

The relationship of work-family conflict and spillover with psychological and physical well-being among female nurses

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Abstract

Work-family conflict and spillover are considered among the threatening factors of well-being among nurses. Therefore, the current study was conducted to determine the relationship between family-work conflict and spillover and physical and psychological well-being among nurses. Research samples included 197 female nurses selected using convenience sampling method. Data collection tools were Work-Family Conflict Scale, Work-Family Spillover Scale, psychological well-being and physical well-being questionnaires. Data were analyzed by multiple regression analysis method using SPSS-18. Findings showed a significantly negative correlation between work-family conflict and spillover and physical and psychological well-being among nurses. Results of regression analysis indicated that work-family conflict explained 17 and 8.4% of the variance in physical and psychological well-being, respectively. Furthermore, out of four components of work-family spillover, marriage, partnership, and housework could explain 24.5% of variance in psychological well-being, while marital relationship could explain 10.8% of variance in physical well-being among nurses. Results of the present study represented that work-family conflict and work-family spillover can impair psychological and physical well-being of nurses. Therefore, it is necessary for nurses to acquire training in order to properly manage work-family conflict and spillover.

Keywords: Nurse, Physical, Well-being, Psychological well-being, Work-family conflict, Work-family spillover

Introduction

Work-family conflict and work-family spillover have been the major focus of researchers and scientists in recent years. These two variables cause considerable consequences for people's health and well-being in workplaces [1,2]. From the theoretical point of view, work-family conflict is a form of inter-role conflict, in which

role pressures in work and family are placed somehow in conflict and opposition with each other [3,4]. In order to solve the complexity of work-family relationship, the hierarchy of work and family bindings must be thoroughly studied. Work-family relationship and balance model states that work-family conflict is in fact a pivotal variable between work stresses

and people's well-being and welfare. In many circumstances, people attempt to prioritize their work and family issues by drawing a line between work and family and respecting that line in order to separate these two fields [5,6]. Nonetheless, under many circumstances, the presence of simultaneous stresses from family and work causes serious conflicts between these two roles in people. If one of these roles, either work or family, has a higher level of priority for a person, s/he will allocate more time for that role and shows higher commitment to it. In such as condition, the roles that have a higher level of priority might be in conflict with other roles [5,6]. Work-family conflict has two main aspects including conflict of work issues with family issues (work-family conflict) and conflict of family issues with work issues (family-work conflict). Each of these two dimensions can also contain time-based, burnout-based, and behavior-based conflicts [7]. The combination of work-family and family-work conflicts based on time, burnout, and behavior results in six combinatory states of time-, burnout-, and behavior-based work-family conflict and also time-, burnout-, and behavior-based family-work conflict. Each of these components of work-family conflict is considered a stressing factor on different aspects of people's well-being and health [5,7]. Work-family conflict may have negative effects at various personal (such as stress symptoms), family (such as family stress), and work (such as decreased organizational commitment) levels. Nonetheless, the potential harmful consequences of work-family conflict for people in their workplaces have been less considered [7,8]. Besides work-family conflict, the phenomenon of work-family spillover also contains the transfer of work-related issues to family and vice versa. There are two dominant approaches in this domain (work-family spillover) as well [8,9]. One is related to the positive dimensions of the transfer of work issues to family, which is called positive work-family spillover, and the other is related to the time when the negative aspects of work environment including anger, resentment,

exhaustion, and burnout are transferred to the family by the person and cause problems in the area of his/her duties, relations, and responsibilities, which is mostly discussed as negative spillover. In fact, there is a considerable overlap between work-family conflict and work-family spillover. For example, in the case of work-family spillover, work affairs are actively and tangibly interfered with family affairs. Hence, in the questions related to work-family spillover, the nature of questions is focused on the transfer of work issues (especially, in the case of negative spillover) to family issues. However, in the case of conflict, people are asked about the conflict of family issues with work issues and vice versa [10,11]. Previous studies have provided evidence on the correlated variables with work-family conflict and work-family spillover. The most important correlations for these two phenomena include low psychological health and well-being, increased risk of physical diseases (such as cardiovascular diseases), desire to use alcohol and other addictive drugs, increased nervousness [12-16], depression, anxiety, exhaustion, decreased life satisfaction, increased psychological disorder, and decreased marital satisfaction [17-20]. Among the above-mentioned variables as correlated variables with work-family spillover and conflict, psychological and physical well-being were investigated in this study. These two variables were selected because no study has ever been done on work-family conflict and spillover among nurses and paramedics in Iran although psychological well-being and physical well-being are among the most important phenomena in people's effective functioning [21]. Psychological well-being is a multi-dimensional phenomenon which includes sense of happiness and life satisfaction besides lack of diseases. Following the optimistic viewpoints which are followed and discussed in the field of psychology nowadays, growth of personal capabilities is also considered in psychological well-being [21]. Evidence

from available studies demonstrates that when the level of work-family conflict and work-family spillover is increased, the possibility of increased sense of life dissatisfaction, anxiety, and depression is also considerably increased. In contrast, when people experience lack of work-family conflict and spillover, their sense of well-being is increased as a result of increased sense of calmness and decreased level of psychological and physical stresses [6,7]. Physical well-being contains lack of issues in safety systems, hypochondriasis, asthma, gastroenteritis diseases, cardiovascular diseases, skin diseases, cancer, pain, sexual disorders, diabetes, arthritis, problems resulted from thyroid, muscular stresses, infectious diseases, phobia, nervousness, depression, and hysteria (conversion disorder or diseases). While most of these diseases are manifested in human body, they originate from psychological processes. In fact, in many of the above-mentioned disorders, a number of fundamental psychological factors play a major role and the mentioned physical symptoms and complains do not disappear until psychological problems are resolved [22,23]. Regarding work-family conflict and spillover, a number of studies have been conducted on various groups, especially among nurses. First, some research evidence shows that nurses have made some efforts to minimize conflict-related consequences in family environments. However, in some cases, due to weakness in personal skills relating to conflict management and due to some work-related obstacles and limitations, work-family conflict and spillover cause negative consequences for them [24]. On the other hand, some studies have demonstrated that work-family conflict has a positive relationship with occupational stress, life stress, burnout, and tendency to leave the work environment. In contrast, it has a significantly negative relationship with life satisfaction, organizational commitment, occupational satisfaction, and occupational performance. Furthermore, after being reinforced by stress, work-family conflict itself also strengthens symptoms of occupational and family anxiety,

distress, and depression and finally weakens perceived well-being [25,26].

In addition to previous studies which have demonstrated that dimensions of work-family conflict have a significantly negative relationship with satisfaction in different aspects of life (occupational, family, and life) and well-being [27,28], other pieces of evidence have revealed that work-family conflict moderates the relationship between occupational sources and burnout and also personality traits and life satisfaction [29]. When investigating the results of studies, some of which were mentioned above, it must be noted that most of these works have been performed out of Iran. Also, most of these studies have not directly investigated psychological and physical well-being. In other words, in most of the mentioned studies, well-being has been investigated via symptoms of depression, nervousness, and life satisfaction in general, not in the work environment. Considering that well-being, either in its psychological or physical forms, is seriously affected by work events and issues [22,23], it is preferred to clearly measure these aspects of well-being based on experience and states during work.

As the final conclusion, it must be noted that because work-family conflict and work-family spillover are considered the significant phenomena for people, families and organizations, it is necessary to continue studies on the correlations of these two phenomena. Accordingly, because few studies have been conducted on the relationship between work-family conflict and spillover on the one hand and psychological and physical well-being on the other on the nurses working in hospitals located in city of Isfahan, the main purpose of this work was to answer the questions whether work-family conflict and work-family spillover have a correlation with psychological and physical well-being, and which aspects of work-family conflict and work-family spillover could significantly predict psychological and physical well-being.

Method

The current study was correlation-descriptive and the statistical population included all the 500 female nurses working in two governmental hospitals in city of Isfahan during winter 2012. Among the statistical population, 197 people were selected using convenience sampling method, according to the proportion table of sample size to statistical population [30]. Also, the following tools were used in this study. Work-family conflict was evaluated by 10-item questionnaire developed by Netemeyer, Boles and McMurrin [31], which contains two subscales with five questions relating to work-family and family-work conflicts, translated to Persian by Golparvar [32]. Responses were 6-point from strongly disagree=1 to strongly agree=6. Netemeyer et al. [31] documented convergent and divergent reliability of this questionnaire using 16 occupational and non-occupational scales and reported its Cronbach's alpha to be within 0.83 and 0.89 with mean Cronbach's alpha 0.88 for work-family conflict and 0.86 for family-work conflict. Golparvar [32] documented the construct validity of this questionnaire by exploratory factor analysis. Cronbach's alpha in the present study was 0.88 and 0.77 for the two sub-scales of family-work and work-family conflicts, respectively. The 20-item questionnaire developed by Small and Riley [33] was used to evaluate work-family spillover. Golparvar [32] translated this questionnaire to Persian. It contains 4 subscales including marital relationship, parent-child relationship, leisure, and home management. Responses were scored on a 6-point scale from strongly disagree=1 to strongly agree=6. Regarding the content of questions, this questionnaire was related to the spillover of work issues into family affairs (not the spillover of family affairs into work). One example of the statements in this questionnaire is as follows: My job has stopped me from going along with my wife. This questionnaire was investigated in terms of face, construct, and convergent validity, and reliability based on Cronbach's alpha by Small and Riley [33], the results of which demonstrated its proper

validity and reliability. Golparvar [32] reported desirable content and face validity of this questionnaire and also documented its construct validity via exploratory factor analysis. Cronbach's alpha relating to the four subscales in the questionnaire of this study for marital relationship, parent-child relationship, leisure, and home management domains was 0.93, 0.92, 0.89, and 0.93, respectively. Psychological well-being was measured using a 10-item questionnaire which was developed by Golparvar [34]. This questionnaire was designed according to the approach of World Health Organization (WHO) for psychological well-being and, in contrast to Ryff's questionnaire in long and short forms, measures the perceived psychological well-being during performing occupational tasks in workplace (and not general well-being in life). An example of questions used in this questionnaire is as follows: how calm did you feel in your workplace during the last 6 months? Responses were scored on a 4-point scale from very low=1 to very high=5. Golparvar and Ahmadi [13] presented extensive evidence on construct, convergent, and differential validity of this questionnaire. For example, psychological well-being was reported to have a significantly positive relationship with perceived organizational justice and spiritual asset. Furthermore, single-factor exploratory factor analysis confirmed this questionnaire [13]. Also, based on the reports by Golparvar and Ahmadi [13], Cronbach's alpha of this questionnaire was 0.83. In the present study, Cronbach's alpha was obtained as 0.94. In order to measure physical well-being in workplace, the 18-item questionnaire prepared and introduced by Golparvar [35] was applied. This questionnaire covers 18 conventional psychophysical complaints and has a 3-point response scale (I have never experienced such a symptom or complaint=1 to I have experienced such a symptom and visited a doctor =3). This questionnaire was investigated regarding face and construct validity, and reliability in terms of Cronbach's alpha, the results of which were

desirable. In the present study, Cronbach's alpha of this questionnaire was reported 0.85. In order to analyze the data, Pearson correlation coefficient and its significance test along with multiple regression analysis were used in SPSS-18.

Results

Mean age of female nurses participating in this study was 31.54 years old. Frequency and frequency percent of demographic variables of the sample groups are presented in Table 1.

Table 1 Frequency and frequency percent of the sample groups in demographic variables

		Educational groups	
		f	%
1	Upper Diploma	56	28.4
	BA and MA degree	139	70.6
	Undisclosed	2	1
	Total	197	100
		Age groups	
2	Up to 30 years	85	43.1
	31 to 40 years	88	44.7
	41 years and above	18	9.1
	Undisclosed	6	3
	Total	197	100
		Tenure groups	
3	Up to 10 years	131	66.5
	11 to 20 years	44	22.3
	21 years and above	13	6.6
	Undisclosed	9	4.6
	Total	197	100

Mean, standard deviation, and correlation of work-family conflict and spillover with

psychological and physical well-being are presented in Table 2.

Table 2 Mean, standard deviation, and correlation of work-family conflict and spillover with psychological and physical well-being

Row	Components of work-family conflict and spillover	Mean	Standard deviation	Psychological well-being		Physical well-being	
				r	P	r	P
1	work-family conflict	1/12	3.82	-0.35	0.001	-0.35	0.001
2	family-work conflict	1.16	2.63	-0.22	0.001	-0.19	0.001
3	spillover to marriage/companionship	1.23	3.48	-0.35	0.001	-0.31	0.001
4	spillover to children	1.2	3.92	-0.31	0.001	-0.24	0.001
5	spillover to free time	1.19	4.11	-0.35	0.001	-0.31	0.001
6	spillover to housework	1.25	3.96	-0.37	0.001	-0.35	0.001
7	Mean	-	-	2.41		1.59	
8	Standard deviation	-	-	0.82		0.33	

As shown in Table 2, all the components of work-family conflict and work-family spillover had a significantly negative correlation with psychological and physical well-being among

female nurses ($P < 0.05$). Table 3 shows the results of regression analysis for the prediction of psychological well-being through the components of work-family conflict.

Table 3 Results of regression analysis for the prediction of psychological and physical well-being through the components of work-family conflict

Row	Components of work-family conflict	B	SE	β	t	p	R	R ²	F
Psychological well being									
1	constant value	3.59	0.2	-	18	0.001	0.412	0.17	19.85**
	work-family conflict	-0.28	0.05	-0.39	-5.57	0.001			
	family-work conflict	-0.05	0.05	-0.06	-0.86	0.39			
Physical well being									
2	constant value	1.29	0.09	-	15.01	0.001	0.29	0.084	8.92**
	work-family conflict	-0.08	0.02	-0.29	-3.95	0.001			
	family-work conflict	0.001	0.02	0.005	0.06	0.94			

**p<0.01

As demonstrated in Table 3, among two components of work-family conflict (work-family and family-work conflict), work-family conflict had a significant predicting capability for both psychological ($p<0.05$ and $\beta=-0.39$) and physical ($p\leq 0.01$, $\beta=-0.29$) well-being. As can be seen, in the first row of Table 3, coefficient of determination (R²) of work-family conflict for psychological well-being was equal to 0.17; i.e. 17% of variance in

psychological well-being was explained by work-family conflict. Also, in the second row of Table 3, coefficient of determination (R²) of work-family conflict for physical well-being was equal to 0.084, which means that 8.4% of variance in physical conflict was explained by work-family conflict. Results of regression analysis for predicting psychological and physical well-being through components of work-family spillover are presented in Table 4.

Table 4 Results of regression analysis for the prediction of psychological and physical well-being through the components of work-family spillover

Row	Components of work-family spillover	B	SE	β	t	p	R	R ²	F
Psychological well-being									
1	constant value	3.74	0.2	-	18.29	0.001	0.495	0.245	15.55**
	spillover to marriage /companionship	-0.13	0.06	-0.21	-2.07	0.04			
	spillover to children	-0.003	0.06	-0.005	-0.05	0.96			
	spillover to free time	-0.02	0.06	-0.02	-0.26	0.79			
	spillover to housework	-0.2	0.07	-0.31	-3.08	0.002			
Physical well-being									
2	constant value	1.26	0.09	-	13.85	0.001	0.329	0.108	5.82**
	spillover to marriage /companionship	0.05	0.02	-0.19	2.74	0.04			
	spillover to children	-0.02	0.03	-0.08	-0.76	0.45			
	spillover to free time	0.02	0.03	-0.07	-0.78	0.44			
	spillover to housework	0.05	0.03	-0.18	1.65	0.1			

**p<0.01

As noted in the first row of Table 4, out of the 4 components of work-family spillover, marital relationship ($p<0.05$, $\beta=-0.19$) and home management spillover ($p<0.05$, $\beta=-0.18$) were predictors of psychological well-being. Also, in the second row of Table 5, out of 4 components

of work-family spillover, marital relationship and home management ($p<0.05$, $\beta=-0.19$) were the predictors of physical well-being among nurses. In the first row of Table 4, it is seen that coefficient of determination (R²) for psychological well-being was 0.245; i.e.

24.5% of variance in psychological well-being was explained by home management spillover. In the second row of Table 4, it is mentioned that coefficient of determination (R²) for physical well-being was 0.018, meaning that 10.8% of physical variance was explained by the spillover of marital relationship.

Discussion

This study, which was conducted with the purpose of investigating the relationship of work-family conflict and spillover with psychological and physical well-being, obtained relative support of the weakening effect of work-family conflict and spillover on nurses' well-being. First and at simple correlation level, findings of the current study demonstrated a significantly negative relationship between components of work-family conflict and spillover and psychological and physical well-being. Findings of the present work were consistent with those of Duxbury and Higgins [1], Frider and Ryan [2], Darcy and Carthy [3], Golden and Geisler [4], Karatepe and Tekinkus [5], Halbesleben and et al. [6], Akintayo [7], Moorehead [8], Nielson and et al. [9], and Major et al. [10].

From the theoretical point of view, the relationship between work-family conflict and psychological and physical well-being can be explained by considering the role of work-family conflict in female nurses' mental and psychological space [11,13]. Family-work conflict in people's psychological space disturbs their calmness, concentration, and ability to effectively cope with their responsibilities [15, 16]. When people are at home but are mentally preoccupied with work affairs, they are unable to carry out their family tasks accurately. Such a lack of accuracy and focus would undoubtedly weaken the feeling of calmness, life satisfaction, happiness, and liveliness, which weaken the components in psychological well-being and consequently reduce the feeling of psychological well-being. Besides conflict between work and life, the negative relationship of components of work spillover into family affairs with psychological and physical well-being among female nurses

has a number of evident theoretical reasons. From the viewpoint of work-family relationship and balance model, work-family spillover often endangers people's well-being and health due to the fact that people transfer their emotional and behavioral moods from work to family environments (and vice versa) [5,6]. As an instance, stressful relations of female nurses with their supervisors or their relations with colleagues may cause emotional and behavioral states and thus endanger psychological and physical well-being of female nurses for prolonged hours [17-20]. When a female nurse faces challenges and problems in her workplace, these issues make her anxious and angry. When she enters home, all those feelings are transferred there, as well. Such transfer of feelings, which is known as work spillover into family [17,20], disturbs her relations with her spouse and children and housework and she is even emotionally stressed at home as a place for calmness and refreshment. Such stress not only weakens psychological well-being, but also most probably affects physical level and therefore reduces general well-being of the person. In fact, work-family relationship and balance model states that people who experience occupational and situational stress do not necessarily experience negative family consequences. One of the reasons might be that personality type of individuals can be a determining factor; i.e. for effective control of annoying consequences of work stress and decreasing these consequences in family domains, personality and personal traits are most probably effective.

Results of regression analysis in the current study suggested that work-family conflict (and not family-work conflict) was the most powerful predictor of psychological and physical well-being in nurses. Work-family conflict is one of the dimensions of conflict in which work affairs are in conflict with family affairs [1,2,4,7,9,11-13,15,19,20]. The issue that work-family conflict is able to predict psychological and physical well-being of nurses in the current study could have different

implications. First, based on the results of the present study, it can be clearly expressed that work-family conflict is more important than family-work conflict in predicting psychological and physical well-being in nurses. This can be attributed to the fact that most of the subjects were female nurses. The second reason can be related to the human and health-care related nature of nursing. Nurses generally confront numerous care-related stresses and events, which inevitably imposes high psychological and consequently physical stresses on them. Such stresses can magnify the role of work-family conflict instead of family-work conflict.

In regression analysis related to predicting psychological well-being through the components of work-family spillover, it was shown that the spillover of marital relationship along with spillover of home management were the predictors of psychological well-being. Also, regarding the prediction of physical well-being, it was demonstrated that the spillover of marital relationship had maximum capacity of significant prediction. This part of findings in the current study was consistent with the results of previous authors including Kinnunen et al. [11], Noor [12], Tennant and Sperry [13], Wadsworth and Owens [14], Nomaguchi [15, 16], Nomaguchi and Brown [17], Kelly and et al. [18], Richardson and Benbunan-Fich [19], and Richardson and Thompson [20]. First, the lack of predicting ability of some dimensions of work-family spillover in terms of psychological well-being and some other dimensions for physical well-being most probably suggested that the components of work-family spillover had a distinctive role for psychological and physical well-being. In other words, when talking about psychological well-being, two components including spillover of marital relationship along with home management spillover were the predictors. However, when physical well-being was discussed, only spillover of marital relationship and not that of home management was the predictor [2, 6, 10]. In this regard, it can be pointed out that female nurses experience high psychological stress by

transferring work issues into their relations with their spouses and housework, which consequently endangers their psychological well-being. However, it was different for physical well-being. In this domain, the risk factor was work spillover into marital relationship, which means the more female nurses transferred their work issues to marital relationship, the more their physical well-being decreased.

The point that researchers must note in their future studies considering the findings of the present article is that high level of accumulated stress (i.e. stress which a person experiences over time in his/her work and family affairs) in female nurses would determine whether work-family conflict and spillover decreases psychological and physical well-being or not. For this reason, in future studies, researchers can investigate the role of accumulated stress in relation to work-family conflict and spillover with psychological and physical well-being. On the other hand, the relationship of work-family conflict and spillover with psychological and physical well-being is probably a function of a general model called stress-imbalance-compensation; i.e. when psychological and physical well-being decrease in female nurses due to work-family conflict and spillover, a number of behavioral and performance events occur. In fact, these behavioral and performance events help female nurses compensate for and recover from their decreased psychological and physical well-being. Therefore, in future works, it is necessary to investigate the behavioral and performance efforts of female or even male nurses in terms of returning to desirable psychological and physical well-being.

Conclusion

Considering the findings of this study, which showed that work-family conflict and spillover of home management, and marital relationship had significant predicting capability for psychological and physical well-being among nurses, it is required to provide educational programs for managing

work-family conflict and spillover in hospitals in order to improve well-being among nurses. Ethic principles including subjects' anonymity, receiving consent letter for performing the study, and using the obtained data only for statistical analysis for the purpose of this study were considered. The implications of this study are related to the key role of work-family conflict and spillover among nurses. Finally, it is necessary to mention the limitations of this study. First this was a correlation study, which is non-experimental, so causal interpretation of the results is not logical. The second limitation of the present study was related to the samples. Since female nurses are different from male ones, generalization of the results to other workers and also male nurses must be done with caution.

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Contributions

Study design: MG

Data collection and analysis: MG, MZ

Manuscript preparation: MG, MZ, HA

Conflict of interest

"The authors declare that they have no competing interests"

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