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Nurses' work demands and work–family conflict: A questionnaire survey

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Abstract

Background: Work–family conflict is a type of interrole conflict that occurs as a result of incompatible role pressures from the work and family domains. Work role characteristics that are associated with work demands refer to pressures arising from excessive workload and time pressures. Literature suggests that work demands such as number of hours worked, workload, shift work are positively associated with work–family conflict, which, in turn is related to poor mental health and negative organizational attitudes. The role of social support has been an issue of debate in the literature. This study examined social support both as a moderator and a main effect in the relationship among work demands, work-to-family conflict, and satisfaction with job and life.

Objectives: This study examined the extent to which work demands (i.e., work overload, irregular work schedules, long hours of work and overtime work) were related to work-to-family conflict as well as life and job satisfaction of nurses in Turkey. The role of supervisory support in the relationship among work demands, work-to-family conflict, and satisfaction with job and life was also investigated.

Design and methods: The sample was comprised of 243 participants: 106 academic nurses (43.6%) and 137 clinical nurses (56.4%). All of the respondents were female. The research instrument was a questionnaire comprising nine parts. The variables were measured under four categories: work demands, work support (i.e., supervisory support), work-to-family conflict and its outcomes (i.e., life and job satisfaction).

Results: The structural equation modeling results showed that work overload and irregular work schedules were the significant predictors of work-to-family conflict and that work-to-family conflict was associated with lower job and life satisfaction. Moderated multiple regression analyses showed that social support from the supervisor did not moderate the relationships among work demands, work-to-family conflict, and satisfaction with job and life. Exploratory analyses suggested that social support could be best conceptualized as the main effect directly influencing work-to-family conflict and job satisfaction.

Conclusion: Nurses' psychological well-being and organizational attitudes could be enhanced by rearranging work conditions to reduce excessive workload and irregular work schedule. Also, leadership development programs should be implemented to increase the instrumental and emotional support of the supervisors.

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Keywords: Nurses; Work demands; Work-to-family conflict; Job and life satisfaction; Turkey

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What is already known about the topic?

- Work demands are associated with higher work–family conflict.

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- Work-to-family conflict is negatively related to job and life satisfaction.
- Social support is important in dealing with work–family conflict.

What this paper adds?

- Among work demands, work overload and irregular work schedules were the most important factors associated with higher work-to-family conflict.
- Supervisory support had a main effect influencing work-to-family conflict. The relationship between supervisory support and job satisfaction was partially mediated by work-to-family conflict, whereas the relationship between supervisory support and life satisfaction was fully mediated by work-to-family conflict.

1. Introduction

Women's participation in the workforce has been increasing all around the world (Adler and Izraeli, 1994; Davidson and Burke, 2004), which has led to changes in the roles of women and men in society. According to the Expansionist Theory (Barnett and Hyde, 2001), gender-roles are expanding: women are more active in professional work life, whereas men are more active in family life. As the consequence of this trend, maintaining a balance between work and family responsibilities has become a challenge for working people. The problem of work–family conflict (WFC) has been studied extensively in the literature, which is dominated by research conducted mainly on white-collar managerial and non-managerial employees working in private sector organizations (cf. Eby et al., 2002). However, there is paucity of research investigating the issue in the nursing context. Because nursing is a female-dominated profession practiced under demanding work conditions, examining work–family conflict in the nursing context is important for its theoretical and practical implications.

This study is designed to investigate the occurrence of work–family conflict in a sample of nurses in Turkey and the factors that are associated with it. More specifically, the aim of the study is to investigate the extent to which work demands of nurses (i.e., work overload, irregular working hours, shift work and overtime work) are related to their work–family conflict, which, in turn, influence their job and life satisfaction. The study also examines the moderating role of managerial support in the relationship among work demands, work–family conflict, and job and life satisfaction.

The majority of research on work–family conflict has been conducted in Western industrialised societies, but there is an increasing recognition of the role of culture in work–family conflict (Aryee et al., 1999; Aycan, in press). Work and family issues are related to cultural beliefs, norms and values, especially with respect to gender-roles (Aryee, 1992; Rosenbaum and Cohen, 1999; Treas and Wildmer, 2000;

Williams and Best, 1990). Turkey is found to be low in gender egalitarianism (Fikret-Paşa et al., 2001). With increasing involvement of women in the workforce, cultural values and norms about gender-roles have been undergoing a rapid transition. Women and men in professional jobs are trying to adjust to “modern” norms in gender-roles, while keeping the traditional values of familialism and collectivism intact. This transition makes Turkey a unique cultural context to study work–family conflict.

Like in many other countries, nursing is a female-dominated occupation in Turkey. Nurse as a word means sister in Turkish. The Nursing Law and the Law of Higher Education state that only women are qualified to be nurses. In Turkey, three types of degrees can be obtained to practice the profession: the nursing diploma that is equivalent to the high school degree, the associate degree (2-year university education) and the baccalaureate degree (4-year university education). There are also graduate programs (i.e., M.Sc. and Ph.D.). Graduates of the nursing diploma programs can continue to the baccalaureate programs. Graduates of different programs conduct the same type of work in practice and this may result in experiences of underemployment among nurses in Turkey.

Working conditions of nurses are difficult in many countries in the world, but this is particularly so in economically developing countries like Turkey. There are 30–40 patients per nurse in day shifts and 60–80 patients per nurse in night shifts (Yıldırım, 2006; Yıldırım and Oktay, 2005). Due to safety problems in metropolitan cities (e.g., theft, rape, kidnap), nurses are not allowed to come to work or leave work after certain hours. They can work for 12 h (8 a.m. to 8 p.m.), 16 h (8 a.m. to 4 p.m./4 p.m. to 8 a.m.) or 24 h a day (Yıldırım and Oktay, 2005). This causes physical exhaustion and performance problems. Furthermore, nurses in Turkey are often subject to harassment by the patients and their relatives or face the risk of infection due to poor hygienic conditions. There is shortage of staff, excessive workload, day and night shifts and sometimes over 40 h of work per week (Aksayan et al., 2001; Alçelik et al., 2005; Yeşildal, 2005; Yıldırım, 2006). Long and irregular work hours as well as challenging work conditions and job stress make nurses particularly prone to experiences of work–family conflict.

2. Theoretical background and hypotheses

Work–family conflict is a type of interrole conflict that occurs as a result of incompatible role pressures from the work and family domains (Greenhaus and Beutell, 1985; Kahn et al., 1964). The direction of the conflict between work and family is inherently bi-directional (Guttek et al., 1991). That is, work may interfere with the family domain (work-to-family conflict) or family may interfere with the work domain (family-to-work conflict). The literature suggests that the experience of work-to-family conflict is more

prevalent than that of family-to-work conflict (e.g., Greenhaus and Beutell, 1985; Gutek et al., 1991). According to Pleck's (1977) asymmetric boundary permeability theory, work and family boundaries are asymmetrically permeable. That is, work is allowed to interfere with family to a greater extent than is the case in reverse. Based on this rationale, the current study was designed to focus on work-to-family conflict among nurses.

Burke and Greenglass (1999) and Voydanoff (1988) found that job stressors and work demands are the strongest predictors of work-to-family conflict. Role demands play an important role in aggravating WFC. Work role characteristics associated with work demands refer primarily to pressures arising from excessive workload and time pressures. A considerable amount of research showed that work demands such as number of hours worked, workload and shift work were positively and strongly associated with WFC (Burke, 2002; Higgins et al., 2000; Higgins and Duxbury, 1992; Saltzstein et al., 2001; Voydanoff, 1988). Working long hours, evenings and weekends limits the time that employees are available for family activities. Therefore, we are expecting that higher work demands, such as work overload, long hours of work per week, irregular work schedules, and overtime work would be associated with higher work-to-family conflict among nurses.

WFC is related to negative psychological and organizational outcomes, such as increase in depressive symptoms, increase in the use of alcohol and substance abuse, decrease in life satisfaction, job satisfaction, and marital satisfaction, and increase in the tendency to quit the job (Eby et al., 2002). Among these outcomes, the current study focuses on life and job satisfaction. Work–family conflict has consistently been shown to decrease one of the key indicators of psychological well-being, namely life satisfaction, especially for women (e.g., Clark, 2002; Greenhaus et al., 2003; Frone et al., 1997; Kossek and Ozeki, 1998; Netemeyer et al., 1996; Thomas and Ganster, 1995). The negative relationship between work–family conflict and job satisfaction is also well-established in the literature (e.g., Eby et al., 2002; Hill et al., 2004). Nurses whose excessive work demands interfere with their family responsibilities are likely to feel torn apart between the two domains and unable to satisfy both without compromise. This is expected to result in their dissatisfaction with life. Furthermore, nurses experiencing work-to-family conflict are likely to blame their jobs and working conditions for this, and feel dissatisfied with their jobs, as well.

However, not everyone with heavy work demands experiences work-to-family conflict to the same extent. Similarly, those experiencing work-to-family conflict are not guaranteed to suffer from lower life and job satisfaction. This implies that there are factors buffering the effects of work demands and WFC on employees' well-being. Among such factors, the most important is the social support. Social support refers to interpersonal relationships and social interactions that help protect individuals from the effects of stress

(Kessler et al., 1985; Nielson et al., 2001). Both the availability and the quality of social support are important social assets for individual adjustment and well-being. Social support has consistently been related to increased health and well-being (Cohen, 1988; House et al., 1988). The role of social support as an antecedent, mediator, or moderator in relation to WFC has been an issue of debate in the literature. It was postulated to be a buffer against stress – referred to as the buffering hypothesis – or directly related to promoting personal well-being – referred to as the main effect hypothesis (Cohen and Wills, 1985). In the stress literature, social support has traditionally been treated as a moderator among life demands (stressors), stress and well-being (cf. Kahn and Byosiore, 1992). This study takes the same theoretical perspective and proposes that social support moderates the relationship between work demands and work-to-family conflict, and between work-to-family conflict and life and job satisfaction of nurses.

This study focuses on the role of supervisor support (especially from the immediate manager/supervisor) as a key moderator. Studies found that supervisory support was an important source of social support in coping with problems associated with WFC (Anderson et al., 2002; Burke and Greenglass, 1999; Duxbury and Higgins, 1994; Thomas and Ganster, 1995). If a manager gives employees flexibility even when informally supporting such an option (i.e., in the absence of an organizational policy), employees balance work and family more easily. Supervisory support can be conceptualized as having two components: instrumental and emotional support (Frone et al., 1997). Instrumental supervisory support refers to the provision of direct assistance and advice with the intent of helping an employee meet his or her family responsibilities (Frone et al., 1997). Supportive supervisors are instrumental in making and interpreting organization's work–family policies (Eby et al., 2002). On the other hand, emotional supervisory support refers to emphatic understanding and listening, sensitivity toward the WFC issues, and genuine concern for the well-being of the employee and his or her family (Frone et al., 1997). The importance of supervisory support is emphasized so much in the literature that some researchers believe that well-being of families lies largely in the hands of first-line supervisors (Rodgers and Rodgers, 1989).

The conceptual framework including the study variables is presented in Fig. 1. It is expected that work demands, including work overload, overtime work, irregular work schedules, and long work hours are associated with work-to-family conflict, which, in turn, are negatively related to job and life satisfaction. It is also proposed that supervisory support moderates the relationship between work demands and work-to-family conflict, and between work-to-family conflict and satisfaction with job and life. More specifically, nurses with heavy work demands will experience less work-to-family conflict when they receive social support from their supervisors, compared to those who receive supervisory support to a lesser extent. Also, nurses who are

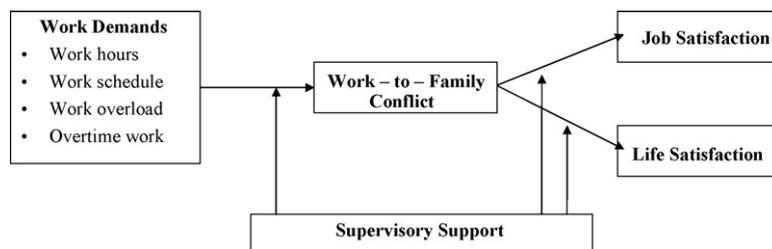


Fig. 1. Proposed conceptual model of the study.

experiencing work-to-family conflict will be more satisfied with their job and life when they receive social support from their supervisors, compared to those receiving such support to a lesser extent.

3. Method

3.1. Participants and procedure

The sample was comprised of 243 nurses. Two different groups of nurses were recruited for this study (106 academic nurses and 137 clinical nurses) in order to increase the variability in work demands and representativeness of the sample. All study participants were females. The mean age of the respondents was 33.6 years (S.D. = 7.31). Approximately two thirds of the nurses (71%) were married, and 75% of married respondents had at least one child. Parametric and non-parametric tests comparing the two groups suggested that they did not differ significantly on the demographic characteristics (i.e., age, gender, tenure, marital status, number of children and age of children), except for the educational attainment. Almost half of the academic nurses completed a Ph.D. in nursing (49.1%), whereas no participant in the clinical nursing sample had a Ph.D. degree. Among the academic nurses 46.2% completed the M.S. in Nursing, while 9.5% of clinical nurses completed the same. Nearly half of the clinical nurses completed the 2-year vocational training on nursing (48.1%).

The sample was drawn from the departments of nursing in two large universities in Istanbul. Academic nurses were professors in universities and the clinical nurses were working in hospitals of the same universities. Out of 874 questionnaires distributed, 302 were returned, yielding a response rate of 34.5%. This is a typical response rate reported for field studies in organizational sciences (cf., Rosenfeld et al., 1993). Among the returned questionnaires 59 of them were discarded due to excessive missing data. The response rate for academic nurses was higher (96%) than that obtained for clinical nurses (25%). This was due mainly to the excessive workload and time constraints of clinical nurses that resulted in their inability to complete the surveys within the allotted time period (1 week). Academic nurses were contacted individually by the first author and

requested to participate in the study. This facilitated and eased data collection from academic nurses. The research was reviewed and approved by the Institutional Reviewed Board of the University.

Data were collected via self-administered questionnaires. The questionnaire contained a cover letter explaining the purpose of the study, instructions for completing and returning the questionnaire, the study measures and a self-stamped envelope with the return address of the first author. Completed surveys were returned via surface mail to the first author. The anonymity of respondents was ensured.

3.2. Measures

The research instrument was comprised of nine parts measuring study variables. In the first part, participants were asked to provide demographic information including age, gender, education, job tenure, marital status and number of children.

3.2.1. Work overload

Time demands of job and inflexibility was assessed by an 11-item scale developed by Duxbury and Higgins (1994) and adapted to Turkish by Aycan and Eskin (2005). The scale assessed the extent to which participants experienced overload, inflexibility and lack of control in their jobs. A sample item was “In my job, I have too much to do”. Items were rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores indicated more work demand. The internal consistency of this scale for the present study was $\alpha = 0.82$.

3.2.2. Work hours

The total number of hours worked per week was assessed through an open-ended question: “How many hours are you working in a week?”

3.2.3. Work schedule

One item was designed to assess work schedule of the participants. The question was “Is your work schedule regular?” There were three options to choose from: 1 – regular work hours, 2 – partially regular work hours (staying for the night shift occasionally) and 3 – irregular work hours (changing shifts).

3.2.4. Overtime work

In order to assess the degree of overtime work, one question was designed with four options to choose from: “Do you have to work overtime?” The options ranged from 4 (almost always) to 1 (almost never).

3.2.5. Supervisory support

Supervisory support was measured by a 10-items scale developed by Galinsky et al. (1996) and adapted to Turkish by Aycan and Eskin (2005). Items assessed the extent to which managers provided emotional and instrumental support to employees on balancing work and family responsibilities. A sample item for emotional support was “My supervisor gives advice on how to handle my work and family responsibilities” and for instrumental support was “My supervisor allows for flexibility in my working arrangements to enable me to handle my family responsibilities”. Each item was rated on a 5-point Likert scale (1 = almost never; 5 = almost always), and high scores indicated high support. The internal consistency of the scale for the present study was $\alpha = 0.84$.

3.2.6. Work-to-family conflict

The seven-item scale developed by Netemeyer et al. (1996) was used in the current study. The scale was adapted to Turkish by Aycan and Eskin (2005). The response scale was a 5-point Likert scale, where 5 represented strong agreement and 1 represented strong disagreement. Higher scores indicated higher conflict. The internal consistency of the scale was $\alpha = 0.84$. Sample items included “Things I want to do at home do not get done because of the demands my job puts on me”, “My job produces strain that makes it difficult to fulfill family duties”.

3.2.7. Job satisfaction

Minnesota satisfaction scale developed by Weiss et al. (1967) and adapted to Turkish by Asti (1993) was used to measure job satisfaction. The scale consisted of 20 items. Items were rated on a 5-point Likert scale ranged from 1 (not satisfied) to 5 (very satisfied). Sample items included “On my present job, this is how I feel about my chances for advancement”, “On my present job, this is how I feel about the praise I get for doing a good job”. The internal consistency of the scale for the present study was $\alpha = 0.90$.

3.2.8. Life satisfaction

The 6-item Life Satisfaction Scale developed by Diener et al. (1985) was used in the present study. The scale adapted to Turkish by Bilgin (1985). Sample items included “I am satisfied with my life” and “In most ways, my life is close to ideal”. A 5-point Likert scale was used for responses (5 = strongly agree; 1 = strongly disagree). Higher scores indicated higher life satisfaction. The scale was reliable for this sample ($\alpha = 0.86$).

4. Results

Table 1 presents descriptive statistics and intercorrelations among all study variables.

The hypothesized mediated model was tested using the structural equation modeling conducted with the AMOS statistical package (Arbuckle, 1997; Version 6.0). The moderating effect of supervisory support was tested through a series of moderated multiple regression analyses (Baron and Kenny, 1986). It is difficult to test the moderating effect in the SEM analysis conducted with AMOS. To test the moderating effect, data have to be split into two groups that score high and low on the moderator (in this case, supervisory support) and the models tested for the two groups are compared. This results in converting a continuous variable (i.e., supervisory support) into a categorical one, which is not desirable unless necessary.

The mediated model suggested that nurses’ work overload, overtime work, working hours and shift work would be negatively associated with their job and life satisfaction, and this relationship is mediated by work-to-family conflict. In order to examine the individual contribution of each of the work demands to predict work-to-family conflict, they were included in the model as separate observed variables, rather than the elements of a latent construct named as work demands.

Several criteria were used to evaluate the model fit. According to Hu and Bentler (1999), the comparative fit index (CFI) and the Tucker–Lewis Index (TLI) values ranging between 0.90 and 0.94 indicate an adequate fit, whereas those at or above 0.95 indicate excellent fit of data to the model. Furthermore, the root-mean-square error of approximation (RMSEA) between 0.06 and 0.10 indicate an adequate fit, and that at or below 0.05 indicate excellent fit of data (see also, Browne and Cudeck, 1993). For χ^2 /d.f. ratio, Jöreskog (1993) recommended a value approaching 2 as acceptable. The proposed mediated model provided an excellent fit to data. The $\chi^2(9) = 9.139$ ($p = 0.17$), χ^2 /d.f. ratio was 1.53, RMSR was 0.052, CFI was 0.97 and TFI was 0.97.

Standardized path coefficients in the structural model are presented in Fig. 2 and in Table 2. As predicted, excessive workload and irregular work schedules were associated with higher work-to-family conflict. However, contrary to our expectations, work hours and overtime work were not related to work’s interference to family. Work-to-family conflict was associated with lower life and job satisfaction, confirming our hypotheses.

To test the moderating effect of supervisory support in the relationship between work demands and work-to-family conflict, four moderated multiple regression analyses (Baron and Kenny, 1986) were conducted. The results of the analyses were reported in Table 3. In step 1, control variables (demographic variables) were entered in the analysis. In step 2, the criterion (work-to-family conflict) and the moderator (managerial support) were regressed on the predictors (work

Table 1
Descriptive statistics and intercorrelations among study variables

	<i>M</i>	<i>S.D.</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Age	33.60	7.31	–	0.23***	0.50***	–0.07	0.42***	–0.20**	–0.08	–0.28***	0.17**	–0.07	–0.15*	0.06	0.11	0.12
2. Education ^a	–	–	–	–	–0.09	–0.08	0.02	–0.82***	0.01	–0.40***	0.63***	–0.31***	–0.22***	–0.04	0.18**	0.07
3. Tenure (years)	11.63	7.85			–	–0.03	0.18**	0.17**	–0.12	–0.06	–0.11	0.10	–0.10	0.03	0.02	0.10
4. Marital status ^b	–	–				–	–0.51***	0.07	0.01	0.03	–0.01	–0.12	–0.06	0.02	–0.08	0.09
5. Number of children	1.33	0.89					–	–0.06	–0.02	–0.13*	–0.01	–0.01	–0.01	0.07	0.11	–0.04
6. Academic vs. clinical nurse ^c	–	–						–	–0.07	0.46***	–0.72***	0.31***	0.19**	0.05	–0.27***	–0.11
7. Hours of work	40.93	3.10							–	0.06	0.12	–0.11	–0.05	–0.03	–0.03	0.09
8. Work schedule ^d	–	–								–	–0.31***	0.17**	0.32***	–0.07	–0.21***	–0.16*
9. Overtime work ^e	2.75	1.06									–	–0.22***	–0.02	–0.13*	0.15*	0.05
10. Work overload	3.28	0.95										(0.82)	0.25***	–0.04	–0.18**	–0.21***
11. Work-to-family conflict	3.43	1.09											(0.84)	–0.15*	–0.18**	–0.11
12. Supervisory support	3.08	0.99												(0.84)	0.21***	0.29***
13. Life satisfaction	2.68	0.92													(0.86)	0.35***
14. Job satisfaction	3.23	0.85														(0.90)

Note: $N = 243$; $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$, two-tailed. Numbers on the diagonal are Cronbach's alpha reliability estimates of the scales.

^a Education: 1—nursing high school; 2—school of nursing (2 years); 3—college of nursing (4 years); 4—M.S. in nursing; 5—Ph.D. in nursing.

^b Marital status: 1—married; 2—divorced, widowed; 3—single.

^c Status: 0—academic nurses; 1—clinical nurses.

^d Work schedule: 1—regular; 2—partially regular; 3—irregular.

^e Overtime work: ranging from 4—almost always to 1—almost never.

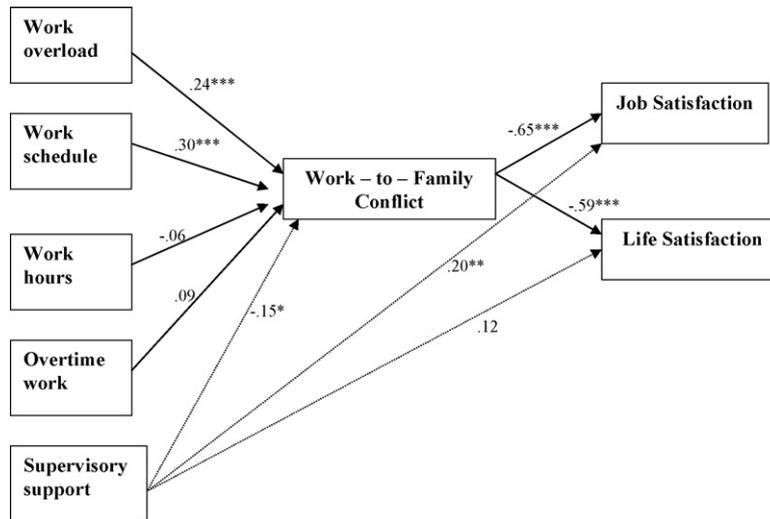


Fig. 2. The structural equation modeling results with standardized path coefficients (dashed lines indicate added links in the modified model).

demands). In the third step, the cross-product of the predictors and the moderator was added to the equation. Significant increase in R^2 would be the indicator of the moderation effect. The same procedure was administered to test the moderating effect of supervisory support in the relationship of work-to-family conflict with life and job satisfaction (Table 4). As can be seen from the tables, none of the interaction terms were significant, suggesting that social support from the supervisor did not buffer the effects of stressful events (i.e., work demands and work-to-family conflict).

The lack of empirical support to the moderating effect of supervisory support led us to consider the rival hypothesis suggesting that supervisory support would be the main effect directly related to work-to-family conflict as well as job and life satisfaction. As an exploratory analysis, social support

was included in the research model with direct links to work-to-family conflict and to satisfaction. This exploratory model was tested by structural equation modeling conducted with AMOS (Arbuckle, 1997; Version 6.0). This model also provided an excellent fit to data. The $\chi^2(6) = 10.55$ ($p = 0.10$), $\chi^2/\text{d.f.}$ ratio was 1.76, RMSR was 0.048, CFI was 0.97 and TFI was 0.97. Supervisory support was significantly associated with lower work-to-family conflict and higher job satisfaction. The direct path from supervisory support to life satisfaction was not significant. Similar to the previous model, the paths from workload and irregular work schedules were associated with higher work-to-family conflict, which, in turn, was associated with lower life and job satisfaction. Standardized path coefficients of the modified model are presented in the second column of Table 2 and indicated with dashed lines in Fig. 2.

Table 2

Parameter estimates and standardized path coefficients of the proposed and modified models

	Proposed model			Modified model		
	Unstandardized estimates	S.E.	Standardized estimates	Unstandardized estimates	S.E.	Standardized estimates
Work hours → work-to-family conflict	-0.02	0.02	-0.06	-0.02	0.02	-0.06
Work schedule ^a → work-to-family conflict	0.36	0.07	0.30***	0.34	0.07	0.28***
Overtime work ^b → work-to-family conflict	0.09	0.05	0.09	0.05	0.05	0.05
Work overload → work-to-family conflict	0.27	0.06	0.24***	0.26	0.07	0.23***
Work-to-family conflict → job satisfaction	-0.51	0.14	-0.65	-0.49	0.17	-0.62***
Work-to-family conflict → life satisfaction	-0.49	0.15	-0.59	-0.50	0.15	-0.59***
Supervisory support → work-to-family conflict				-0.14	0.07	-0.15*
Supervisory support → job satisfaction				0.17	0.06	0.20**
Supervisory support → life satisfaction				0.11	0.07	0.12

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

^a Work schedule: 1—regular; 2—partially regular; 3—irregular.

^b Overtime work: ranging from 4—almost always to 1—almost never.

Table 3

Moderated multiple regression analyses testing the moderating effect of supervisory support in the relationship between work demands (i.e., work overload, working hours, work schedule and overtime work) and work-to-family conflict

	St. β	R^2	R^2 change	F	F change
Predictor variable: work overload					
Step 1. Control variables		0.07		3.08**	
Age	−0.05				
Academic/clinical nurse	0.06				
Education	−0.18				
Tenure	−0.10				
Number of children	−0.00				
Marital status	−0.08				
Step 2.		0.13	0.05	4.22***	7.16***
Work overload	0.19**				
Supervisory support (moderator)	−0.14*				
Step 3. Work overload \times supervisory support	0.38	0.13	0.01	3.95***	1.70
Predictor variable: work schedule					
Step 1. Control variables		0.07		3.08**	
Age	−0.05				
Academic/clinical nurse	0.06				
Education	−0.18				
Tenure	−0.10				
Number of children	−0.00				
Marital status	−0.08				
Step 2.		0.15	0.07	5.02***	10.12***
Work schedule	0.26***				
Supervisory support (moderator)	−0.13*				
Step 3. Work schedule \times supervisory support	0.03	0.15	0.00	4.44***	0.01
Predictor variable: overtime work					
Step 1. Control variables		0.07		3.08**	
Age	−0.05				
Academic/clinical nurse	0.06				
Education	−0.18				
Tenure	−0.10				
Number of children	−0.00				
Marital status	−0.08				
Step 2.		0.12	0.05	4.08***	6.63**
Overtime work	0.24**				
Supervisory support (moderator)	−0.13*				
Step 3. Overtime work \times supervisory support	−0.05	0.12	0.00	3.62***	0.04
Predictor variable: work hours					
Step 1. Control variables		0.07		3.08**	
Age	−0.05				
Academic/clinical nurse	0.06				
Education	−0.18				
Tenure	−0.10				
Number of children	−0.00				
Marital status	−0.08				
Step 2.		0.10	0.03	3.24**	3.51*
Work hours	−0.06				
Supervisory support (moderator)	−0.15*				
Step 3. Work hours \times supervisory support	0.10	0.10	0.00	2.87**	0.01

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 4

Moderated multiple regression analyses testing the moderating effect of supervisory support in the relationship between work-to-family conflict and satisfaction with job and life

	St. β	R^2	R^2 change	F	F change
Criterion variable: job satisfaction					
Step 1. Control variables		0.04		1.87	
Age	0.09				
Academic/clinical nurse	−0.19				
Education	−0.08				
Tenure	0.09				
Number of children	−0.07				
Marital status	0.07				
Step 2.		0.13	0.08	4.40***	11.49***
Work-to-family conflict	−0.02				
Supervisory support (moderator)	0.29***				
Step 3. Work-to-family conflict \times supervisory support	−0.24	0.13	0.00	4.01***	0.87
Criterion variable: life satisfaction					
Step 1. Control variables		0.09		3.81***	
Age	0.01				
Academic/clinical nurse	−0.37***				
Education	−0.12				
Tenure	0.05				
Number of children	0.06				
Marital status	−0.03				
Step 2.		0.14	0.06	4.98***	7.83***
Work-to-family conflict	−0.10				
Supervisory support (moderator)	0.20***				
Step 3. Work-to-family conflict \times supervisory support	0.06	0.15	0.00	4.42***	0.06

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

5. Discussion

The overarching purpose of the present study was to investigate the extent to which work demands of nurses were related to their job and life satisfaction through experiences of work-to-family conflict, and the role that supervisory support played in moderating these relationships. The mediated model relating work demands to life and job satisfaction through work-to-family conflict was tested through structural equation modeling and provided an excellent fit to data. The model suggested that irregular work schedules and work overload had the strongest relationship with nurses' work-to-family conflict. This confirmed the results of previous research on nursing, which also showed that work overload and irregular work schedules had a strong positive relationship with WFC (Burke and Greenglass, 2001; Simon et al., 2004). However, contrary to our expectations, working hours and overtime work were not associated with work-to-family conflict.

The reason underlying the insignificant finding between work hours and work-to-family conflict may be attributed to the restricted range in work hours, which is legally determined as 40 h per week on average in Turkey. The lack of correlation between overtime work and work-to-family con-

flict can be explained by the arrangement of nurses' work schedules. Weekly work is scheduled such that all nurses have to do overtime work at least once a week as part of their shift. It is possible that nurses considered it as part of their routine work schedule and did not perceive it as an extra work demand interfering with their family responsibilities. Alternatively, it is possible that our measure of overtime work masked the significant relationship, because it relied on the 'perception' of nurses (i.e., the scale ranged from 'almost always' to 'almost never' working overtime), rather than their report of hours they worked overtime. Future research should examine this relationship using objective measures of overtime.

According to the zero-order correlations, being young, having relatively low education, and being a clinical nurse (as opposed to an academic nurse) were the only demographic variables correlated with work-to-family conflict. However, in the regression analyses none of the demographic variables were significantly related to work-to-family conflict.

As predicted by our model, work-to-family conflict was associated with lower life and job satisfaction. These findings add to a large body of literature providing evidence to the relationship between work–family conflict and negative

psychological and attitudinal outcomes including low life and job satisfaction (cf. Eby et al., 2002).

One of the main contributions of this study was to investigate the role of social support in the relationship among work demands, work-to-family conflict and satisfaction driven from work and life. Supervisory support included both instrumental and emotional support. Instrumental support implied providing assistance and advice especially in interpreting and implementing organization's work-family policies, whereas emotional support referred to supervisor's emphatic understanding and sensitivity to work-family issues. In line with the stress literature, the present study hypothesized that supervisory support would moderate the relationship between work demands and work-to-family conflict, and the relationship between work-to-family conflict and satisfaction with life and job. However, none of the moderated multiple regression analyses provided evidence to the moderating effect of supervisory support. Therefore, buffering hypothesis was rejected by the data of this study.

As an exploratory analysis, we followed Cohen and Wills' (1985) suggestion and tested the rival hypothesis, namely the main effect hypothesis of social support, by including supervisory support as a factor directly related to work-to-family conflict, job satisfaction and life satisfaction. The modified model provided an excellent fit to data. The findings suggested that supervisory support to nurses in this sample can be conceptualized better as a factor that is directly related to work-to-family conflict, than that moderate the relationship between work demands and work-to-family conflict.

There is an ongoing debate in the WFC literature about the role of social support as having a main versus moderating effect, and there are supporters of both camps. According to Grandey and Cropanzano (1999) conservation of resources theory individuals are motivated to acquire and maintain resources (i.e., social support networks) while coping with stress. This implies that social support has a direct effect on WFC (cf. Allen, 2001). Carlson and Perrewé (1999) studied social support from family and work as an antecedent, an intervening variable, and a moderator in the relationship between role stressors and WFC, and concluded that social support could be best conceptualized as an antecedent of perceived stressor. One of the most widely cited theoretical frameworks proposed by Frone et al. (1997) also portrayed work demands and work support as independent antecedents of work-family conflict. According to this model, work-family conflict is the result of a mismatch between demands and support; the higher work demands and lesser supervisory support, the higher the interference of work with family, and, the higher the job and life satisfactions. Our findings corroborate with the literature supporting the main effect hypothesis. By comparing two rival hypotheses, we concluded that supervisory support could be best conceptualized as having a main rather than a moderating effect on WFC among nurses in Turkey.

In this study, supervisory support was also found to be directly related to higher job satisfaction, rather than mod-

erate the relationship between work-to-family conflict and job satisfaction. However, the direct relationship between supervisory support and life satisfaction was not significant. This pointed to an important conclusion that in this sample the relationship between supervisory support and life satisfaction was *fully* mediated by work-to-family conflict, whereas the relationship between supervisory support and job satisfaction was *partially* mediated by work-to-family conflict. This finding is consistent with that of Thomas and Ganster (1995) who found that supervisor support reduced WFC among health care workers, which in turn led to greater job satisfaction. Anderson et al. (2002) stated that supervisory support had a direct relationship with all employee outcomes, and negative career consequences was related to lower job satisfaction and higher turnover intentions.

This study had a number of limitations. Although the response rate for the overall sample was low, it was typical for field research in organizational sciences (Rosenfeld et al., 1993). The response rate for academic nurses was high, but only a quarter of clinical nurses were able to submit the survey within a week, probably due to excessive workload and time pressures. This might have resulted in having a biased sample that did not include nurses who were most overloaded and stressed. The sample was drawn from academic and clinical nurses in Istanbul. Having a low response rate and relying on one city for data collection limit the generalizability of the findings. The zero-order correlations showed that clinical nurses experienced higher WFC than academic nurses. This suggests that future studies should investigate WFC in both groups, separately.

The cross-sectional design of the present study did not allow us to draw causal inferences among study variables. Future research would benefit from longitudinal designs in order to establish causal relationships among work demands, work-to-family conflict, and satisfaction from life and job. Future studies should also include antecedents and consequences of family-to-work conflict. As argued by Frone et al. (1992) work stressors lead to higher interference of work with family, and result in increased family distress or dissatisfaction. Similarly, family stressors interfering with work may lead to diminished job satisfaction. Other organizational (e.g., justice perception) and individual level (e.g., negative affectivity) factors that influence job satisfaction (cf. Spector, 1997) should also be included in future studies as control variables.

This study has the potential to contribute to the research literature as well as the nursing practice by identifying the most critical factors leading to work-to-family conflict experienced of nurses in Turkey. The findings point to the necessity to redesign the work conditions of nurses to reduce work overload and schedule irregularity. Work overload and schedule irregularity seem to increase stress (i.e., WFC) resulting in poor psychological health and negative attitudes towards work. Also, training programs should be offered to supervisors to enhance their empathy and assistance in handling work-family problems of nurses.

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