**Effects of role conflicts and role satisfactions on stress of three professions in Hong Kong: a path analysis approach**


**Abstract (Summary)**
Numerous studies have been conducted to test the causal relationship among role conflict, role satisfaction and stress. However, they are mostly done in the US. Given that Chinese culture is different from American culture, models developed in the West may not apply to the Chinese population. This study, therefore, examined the causal relationship among work conflict, family conflict, job satisfaction, marital satisfaction, life satisfaction and stress. Subjects of this study included nurses, social workers, and managers in Hong Kong. Path analysis was conducted and its result showed a good fit of the model. The findings indicate that job satisfaction and marital satisfaction experienced by the subjects were affected by work conflict and family conflict as well as inter-role conflict. Likewise, their stress level was also influenced by life satisfaction which in turn was affected by job satisfaction and marital satisfaction.

**Full Text** (5637 words)

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**Background**

Much empirical effort has been devoted to examine the relationship between job satisfaction and life satisfaction (JSLS). Different models and theories were developed from these studies. Typical examples are the spillover theory, compensation theory, segmentation theory (Wilensky, 1960), conflict theory, and instrumentality theory (Evans and Bartolome, 1986). Although many studies have been conducted, they have failed to reach consensus on the JSLS causal relationships.

Kopelman et al. (1983) studied the hypothesized relationships among inter-role conflict, job satisfaction, family satisfaction, and life satisfaction. Results showed that linkages between domain conflict and domain satisfaction and between domain satisfaction and life satisfaction are strongest. Coverman (1989) tested the model with men and women. Findings suggest that role conflict decreases both sexes' job satisfaction and men's marital satisfaction but increases women's psychophysical symptoms. Higgins et al. (1992) indicate that work-family adjustment difficulty has a significant negative influence on an individual's quality of work and family life. In a more recent study, job-life satisfaction and job satisfaction-stress were proved to be reciprocally related. Moreover, work and family conflicts are significantly influencing job stress as well as life satisfaction (Judge et al., 1994).

Most empirical studies on the interactive effects among these variables have been largely done in the West. However, theories developed in foreign countries are not necessarily applicable to Hong Kong since Hong Kong Chinese are of a different culture than their Western counterparts. According to Hofstede (1980), Chinese are relatively more collectivistic than Westerners. Collectivistic cultures emphasize the "we" identity and, in particular, Chinese culture is known to be family centered, which may affect how these people perceive the effect of work and family pressures as cultural influences will also affect one's perception of stress (Chiu and Kosinski, 1995). Although there are some studies investigating the quality of life (Wan, 1990) and stress (see Mak and Lau, 1990) of the Hong Kong people, these studies were descriptive in nature, and few of them looked at the issues from an empirical perspective. Hence, virtually, there is no work done in the Hong Kong context. With the recent political and social changes, it is of both theoretical interest and practical value to examine the causal relationships among work conflict, family conflict, job satisfaction, and marital satisfaction and stress of the people in Hong Kong.

The model of Kopelman et al. (1983) was replicated in this research. This model was selected not only because of its
extensiveness in explaining the relationships of the focal variables, but also its high construct validity attained from past studies (Higgins et al., 1992). A five-stage model of the direct effect of role conflict (work conflict, family conflict, inter-role conflict) on role satisfaction (job satisfaction, marital satisfaction, life satisfaction) and the indirect effect on stress was hypothesized. The interactive relationships between the seven variables are shown in Figure 1. The model to be tested in this study hypothesized that:

- (1) work conflict and family conflict were predictors of inter-role conflict;
- (2) work conflict and inter-role conflict were predictors of job satisfaction;
- (3) family conflict and inter-role conflict were predictors of marital satisfaction;
- (4) job satisfaction and marital satisfaction were predictors of life satisfaction; and
- (5) inter-role conflict, job satisfaction, marital satisfaction, and life satisfaction were predictors of stress.

Stage 1: work and family conflict as predictors of inter-role conflict

Work conflict and family conflict (arising from incompatible work and family pressures) occur when the workload from job and family is too great to perform that role adequately. Time that should be spent on other roles is of course being reduced. This incompatibility in coping with work and family roles simultaneously is called inter-role conflict (Rizzo et al., 1970). Bacharach et al. (1991) suggested that work conflict is an important antecedent of inter-role conflict. Greenhaus and Beutell (1985), Higgins et al. (1992), as well as Kopelman et al. (1983) found that there was a positive relationship between role conflict at work and inter-role conflict. However, Burke et al. (1980) found no support for such a relationship. On the other hand, Holahan and Gilbert (1979) found a negative relationship between spouse support and inter-role conflict. Greenhaus and Beutell (1985) and Kopelman et al. (1983) showed that conflict within the family domain is positively related to work-family conflict. In Higgins et al.’s research (1992), family conflict is also suggested to be a significant predictor of inter-role conflict. There are two types of inter-role conflict; they are work-family inter-role conflict (Gutek et al., 1991) and family-work inter-role conflict (Frone et al., 1992) and these two constructs are distinct (O’Driscoll et al., 1992). This study only dealt with the work-family inter-role conflict. Based on the previous studies, the following hypotheses were formulated:

H1: Work conflict would directly and positively affect inter-role conflict.
H2: Family conflict would directly and positively affect inter-role conflict.

Stage 2: work conflict and inter-role conflict as predictors of job satisfaction

Work conflict is linked with job satisfaction since they share common causes. Examples of these causes include inflexible job schedules, long working hours, and frequent overtime. Inter-role conflict and job satisfaction are also associated with each other because when a person fails to distribute his/her time over work and family domains effectively, he/she is likely to put his/her efforts in work at the expense of family (Feldman, 1976). Several studies have shown a negative link between these work conflict-job satisfaction relationships (see Bhagat et al., 1985; Burke, 1986; Hartevian et al., 1994; Near et al., 1984 for review). Moreover, work conflict is found to be an important predictor of job satisfaction (Terry et al., 1993) and quality of work life (Higgins et al., 1992).

Though there are studies showing a weak link (Kopelman et al., 1983) between inter-role conflict and job satisfaction, extensive research has found that higher role conflict will lead to lower job satisfaction (Higgins et al., 1992; Pleck et al., 1980; Wiley, 1987). Related hypotheses for this study were:

H3: Work conflict would directly and negatively affect job satisfaction as well as indirectly through inter-role conflict.
H4: Inter-role conflict would directly and negatively affect job satisfaction.

Stage 3: family conflict and inter-role conflict as predictors of marital satisfaction

In the same way that work conflict affects job satisfaction, family conflict is related to marital satisfaction. Household work, parental responsibilities, and spouse employment are some of those causes. A person who needs to spend extra time on heavy job assignments at the expense of time spent on spouse relationship building is likely to have
lower marital satisfaction.

Negative linkages have been found between family conflict and marital satisfaction (Greenhaus and Parasuraman, 1986; Higgins et al., 1992; Lewis and Cooper, 1988; Pleck et al., 1980; Wiley, 1987). In addition, Hawkins and Johnsen (1969) found that discrepancies between family members' actual and expected role behaviors are negatively related to marital satisfaction. For example, couples with children have a lower level of marital satisfaction (Abbott and Brody, 1985; Pittman and Lloyd, 1988); and one spouse in dual-career families affects the other spouse's marital satisfaction which in turn will affect the employed spouse's satisfaction in their marriage (Barling, 1984; Ross et al., 1983).

Apart from family conflict, marital satisfaction is also affected by inter-role conflict. The impact of inter-role conflict (Gutek et al., 1991; Judge et al., 1994) on marital satisfaction is documented in several studies (Coverman, 1989; Higgins et al., 1992; Kopelman et al., 1983; Parasuraman et al., 1989; Pleck et al., 1980; Repetti, 1987; Wiley, 1987) that suggest that an increase in inter-role conflict will lead to a decrease of marital satisfaction. With reference to these studies, the following hypotheses were derived as following;

H5: Family conflict would directly and negatively affect marital satisfaction as well as indirectly through inter-role conflict.

H6: Inter-role conflict would directly and negatively affect marital satisfaction.

Stage 4: job satisfaction and marital satisfaction as predictors of life satisfaction

A number of studies have examined the correlational relationship among these three variables (Kantak et al., 1992; Lewis and Boders, 1995; Near et al., 1980; 1983; O'Brien and Feather, 1990; Schmitt and Bedeinn, 1982; Stoner et al., 1990). This literature suggests that there is a correlation between marital status and life satisfaction. Hence, people who are satisfied with the family/marriage are more likely to experience satisfaction with life because their positive disposition towards marriage influences their recall and interpretation of present and past life events. Glenn (1975) found that marital satisfaction was by far the most important component of life satisfaction. Kopelnan et al. (1983) further confirmed a strong link between them. Beyond that, Lee (1978) reported a positive relationship between marital satisfaction and the overall "morale" in life. In light of these findings, the following hypotheses were established:

H7: Job satisfaction would directly and positively affect life satisfaction.

H8: Marital satisfaction would directly and positively affect life satisfaction.

Stage 5: inter-role conflict, job satisfaction, marital satisfaction, and life satisfaction as predictors of stress

Both role theory (Rizzo et al., 1970) and self-identity theory (Schlenker, 1987) provide explanations for the inter-role conflict-stress link. The former proposes that forces generated for accomplishing incompatible role tasks (i.e. inter-role conflict) will result in stress. The latter points out that irreconcilable role activities, which represent obstacles to people's self-fulfilling goals, create mental pressures on individuals. Bacharach et al. (1991) are in support of this positive link. Some observers conclude that work overload resulting from inter-role conflict is positively linked with stress (Bacharach et al., 1991; Barnett and Baruch, 1985; Cleary and Mechanic, 1983). Other authors found that inter-role conflict lowers women's concentration and attention, which are outcomes of stress (Barling and MacEwen, 1991; MacEwen and Barling, 1991). The following hypothesis was postulated:

H9: Inter-role conflict would directly and positively affect stress as well as indirectly through job satisfaction, marital satisfaction, and life satisfaction.

The rationale behind the relationship between role satisfaction and stress is described by Roznowski and Hulin (1992). Their idea states that an individual's dissatisfaction within the role domain drives him/her to alter the domain features. This urge for change will ultimately cause anxiety and tension. In support of these findings, Coverman (1989) found that role conflict will affect role domains' satisfaction which, in turn, will affect stress.

Sager (1991) suggests that the overall job satisfaction will reduce job stress. A causal link between job satisfaction and stress is demonstrated by O'Driscoll et al. (1992) while a reverse association is found by Assouline and Meir (1987). Nevertheless, Bedejan et al. (1988) noted the possibility of a reciprocal relationship.
While studies on the relationships between job satisfaction and stress are well documented, evidence on the marital happiness and stress relationship is much less so (Coverman, 1989). Marriage is often found to be associated with psychological health for both men and women (Gore and Manione, 1983). However, Gore et al. (1983) maintained that marital happiness was linked to mental health. Marital satisfaction decreases men and women's depression (Cleary and Mechanic, 1983); reduces men's psychological symptoms and enhances both sexes' wellbeing (Coverman, 1989). McCubbin et al. (1980) also demonstrated in their review that quality of family life (with marital satisfaction as one of its components) was critical to the resilience of stressful families. The relationship between life satisfaction and stress is intimate. For example, subjective wellbeing (reflecting the degree of stress one experiences) is often used to measure general life satisfaction (Judge and Hulin, 1993). Moreover, subjective wellbeing is a construct that consists of life satisfaction (Chamberlain, 1988; Diener, 1984).

Despite the close linkage between these two variables, only a few studies have been carried out for examination. Pleck et al. (1980) show that role strain is associated with lower life satisfaction in women and men. A negative link between life satisfaction and work-related stressors is found by Morris and Blanton (1994). The following hypotheses are formulated:

H10: Job satisfaction would directly and negatively affect stress as well as indirectly through life satisfaction.
H11: Marital satisfaction would directly and negatively affect stress as well as indirectly through life satisfaction.
H12: Life satisfaction would directly and negatively affect stress.

Methodology

Subjects

Questionnaires were mailed to a random sample of 700 members of the Hong Kong Social Workers Association and were distributed to a random sample of 1,000 Hong Kong nurses and managers through their respective professional bodies. Two hundred and sixty-seven questionnaires from social workers, 311 from executives, and 357 from nurses were returned, representing 38.1 per cent, 31.1 per cent, and 35.7 per cent response rates respectively. However, since only married respondents could be used in this study, the usable responses were reduced to 497 in total. Among them, 144 were contributed by social workers while 196 were by nurses and 157 were by managers.

Measures

Instruments used to measure work, family and inter-role conflicts came from the work of Kopelman et al. (1983). Work conflict was measured by an eight-item scale. Respondents were asked to state how they agreed to each statement. Sample items included "At work, I am not able to be myself," and "At work, I receive incompatible requests from two or more people." The Cronbach alpha reliability for this construct was 0.80. Family conflict was assessed by an eight-item instrument. Respondents were asked to what extent they agreed with items such as "My family does not enjoy doing some of the things I'd like to do," and "My spouse and I differ about spending time alone." The Cronbach alpha reliability of this section was 0.87. For work-family inter-role conflict, an eight-item index was used. The respondents were asked to rate the extent to which they agreed or disagreed with items such as "My work schedule often conflicts with my family life", and "My job makes it difficult to be the kind of spouse or parent I'd like to be". The Cronbach alpha for this scale was 0.89.

Three different instruments were used to measure the three role satisfactions in this study. A five-item scale developed by Kalleberg (1977) was employed to measure job satisfaction. Respondents were asked to indicate how satisfied they were with their jobs and whether they would choose the same job again. The Cronbach alpha for this scale was 0.77. The marital satisfaction scale from Cleary and Mechanic (1983) consisted of eight statements like "I will continue my marriage the way it was going or change part of it", and "I have many disagreements with my spouse during the past week". The Cronbach's alpha was 0.94. Global life satisfaction was assessed by a composite measure developed in the Quality of Employment Surveys (Quinn and Staines, 1979). The first measure, satisfaction, was a single item asking respondents "How satisfying do you find the way you are spending your life these days." The second measure, happiness, was also a single item asking respondents how happy they are with their lives. These two global questions were equally weighted and the reliability was 0.78.

Finally, psychosomatic distress was a nine-item instrument developed by Jones and DuBois (1985). Items included "Do you experience headaches on the job", and "How often do you experience lower backache and pain". Reliability for this scale was 0.88. All variables were measured by a five-point Likert scale.
Results

The total number of responses for this study were 497 including social workers (29 per cent), nurses (40 per cent), and executives (31 per cent). Sixty-eight per cent were female and more than half (53.1 per cent) of the respondents were between 31 and 40 years of age. About 30 per cent had secondary education and had over 15 years of work experience. One-third of the samples have been married for more than ten years. Generally speaking, the majority of the participants had one to two child(ren). Moreover, 91.1 per cent were from dual-earner families and 37.6 per cent had a family income of US$40,001 to US$60,000 per month.

The means, standard deviations, and reliabilities for each of the seven variables are shown in Table I. A correlational matrix containing the zero-order correlations among the seven variables is presented in Table II. Almost all correlations were significant in the subgroup and overall analyses.

The path analysis

Path analysis was conducted to identify a causal pattern of these variables. The model depicted earlier was an "overidentified" one (Pedhazur, 1982) since eight out of 20 possible path coefficients were postulated to be equal to zero. In this study, only data from the overall group were used for testing. Multicollinearity was checked to see whether it existed among the variables. As none of the correlation coefficients was greater than 0.60 in the overall group, multicollinearity was not considered to be an issue (Pedhazur, 1982). Path coefficients (pc) of this model were calculated by five regression analyses.

Table III presents the results of the five equations tracing paths to inter-role conflict, job satisfaction, marital satisfaction, life satisfaction, and stress. Nine of the hypothesized direct paths were significant. Work conflict (pc = 0.396, p < 0.001) and family conflict (pc = 0.379, p < 0.001) were found to be significantly related to inter-role conflict. Job satisfaction was shown to be negatively affected by work conflict (pc = -0.376, p < 0.001) while inter-role conflict was not related as postulated. Family conflict (pc = -0.512, p < 0.001) negatively affected marital satisfaction, but inter-role conflict did not have a significant path to it. With regard to life satisfaction, both job satisfaction (pc = 0.362, p < 0.001) and marital satisfaction (pc = 0.333, p < 0.001) were strong predictors. Except for marital satisfaction, postulated direct paths to stress were all significant: inter-role conflict (pc = 0.428, p < 0.001); job satisfaction (pc = -0.127, p < 0.005); and life satisfaction (pc = -0.112, p < 0.05).

Indirect effects to the endogenous variables were also estimated by products of direct effects. The indirect paths were somewhat modest in strength. The two strongest indirect paths were to life satisfaction. One was from work conflict via job satisfaction (-0.136) while the other was from family conflict via marital satisfaction (-0.170). Effect coefficients were also computed by adding the direct and indirect effects of a variable on a given endogenous variable. In sum, the model explained 42.8 per cent of the variation in inter-role conflict, 15.7 per cent of the variation in job satisfaction, 26.1 per cent of the variation in marital satisfaction, 27.0 per cent of the variation in life satisfaction, and 27.3 per cent of the variation in stress. Q and W were computed to test how well the over-identified model as a whole fit the data. The Q for this model was 0.91, while W was equal to 20.93 with eight degrees of freedom (P > 0.005). Thus, the postulated model fit the data (Figure 2).

Discussions

Results of the regression analyses supported nine of the hypothesized paths. With regard to the paths to inter-role conflict, both work conflict and family conflict have a rather strong direct effect to it. This findings agreed with the literature. Hong Kong people experience inter-role conflict because, on one hand they are keen on investing time on their jobs (Mak and Lau, 1990) since Chinese men emphasize career and success more than anything else; and on the other, in the Chinese culture, family is the center of everyone's social and economic roles, (Chiu and Kosinski, 1995). Thus, incompatibility between work and family roles is unavoidable. Direct paths to job satisfaction from work conflict and to marital satisfaction from family conflict were found highly significant. Indirect paths from work conflict and family conflict to role satisfactions through work-family inter-role conflict were, however, very weak. This outcome is exactly the same as Kopelman's findings (1983), but contradictory to recent Higgins et al. (1992) work. The lack of a strong link between inter-role conflict and role satisfaction can be explained by an unexplored mediating variable, coping behavior (Higgins et al., 1992). Beutell and Greenhaus (1982) have found that effective coping with inter-role conflict is a factor contributing to role and life satisfaction.

Job satisfaction and marital satisfaction were both significant predictors of life satisfaction. This result is in support of the additive model which states that overall life satisfaction is additively determined by the domains' satisfaction (Rice et al., 1992). In this research, satisfaction related to work domain was as powerful as marital satisfaction in predicting the overall quality of life because:
- (1) professional people increasingly view work as an important source of self-fulfillment (Lee and Kanungo, 1984);

and

- (2) family life satisfaction is very essential to overall life satisfaction to Hong Kong people (Wan, 1990).

Stress was hypothesized to be directly influenced by inter-role conflict, job satisfaction, marital satisfaction, and life satisfaction. Marital satisfaction was found to be insignificantly related to stress which was in support of the survey done by Wan (1990), as marital life was ranked as the 14th out of 17 stressors. Work-family inter-role conflict, however, had the strongest impact on it. Stress faced by Hong Kong residents resulted from cultural clash. They, on one hand uphold the Chinese value of prioritising family, and on the other hand are influenced by the Western value of life which emphasizes work as a means to attain socioeconomic status (Lui, 1990) and career success (Chiu and Kosinski, 1995). This incompatibility between work role and family role (i.e. experiencing inter-role conflict) results in tension.

This study has several limitations which provide opportunities for future research. First, no attention was given to the demographic variables in this study. Many studies have demonstrated that sociodemographic variables have significant impact on the study variables. Gender, for instance, had been found to affect the level of role conflicts and role satisfactions (Coverman, 1989). Second, the instrument measuring inter-role conflict only tapped the idea of one form of inter-role conflict, that is the work-family conflict (Gutek et al., 1991). Future research should expand to include the family-work dimension (Frone et al., 1992) to allow a full examination on the work and family interface (O'Driscoll et al., 1992). Third, this study modeled recursive relationships; only one way causal flows are considered. However, many researches have shown the existence of reciprocal relationships among the variables (Near et al., 1980; Rice et al., 1980). Finally, a longitudinal design is highly recommended if replication of this study is to be made. The reason is that there is high possibility for respondents to change their feelings on perceived role conflicts, role satisfactions, and stress over time.

References


[ILLUSTRATION]
Caption: Figure 1; Hypothesised theoretical framework; Table I; Means, standard deviations, ranges, and reliabilities of study variables; Table II; Zero-order correlations of study variables; Table III; Summary of direct effects, indirect effects, and effect coefficients; Figure 2; Path diagram of effects of study variables

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