2-2000

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© Academy of Management Journal
2000, Vol. 43, No. 1, 113–123.

SOURCES OF WORK-FAMILY CONFLICT: A SINO-U.S. COMPARISON OF THE EFFECTS OF WORK AND FAMILY DEMANDS

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Given differences in values about work and family time, we hypothesize that Americans will experience greater family demand, which will have greater impact on work-family conflict, whereas the Chinese will experience greater work demand, which will have the greater impact on work-family conflict. The results of a survey of working men and women in the two countries generally supported the hypotheses; however, work demand did not differ significantly between the two countries and did not have a greater effect than family demand on work-family conflict in China.

Research on work-family conflict has been conducted primarily in Western industrialized nations, most notably the United States, but economic and business globalization has made work-family issues increasingly important in developing countries. And because work and family issues are intricately related to cultural beliefs, values, and norms (Lobel, 1991; Schein, 1984), multinational companies need to be aware of cultural influences on their operations and to develop culturally appropriate strategies to deal with work-family conflict and its effects.

In this study, we sought to help fill a critical void in work-family conflict research by exploring cross-national differences in the sources of such conflict. We surveyed employees of American and Chinese enterprises to compare the extent to which different sources affected work-family conflict.

WORK-FAMILY CONFLICT AND ITS SOURCES

Work-Family Conflict

Greenhaus and Beutell defined work-family conflict as follows: "[It is] a form of inter-role conflict in which the role pressures from the work and family domains are mutually noncompatible in some respect. That is, participation in the work (family) role is made more difficult by virtue of participation in the family (work) role" (1985: 77). This definition delimits the scope of work-family conflict in a number of ways. First, the term "work-family" refers to roles within the work and family domains rather than to the domains themselves. Second, mere differences in values, social relationships, and requirements between work and family lives do not automatically constitute conflict. Third, the major concern is those role conflicts that cause problems of role participation.

Greenhaus and Beutell (1985) identified three major types of work-family conflicts. The first is time-based. Time spent on role performance in one domain often precludes time spent in the other domain. Time expended on role performance may deplete energy or generate strain. The second work-family conflict, strain-based conflict, arises when strain in one role affects one's performance in another role. The last type is behavior-based conflict, which refers to incompatibility between the behavior patterns that are desirable in the two domains.

In this cross-national study, we focused on time-based conflict, recognizing that the concept also included time-induced strain (Greenhaus & Beutell, 1985). The conceptual specificity of time-based conflict allowed us to better measure and validate the construct in different social, economic, and cultural systems. Drawing on recent distinctions between work-to-family conflict and family-to-work conflict (e.g., Frone, Russell, & Cooper, 1992; Greenhaus & Parasuraman, 1994; Gutek, Searle, & Klepa, 1991), we included both directions in the conception of work-family conflict but did not decompose them into different constructs since we were concerned with the sources rather than directionality of conflict.

Work and Family Demands

Different types of pressure can be sources of work-family conflict. One type exists in an individual's objective environment; expectations or pressures "sent" to the focal person by members of his or her role set are examples (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964). The other type exists in the individual's subjective psychological environment. The objective pressures have to be perceived by the focal person to affect his or her role performance. Demands may also truly originate from within the person; these are known as "own forces" (Kahn et al., 1964: 17).

As the subjective environment reflects both the objective environment and the values and expectations resulting from a long process of socialization, we defined demand in terms of role performers' perception and feeling of pressure. Following Frone, Russell, and Cooper (1997) and keeping our focus on time-based work-family conflict, we conceptualized work-family demands as time-based role pressures (Kahn et al., 1964). Work demand refers primarily to pressures arising from excessive workloads and typical workplace time pressures such as rush jobs and deadlines. Family demand refers primarily to time pressures associated with tasks like housekeeping and child care. Family demand is often related to family characteristics such as the number of dependents, family size, and family composition (e.g., Frone et al., 1992; Near, Rice, & Hunt, 1980).

A CULTURAL PERSPECTIVE ON WORK-FAMILY CONFLICT

Work and family pressures reflect social expectations and self-expectations and are most susceptible to values, beliefs, and role-related self-conceptions internalized through socialization (Greenhaus & Beutell, 1985; Gutek et al., 1991; Kahn et al., 1964; Lobel, 1991; Parasuraman, Purohit, Godshalk, & Beutell, 1996). The cited authors have argued that role-related self-conceptions not only moderate the relationship between demand and conflict but also have a direct impact on demand within a domain. That is, demand is greater from the domain with the higher priority.

Three rationales are proposed to support this priority-demand link. First, from the perspective of self-sender expectation (Kahn et al., 1964), a person becomes more ego-involved, investing more time and energy in the high-priority domain. Second, the domain on which the role set and the society at large put higher priority exerts greater role pressure through social expectations and norms. Under these two mechanisms, a focal person will be more responsive to role demands from the domain with higher priority.

The work cited above highlights potential effects of culture on work-family conflict. A Sino-U.S. comparison provides an excellent opportunity to examine such cultural effects. Earlier cross-cultural research has shown striking differences between the two countries on various dimensions, including individualism-collectivism, goal priorities, and long- and short-term orientations (e.g., Chen, 1995; Earley, 1989, 1993; Hofstede, 1991; Schwartz, 1994; Shenkar & Ronen, 1987). Implications of these cultural differences for work-family conflict, however, have not been investigated.

Despite popular images of Americans as career-oriented and of the Chinese as family-oriented, Hofstede (1980) found that Western individualist societies valued family and personal time more strongly than Eastern collectivist societies. Consistently, Shenkar and Ronen (1987) showed that mainland Chinese managers assigned low importance to family and personal time, just as their counterparts in Hong Kong, Taiwan, and Singapore did. Schein (1984) also proposed that Eastern societies gave greater priority to work than do Western societies.

When there is a conflict of interests, individualists tend to put self-interests above collective interests, and collectivists tend to do the opposite (Chen, Meindl, & Hunt, 1997; Hofstede, 1980; Parsons, 1951; Triandis, 1995). Next, we examine how individualism-collectivism affects relationships within families and between families and work organizations.

Individualism and Work-Family Priority in the United States

In the United States, according to Schein (1984), an individual's career connotes personal ambition and achievement. If the main purpose of work is to further the personal career, a good family person should not allow work to interfere with family. Allowing work to interfere is likely to cause dissatisfaction in other family members that may lead to serious consequences, like separation, divorce, and disowning. There has been evidence that as work interferes with family, family members, instead of providing more social and emotional support to the distressed worker, withdraw such support (Adams, King, & King, 1996; Jackson, Zedeck, & Summers, 1985).

In dealing with other, nonfamily, collectivities, individualists by definition place priority on individual and family interests (Hofstede, 1980, 1991).

When work and family conflict, Americans are expected to side with family. Colin Powell explained to his supporters that he would not run for president of the United States because running for and assuming that office would involve too much personal and family sacrifice. Regardless of whether or not family concerns were his reason for not running, Powell's citing that reason illustrates the greater legitimacy and primacy of family relative to other collectivities in America.

The family value has been enhanced by a more general emphasis on quality of life in American society; this emphasis may be largely a result of high industrialization and living standards (Inglehart, 1990). Bellah, Madsen, Sullivan, Swidler, and Tipton (1985) labeled these relationship values "expressive individualism," suggesting that more Americans sought self-fulfillment through expressive than through "utilitarian" individualism, such as advancement in organizations and careers. Harris and Associates' (1981) national survey found that 62 percent of working adults considered family to be important when they decided about work schedules, job-related travel, and job relocation.

For reasons including the above, research has shown that family events tend to have a stronger effect than work events on psychological well-being in North America and Western Europe (Lin & Lai, 1995). Systematic research by Frone and colleagues (Frone et al., 1992; Frone, Russell, & Cooper, 1995; Frone, Russell, & Barnes, 1996; Frone, Yardley, & Markel, 1997) has consistently shown that family stressors had a greater impact on psychological and physical health than did work stressors in the United States.

Collectivism and Work-Family Priority in China

In contrast to the American individualist notion of career, in the Chinese societies of Hong Kong, Taiwan, and the People's Republic of China (PRC), work is seen as for the welfare of the family (Redding, 1993; Redding & Wong, 1986). Redding (1993: 39) explained how the Chinese strive to bring honor and prosperity to their families through their work. According to this family-based work ethic, extra work after official hours or on weekends is a self-sacrifice made for the benefit of the family rather than a sacrifice of the family for the selfish pursuit of one's own career. A study of 23 countries (Chinese Culture Connection, 1987) showed China ranking 1st on values such as perseverance, thrift, saving, and willingness to subordinate oneself for a purpose, whereas the United States ranked 17th (Hofstede, 1991). Such self-sacrificial, long-term orientations legitimize and even encourage assuming extra work responsibilities and assignments that may disrupt family life temporarily but are expected to bring future benefits.

The cultural norm of collectivism in China also legitimizes giving priority to work by emphasizing reciprocity between family and other, larger collectivities (Bond & Hwang, 1986: 216; Redding, 1993: 61). Even after decades of economic reform, Chinese industrial enterprises continue to be the primary providers of social welfare benefits, and employees still have strong organizational or work group identities (Child, 1994; Tung, 1991). The economic reform in general and Deng's slogan "to be rich is glorious" in particular have legitimized wealth-seeking hard work as benefiting not only the family, but also the community and the nation. The Chinese work priority argument has found empirical support in research by Lai (1995) and Lin and Lai (1995). These authors found that work role stressors had greater impact than did family role stressors in Shanghai and Tianjing.

Finally, we also recognize that a number of social and family factors in China may help reduce family demand. The decades-long, rigorously enforced one-child-per-family policy has significantly reduced Chinese family size and hence child care and housework. Chinese parents often help adult and married children with household chores and child rearing. Childcare is more available in the workplace or in the local community in China than in the United States. Chinese women have worked on a large scale since the founding of the PRC in 1949. The Chinese therefore may be more experienced in dealing with families' dual careers than the Americans.

Summary and Hypotheses

In summary, because of national differences in orientations to self and family, overwork is likely to be perceived as sacrificing family for one's own career in the United States but as sacrificing self for the family in China. Furthermore, American cultural norms put family before work, but Chinese norms put work before family. Finally, the above contrasts may be enhanced by expressive individualism in the United States and the economic reform in China. Combined, these ideas lead to the following hypotheses:

Hypothesis 1a. Family demand will be greater in the United States than in China.

Hypothesis 1b. Work demand will be greater in China than in the United States.

Hypothesis 2a. The effect of family demand on work-family conflict will be greater than that of work demand in the United States.

Hypothesis 2b. The effect of work demand on work-family conflict will be greater than that of family demand in China.

Hypothesis 3a. The effect of family demand on work-family conflict will be greater in the United States than in China.

Hypothesis 3b. The effect of work demand on work-family conflict will be greater in China than in the United States.

Because the major constructs were all perceptional and had been developed in the United States, we conducted a construct validation study in China before we tested the hypotheses. The validation study employed two samples. In the first, we examined the relevance of time-based work-family conflict in China through qualitative data and in the second, we examined the discriminant validity of measures of work demand, family demand, and work-family conflict through quantitative data.

STUDY 1: VALIDATING THE CONSTRUCTS IN CHINA

Samples

The first sample consisted of 41 Chinese part-time master's of business administration students attending a class in organizational behavior at a Chinese university. The average age of class members was 29 years; 14 were women, and 19 were married. About half of the class's members were managers; one-quarter were administrators; and the rest were engineers or other professionals. For the study, we divided the students into six groups with similar mixes of age, marriage, sex, and job position. Each group selected one person to take notes to be handed in at the end of the discussion.

Both the questions and the discussions were in Chinese. Discussions on two questions are of interest here: Are there any work-family contradictions or conflicts salient to most Chinese enterprise employees? If there are, in what ways are they manifested? The discussion notes were collected and translated into English to be analyzed by two organizational behavior professors unrelated to this research. The professors were asked to categorize the work-family conflicts and identify the conflict identified most consistently across the six groups. Of 17 nominated conflicts, 2 provoked some disagreement, so the interrater agreement on the conflict categories was 94 percent. Both raters identified time as the most consistent basis of work-family conflict cited by the groups. Indeed, all six groups agreed that most Chinese employees experienced work-family conflict; five groups cited time conflict, and the one group that did not explicitly cite time cited being too busy, which implied time conflict. Of the five groups that specified time, four listed it first. Other types of conflict identified by no more than two groups included energy, spiritual or psychological, role shifting, and low income. The findings of the qualitative data showed that work-family conflict was experienced by this sample of Chinese employees and that time was a critical issue in the work and family lives of these people.

The second sample consisted of 117 Chinese employees working in Beijing. About half were attending an evening training program offered by the Beijing Municipal Bureau of Light Industry; the rest of the respondents were spread evenly among a state-owned smeltery, a state-owned publishing house, and a collectively owned printing factory. The average age was 32 years; 65 percent were women, and 62 percent were married.

Measures

Measures of work demand, family demand, and work-family conflict were administered to the members of the second sample.

Four items assessing time-related family pressures were taken from Yang's (1993) family demand scale. Respondents were queried on feelings about shortness of time and lack of energy resulting from family role pressures. The response scale ranged from 1 (almost none/never) to 5 (very much/always). To measure work demand, we used three items on time-based work role pressures from Spector's (1975) Organizational Frustration Scale; the response scale ranged from 1 (completely disagree) to 5 (completely agree). The work-family conflict measure consisted of four items on the extent to which work and family competed for a person's time and energy. Two items did not specify direction; one represented work-to-family conflict; and one represented family-to-work conflict. The response scale ranged from 1 (not at all/never) to 5 (a lot/very often). All the measures were translated into Chinese through a back-translation method (Brislin, 1970).

Confirmatory Factor Analysis

Confirmatory factor analysis using LISREL 8 (Jöreskog & Sörbom, 1993) was conducted on the three constructs. Initially all items of the three constructs were entered for analysis. On the basis of

modification indexes, we dropped poorly loaded items. The final confirmatory factor analysis included four items for family demand, two items for work demand, and three items for work-family conflict (for specific items, see Table 1). The reliability of those three factors was satisfactory (α = .78, .76, and .76, respectively). The overall goodness-of-fit statistics indicated that the data fit the three-factor model well (χ^2_{24} = 43.93, goodness-of-fit index [GFI] = .92, incremental fit index [IFI] = .94, root-mean-square error of approximation [RMSEA] = .08). All items loaded significantly on their underlying common factors, providing evidence of the measures' acceptable convergent validity (Bollen, 1989).

We additionally assessed the discriminant validity of the three constructs by conducting chi-square difference tests. For each pair of factor correlations, we compared the chi-square value of the unconstrained model with the value of the constrained model (in which the correlation of two factors is fixed at 1.0; see Anderson and Gerbing [1988]). All between-model chi-square differences were highly significant, indicating the presence of discriminant validity. Furthermore, we created a latent variable and forced all nine items onto it. The goodness-of-fit statistics of this single-factor model were all below the acceptable level, suggesting that the three-factor model was more appropriate for the data.

STUDY 2: HYPOTHESIS TESTING

Sample and Procedures

The United States data were collected from a large multidivisional manufacturing company in the northeastern United States that produced precision tools and traded with China. Survey questionnaires were distributed to employees at all levels through the company's divisional offices of human resources. Questionnaires were completed voluntarily and returned in sealed envelopes addressed to the first author. A total of 129 completed surveys were returned (for a response rate of 31 percent). Because the 21 managers who returned the survey used a work demand scale targeted for managerial jobs, we excluded them from our current cross-national analysis.

The Chinese data were collected from 181 respondents. They were employees of a state-owned company making dial plates (27%) or of a joint venture making printed circuit boards (29%) or were students in a business training program (44%) offered by the Beijing Municipal Bureau of Light Industry. At each site, a Chinese business professor

TABLE 1
Results of Full Confirmatory Factor Analyses, Study 2[a, b]

Factors and Items	China	United States
Family demand		
How much time do you spend on home/family-related activities such as taking care of children or other, cooking, laundry, house cleaning, yard work, etc.?	.61	.64
How often do family duties and responsibilities make you feel tired out?	.78	.79
How often do you feel short of time for these home/family-related activities?	.76	.78
How difficult is it for you to do everything you should as a family member?	.45	.78
Work demand		
I often feel that I am being run ragged.	.43	.69
I am given entirely too much work to do.	.88	.83
Work-family conflict		
How much conflict do you feel there is between the demands of your job and your family life?	.63	.94
How much does your job situation interfere with your family life?	.65	.73
How much does your family situation interfere with your job?	.41	.67
Goodness-of-fit indexes		
χ^2 (*df*)	100.53 (54)	77.90 (54)
$p <$	.00	.02
GFI	.90	.91
IFI	.90	.96
RMSEA	.08	.06

[a] All of the factor loadings in this table are from an unstandardized solution. The respective null models from which the relevant statistics were calculated are 508.19, 91 *df*, for the Chinese sample and 581.92, 91 *df*, for the U.S. sample.

[b] All of the factor loadings in this table are significant at or below p = .001. Because the five control variables (sex, age, marriage, number of dependents, and unpaid working hours) were measured with single items, their factor loadings were fixed at 1.00.

introduced the study and collected completed surveys. For the same reason noted for the American sample, we excluded 59 Chinese managers from the cross-national analysis. The final sample for this study consisted of 108 American and 122 Chinese employees.

Efforts were made to survey samples of Chinese and American manufacturing employees with similar gender composition because previous research has suggested that work-family relationships vary with gender and occupation (Gutek et al., 1991; Lobel, 1991; Near et al., 1980). *T*-test results showed no differences between the groups in gender composition and marital status. However, the Chinese respondents were, on the average, seven years younger than the Americans, and there were 15 percent more dual-career couples among the married or quasi-married families.

Measures and Analyses

In all of the analyses, we used four family demand items, two work demand items, and three work-family conflict items that emerged from the validation study. Control variables included sex (man = 1, woman = 2), age in years, marital status (married/partner = 1, single = 0), number of dependents (number of people being cared for, such as children or elders), and unpaid hours of overtime. Paid working hours were excluded because it was unclear whether the Chinese trainees counted class time as working hours.

We used LISREL analyses both to examine the measurement validity and equivalence and to test the hypotheses. The input was a 14 × 14 covariance matrix for each nation. Using a two-step approach (Anderson & Gerbing, 1988), we first assessed the measurement model for each nation using LISREL single-group confirmatory factor analyses. We then explored measurement equivalence between the two nations through two-group analyses, which consisted of a series of comparisons of nested models (Bollen, 1989). Following a similar approach, we first examined structural relationships between exogenous and endogenous latent variables in each sample and then tested interaction effects between nation and family-work demand through two-group analyses of structural similarities and differences (Schumacker & Lomax, 1996; Singh, 1995).

Convergent and discriminant validity of the measures. Our hypothesized measurement model fit moderately well with both the Chinese and U.S. data, as indicated by the results on the goodness-of-fit indexes presented in Table 1. All items loaded on the hypothesized factors, and the factor loadings were significant at the .001 level. Further, the interfactor correlations between the three latent variables in either group were fairly low (mean r = .26), except for that between family demand and work-family conflict in the U.S. sample (r = .86). A reexamination of the item content of family demand and work-family conflict showed a clear conceptual distinction between the two factors. Given the conceptual distinction and the goodness-of-fit index of the U.S. three-factor model, we treated family demand and work-family conflict as independent constructs despite their high factor correlation in the U.S. sample.

Measurement equivalence. Table 2 presents results of a two-group analysis in which we tested for cross-national equivalence in the factor structures of family demand, work demand, and work-family conflict. We first formulated a baseline model (model 1 in Table 2) in which factor loadings were allowed to vary for the nations. The goodness-of-fit indexes of this model showed that the number of factors was the same for both nations (GFI = .91, IFI = .93, RMSEA = .07). However, when invariance constraints were put on the factor loadings, the new model (model 2) was significantly different from the baseline model ($\Delta\chi^2$ = 42.48, Δdf = 9), indicating the corresponding factor loadings were not equivalent for the two nations. We took the effect of this nonequivalence into account in testing the hypotheses.

Results

Table 3 provides descriptive statistics and correlation coefficients for the variables in each nation. As expected, family and work demands were significantly related to work-family conflict in both groups. Also in both groups, family demand was positively correlated with the number of dependents. Although work demand was significantly correlated with unpaid working hours in the United States, the relationship was not significant in China. Interestingly, the correlation between family demand and age was positive in China but negative in the United States.

To test Hypotheses 1a and 1b, we estimated and compared the group means of the latent variables of family and work demands. Since measurement equivalence tests showed inequivalence in the factor loadings for the two nations, we estimated group means without imposing equivalence constraints on the factor loadings. When the Chinese means were set to zero, the United States scored significantly higher for family demand ($\bar{x}$ = .92, s.e. = .13, $p < .001$), but the two countries showed no significant difference in work demand $\bar{x}$ = −.13,

TABLE 2
Results of the Two-Group LISREL Analyses, Study 2

Model	χ^2	*df*	$\Delta\chi^2$	Δdf	GFI
Measurement equivalence test					
1. Equal number of factors	178.43	108			.91
2. Invariance constraints on factor loadings	220.91	117			.89
Model 2−model 1			42.48	9	
Structural equivalence test					
A. No invariance constraints on all structural parameters	298.55	115			.92
B. Invariance constraints on parameters of control variables → work-family conflict	303.80	120			.91
Model B−model A			5.25	5	
C. Invariance constraints on parameters of primary variables → work-family conflict	343.15	122			.89
Model C−model B			39.35	2	
D. Invariance constraints on parameter of family demand → work-family conflict	341.90	121			.89
Model D−model B			38.10	1	
E. Invariance constraints on parameter of work demand → work-family conflict	312.97	121			.90
Model E−model B			9.17	1	

s.e. = .15, n.s.). Additionally, we conducted the comparisons with the equivalence constraints imposed and found the same pattern of differences (U.S. family demand, $\bar{x}$ = .96, s.e. = .13, $p < .001$; U.S. work demand, $\bar{x}$ = .03, s.e. = .16, n.s.). Hypothesis 1a was therefore supported, but Hypothesis 1b was not.

We used structural models to examine the effects of family and work demands on work-family conflict in each nation. As can be seen in Table 4, although both family and work demands had significant effects on work-family conflict in China, only family demand was a significant predictor in the United States. *T*-tests for standardized path coefficients within each nation showed that in the United States, family demand had a stronger impact on work-family conflict than did work demand (t = 3.75, $p < .001$). However, there was no significant difference in the coefficients for family and work demands in China (t = 0.35, n.s.). Hypothesis 2a was therefore supported, but Hypothesis 2b was not.

To test the interactive effects of nation and family-work demands on work-family conflict, we conducted structural equivalence tests, using a series of comparisons of nested models (see Table 2; Bollen, 1989; Schumacker & Lomax, 1996; Singh, 1995). We first assessed all structural parameters (from all main and control variables to work-family conflict), initially allowing variance in the factor loadings of family demand, work demand, and work-family conflict across the nations (model A, Table 2). Model B, which included cross-national invariance constraints on the parameters from control variables to work-family conflict, was not significantly different from model A ($\Delta\chi^2$ = 5.25, Δdf = 5). This observation suggested that nation did not interact with the control variables on work-

TABLE 3
Descriptive Statistics and Correlations, Study 2[a]

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	s.d.	Mean
1. Family demand	2.58	0.77	(.78, 83)	.33**	.73**	.12	−.35**	.19	.26*	.12	0.89	3.53
2. Work demand	2.98	1.09	.28**	(.76, .73)	.33**	−.11	−.18	.11	−.01	.31**	1.04	2.83
3. Work-family conflict	2.30	0.68	.33**	.42**	(.76, .83)	.13	−.26*	.20	.21*	.15	0.99	2.53
4. Sex	1.64	0.48	.08	−.14	−.23*		.11	.10	−.10	−.15	0.50	1.52
5. Age	29.02	7.44	.57**	.07	.15	−.12		.08	.01	.11	9.57	36.61
6. Marriage	0.55	0.50	.50**	.12	.04	−.01	.63**		.17	.18	0.47	0.68
7. Number of dependents	1.45	1.59	.38**	.24*	.14	.05	.36**	.44**		.21*	3.05	2.64
8. Unpaid working hours	1.83	3.77	.06	.14	.15	.07	.16	.10	.27*		3.24	1.10

[a] Means and standard deviations on the left are for the Chinese sample, and those on the right are for the U.S. sample. Correlations above the diagonal are for the U.S. sample and those below the diagonal are for the Chinese sample. Parentheses contain reliability coefficients for the Chinese and U.S. samples, respectively.

* $p < .05$
** $p < .01$

TABLE 4
Maximum Likelihood Parameter Estimates for the Major Paths, Study 2[a]

Path Description	China	United States
Family demand → work-family conflict	.57*	.85***
Work demand → work-family conflict	.45*	.03
Sex → work-family conflict	−.58*	.09
Age → work-family conflict	−.02	.00
Marriage → work-family conflict	−.38	.11
Number of dependents → work-family conflict	.02	−.01
Unpaid working hours → work-family conflict	.04	.02

[a] All of the parameter estimates are unstandardized coefficients.

* $p < .05$
** $p < .01$
*** $p < .001$

family conflict. All subsequent models that imposed cross-national invariance constraints on parameters involving family and work demands either in combination (model C) or separately (models D and E) showed significant differences from model B. In other words, nationality did interact with family demand and work demand to affect work-family conflict.

The nested model comparisons were conducted again but with cross-national invariance constraints imposed on the factor loadings. The pattern of effects we found in the unconstrained models held. It suggests that the moderating effects of nation were not due to the variance in factor loadings. In summary, the analyses provided support for Hypotheses 3a and 3b: family demand had a stronger effect on work-family conflict in the United States than in China, but work demand had a stronger effect on work-family conflict in China than in the United States.

DISCUSSION AND CONCLUSION

We reported two studies in this article. In the first study, we found that work-family conflict, a well-known social and psychological phenomenon in the United States, was also experienced by working men and women in Chinese organizations, especially in terms of time for family and work obligations. There was also preliminary evidence that time-based work demand, family demand, and work-family conflict were distinct constructs for Chinese employees. The second study compared U.S. and Chinese employees in regard to the levels of work and family demands they experience and the effects of these demands on work-family conflict.

We found that American employees experienced greater family demand than did Chinese employees. Furthermore, family demand had greater impact on work-family conflict in the United States than in China, whereas work demand had greater impact on work-family conflict in China than in the United States. We predicted the above differences mainly on the basis of the relative values placed on family and work time in the two countries. We contended that in China sacrificing family time for work is viewed as self-sacrifice for the benefit of the family or as a short-term cost incurred to gain long-term benefits, but that in the United States sacrificing family time for work is often perceived as a failure to care for significant others in one's life. We attributed such differences partly to cultural differences in individualism-collectivism and partly to different levels of industrial development and material affluence in the two nations.

We did not find full support for the work priority argument for the Chinese because, although work demand was greater than family demand, the effect of the former on work-family conflict was not significantly greater than that of the latter. One possible reason for the finding is that investigating time-based conflict is too limited. Future, expanded conflict research might investigate how personal relations in the family or the workplace affect strain-based conflict between the domains.

In study 2, demographic information mainly provided control variables. Yet some of these variables had contrasting effects in the two countries. Men and women did not differ much in the U.S. sample, but the Chinese men in our study reported more work-family conflict than the Chinese women. The correlation between sex and work demand, though not statistically significant, suggested a similar pattern for those two variables. Future research could explore whether the Chinese economic reform affects men and women differently regarding work and family roles. Another noteworthy factor is age. The correlation coefficients showed that older workers were more likely to be married, to have more dependents, and to experience greater family demand in China, but older Americans experienced less family demand and less work-family conflict. It could be that most of the Chinese in this study, who were on the average younger than the Americans, were at a time of life when increasing age led to more family responsibilities. We, however, suspect that, after marriage, family demand on Chinese people starts to increase and that even after retirement, there may be pressure to help younger generations if one enjoys good health. Such may not be the case with Americans, whose primary family obligations are to spouses and non-

adult children. In any case, the effects of demographic characteristics may, as Tsui and Farh (1997) pointed out, differ in different cultures.

This research has some limitations. First, although the results of our second, cross-national study are consistent with cultural expectations, we did not measure cultural elements to statistically test their effects. Second, more work needs to be done to improve the validity of the measures of work demand, family demand, and work-family conflict used for cross-cultural research, with special attention paid to content and metric equivalence. Third, compared with single-country studies, this cross-national study appears simplistic in terms of the number of variables explored and the refinement of each of those variables (e.g., Frone et al., 1997; Kossek & Ozeki, 1998; Parasuraman et al., 1996).

Despite its limitations, as one of the first studies to compare sources of work-family conflict cross-nationally, this study has some important implications for future research. The first is that researchers should resist stereotyping in developing hypotheses about cross-national differences. Our hypotheses were based on a careful Sino-U.S. comparative analysis of the fundamental relations within families and between families and workplaces. Had we taken the stereotypical view of Americans as being career-oriented and of the Chinese as being family-oriented, we would not have posed the research questions or formulated the hypotheses that we did.

Second, identifying specific cultural constructs targeted at the special issues under study is important for both theory development and theory testing. In theorizing about the effects of individualism-collectivism, we used specific cultural constructs such as the meaning of work, the importance of family time, and the contrast between expressive and utilitarian values. For research that measures cultural values, specific constructs may be more useful because they better represent the cognitive and affective dilemma experienced by employees (Morris & Leung, 2000).

Third, the findings of this study should inspire more research on the sources of work-family conflict in the United States. There has been surprisingly little work directly assessing the relative pressures from work and family and their relative effects on work-family conflict, and yet there seems to be a general assumption that work demand is the primary source of conflict for Americans (e.g., Parasuraman et al., 1996: 280). Research that has indirectly addressed these questions has led to contradictory interpretations. On the one hand, Americans have consistently reported higher work-to-family conflict than family-to-work conflict, suggesting that work demand is the major source of stress. On the other hand, the statistical effect of family-to-work conflict on stress has been shown to be consistently greater than that of work-to-family conflict, suggesting that family demand is the major source of stress. In any case, more direct research is needed to explain these seemingly contradictory findings.

The results of this study also have important implications for designing family- and work-oriented organizational interventions. Before embarking on an intervention, companies should first identify the sources of work-family conflict relevant to their employees. Where resources are limited, companies can start with the domain that poses the most problems.

Chinese managers or American managers working in China should note that, despite the positive social norm making work the first priority in that country, this work ethic may not sustain employees if work pressure continuously results in work-family conflict. Efforts toward creating a more balanced work environment may better serve the reformist emphasis on accountability, competitiveness, and productivity. For American managers or Chinese managers working in America, the message is that work motivation and productivity could very well be affected by how employers respond to the family concerns of their employees. Some companies treat family-friendly programs as part of public relations, but only those that effectively adapt work systems to the changing needs of American families can obtain willing cooperation from their otherwise career-oriented employees.

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