W-FC, F-WC and religiosity with mental wellbeing. Artificial neural network models are of different types. Among these types one is called Multi-Layer Feed-forward Neural network. Multi-layer Feed-forward neural network is another name of Multilayer Perceptron(MLP). This type of ANN is consisting of multiple layers including input layer, one or more hidden layer and 1 output layer. Input layer comprises of independent/predictor variables and output layer displays dependent/outcome variable. Hidden layer (located mid of input layer and output layer) consists of hidden nodes which are vital elements of ANN because these nodes reveal information about relationships present among input and output variables.[21]

Developing the appropriate relationship model by designing the optimal MLP structure is not an easy task [22] so some crucial steps were focused before developing the MLP network structure. These included number of input and output nodes, number of hidden layers, number of hidden nodes in each hidden layer and activation functions.[21]

Present study run this analysis based on following structure: Number of input nodes were 3(W-FC, F-WC & religiosity) and 1 node in output layer (mental wellbeing) that were determined on basis of previous knowledge.[22] As reported by Guerrero Lazaro[22] this method of selection is known as model free approach. Best results of the present model were retrieved by performing several iterations with different configurations.
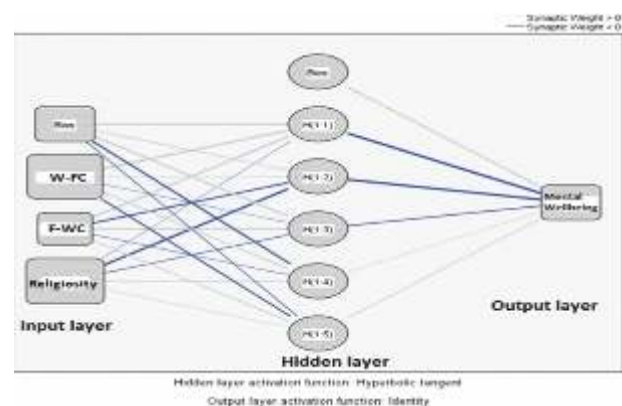

Fig. 1: Artificial Neural Network Model Diagram

As displayed in Figure 1. type of network structure of the present model is feed forward neural network. The input layer contained 3 nodes/predictors (W-FC, F-WC & religiosity) and yield node (output node) contained mental wellbeing as dependent variable. The present relationship model was consisted on one hidden layer with five nodes. Mostly one hidden layer is considered enough by the researchers for correlation purpose. To comprehend strength of relationship, present between network's input variables and output variables, magnitude of synaptic weights and sensitivity analysis are analyzed. Synaptic weights (parameter estimates) which seized and perform further from node of one layer to the node of another layer are considered high synaptic weights.[21]

First and foremost, in Figure 1. high synaptic weights (synaptic weight<0) showing the significant strength of the relationship between variables. As Figure 1 exhibited high synaptic weights for religiosity node and F-WC node because these nodes are connected to hidden nodes which are further connected to mental wellbeing node.

Table II: Artificial Neural Network Model Summary

Training	Sum of Squares Error	34.803
	Relative Error	.773
	Stopping Rule Used	1 consecutive step(s) with no decrease in error[a]
	Training Time	0:00:00.03
Testing	Sum of Squares Error	19.455
	Relative Error	.772

In SPSS before running the ANN model it is required to set partition of data into two sections named training and testing based on literature guidance. Partition of data were set 70% (91 cases) training and 30% (39 cases) testing from the sample. Table II. elaborated the sum of square errors and relative errors of training and testing. Through the values of sum of squares error and relative error values model fitting can be analyzed. In ANN training intends to minimize the error value so here the accuracy of estimation in the present model proves because sum of square value reduced from 34.80(in training) to 19.45(in testing). Relative error values of training (0.77) and testing (0.77) both are constant that gives the confidence that the present model is best fit to data and not over estimated.[23]
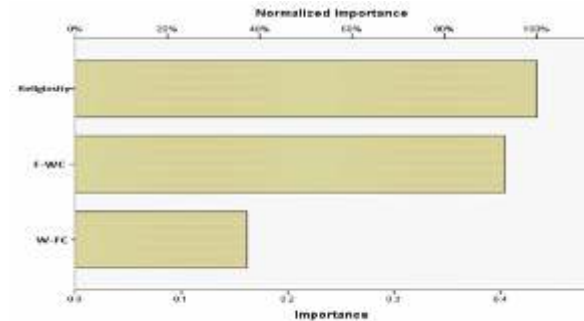

Fig. 2: Independent Variable Importance Analysis

Another important measure in ANN is Independent Variable Importance Analysis (sensitivity analysis). Figure 2. showed the results this sensitivity analysis which indicated the religiosity as the highest important predictor with 100% normalized importance. Further results revealed F_WC as the second important predictor with 93% normalized importance and W-FC as the third most important predictor of the mental wellbeing with 37% normalized importance value. Both analysis (regression & artificial neural network) revealed the similar results that supported the hypothesis of the present study.

Discussion

Primary goal of the study was to explore the both directions of work family conflict named as W-FC and F-WC and examine the relationship of these with mental well-being. Regression analysis revealed the non-significant negative relationship between W-FC & mental well-being and significant negative relationship between F-WC & mental wellbeing. ANN analysis also highlighted these as the important predictors of mental wellbeing through synaptic weights and normalized importance values. These findings are in line with the previous study which concluded the negative influence of work family conflict on the psychological wellbeing.[24]

Another objective was to explore the religiosity link with mental wellbeing. Independent variable importance analysis (sensitivity analysis) in ANN model revealed the clearer evidence that the religiosity as the highest important predictor of the mental well-being. Regression analysis revealed similar results and it is strongly supported by the empirical evidence provided by Zawawi.[9] Majority of previous studies indicated that religiosity contributes to the wellbeing of the people. Because

religious practices help people to cope with stressors and people with high religious beliefs mostly have the healthier lifestyle.[10]

Previous research gaps which viewed work family conflict as a unidirectional construct were avoided. It was important to view both types of work family conflict because if the relationship found out between one type of work family conflict and wellbeing it would be difficult to infer the effects of other type of work family conflict on well-being and to manage it.[11]

Present study elucidates the knowledge about the work family imbalance issue and highlighted its consequences on mental wellbeing. Work family conflict has negative consequences it causes stress that leads to acute and chronic psychological health risks such as low life satisfaction and increase depression.[25]

Study pointed that large scale interventions are needed at the organizational level to lessen the work family conflict among professionals. Large scale interventions at workplace such as developing relational support culture, supportive schedule arrangements and wide-ranging workplace wellness initiatives such as fitness and meditation trainings may help to reduce stress and may provide pathway to increase wellbeing.[12]

Findings indicated that religious coping strategies can be effective to enhance mental well-being because many factors of religiosity such as prayer viewed as a form of meditation which has the calming effect.[26]

Similar findings of the regression analysis and ANN analysis in the present research also boost the perception that ANN can be a best alternative of the regression models because it gives clearer picture of prediction/relationship.

Study should be considered within the light of some limitations. Religiosity scale was used that measured single dimension of religiosity. Multidimensional measure should be used for broader concept of religiosity. Multi method approach should be used for data collection.

It provides important practical knowledge, that religiosity can be very helpful for boosting the mental well-being so this concept can be used as the home treatment to increase mental wellbeing. Psychologists might work on the religiosity and make

therapies that must evolve religious aspect for dealing with mental well-being. It also contributed to medical literature by covering the topic relevant to medical professionals. Present research has implications for human resource managers to plan such strategies that least cause work family strain among employees. It emphasized towards considering the role of artificial intelligence methods (e.g artificial neural network) for exploring behavioral data in psychology.

Conclusion

Bidirectional work family conflict as W-FC and F-WC both negatively correlated with mental wellbeing among medical professionals. Present study provided empirical evidence that religiosity can positively predict mental well-being. Current study identified the need to plan the effective strategies by the organizations that minimize work family conflict among medical professionals and help them to achieve work-life balance and to raise their mental wellbeing.

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