

How Do Multiple Roles Affect Young and Middle-Aged Women's Health? The Impacts of Employment and Family Roles

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Abstract

Using a national representative sample of Taiwanese women age 18 to 64 (n=896) from the Taiwan Social Change Survey conducted in 2002, this study investigates the health effects of multiple roles on health for young and middle-aged women. In light of the Role Substitution Hypothesis, the Role Complementation Hypothesis, and the Role Combination Strain Hypothesis, certain interacting effects between marriage, employment, motherhood, and filial role are examined. Statistical analyses are performed separately for young and middle-aged women to examine the association between social roles occupied and health outcomes as well as interactions between age and the nature of work and family roles on health. Results show that certain social roles are more relevant to health status for women at specific stages of the life course. When marriage and filial role are associated with better perceived health for young women, motherhood is more beneficial in perceived health for middle-aged women. These findings imply that intergenerational relationships are strongly associated with Taiwanese women's perceived health status. In addition, complementary health effects between employment and motherhood are found among middle-aged women. Analyses of this study suggest that the impacts of multiple roles on health are subjected to change according to women's age, the nature of family roles, and the type of employment. Considering the overall results, we emphasize that in order to delineate the complicated relationships between social roles and women's health, more specific characteristics of roles occupied by women need to be taken into account.

Keywords: health, multiple roles, employment, family

I. INTRODUCTION

Studies in Western societies often show that employment, marriage, and parenthood are positively associated with health and longevity, for they provide individuals with financial resources, social support, and social control that affect health behaviors (Lillard and Waite 1995; Macintyre 1992; Rogers et al. 2000; Ross and Mirowsky 1995). However, despite the fact that work and certain family roles each displays positive impacts on health, the effects may not be additive when these roles are combined. While having multiple roles may increase one's disposable resources, conflicts between work and family duties may also cause fatigue and strain (Verbrugge 1986; Waldron and Jacobs 1989; Waldron et al. 1998). Compared to men, women are more likely to be expected to be homemakers and caregivers. Thus, when facing incompatibility between work and family roles, women may feel more stressed than men. These stressful situations could be harmful to one's mental and physical well-being. Consequently, the combination of employment and family roles may well have more impacts on health for women than for men.

Nevertheless, new research finds the effects of multiple roles on health depend on factors such as gender and the nature of family or work roles (Hewitt et al. 2006; Janzen and Muharjarine 2003). This implies that when investigating the health impacts of multiple roles, specific characteristics of social roles need to be considered.

Due to traditional role expectations, many Taiwanese women leave the labor market after being married and/or giving birth. For those who continue to work after they are married, in response to incompatibility between work and family responsibilities, many transfer to informal

employment. Among informally employed women, most work in a family business (Yi and Chien 2001). Research finds that power relations between men and women are different in family businesses than in non-family firms (Lu 2001). Thus, the work and family roles occupied by women employed in family businesses are likely different from those occupied by non-familial employed women.

Although Taiwanese data show that working women tend to have a greater total workload than do housewives (Directorate-general of Budget, Accounting and Statistics, Executive Yuan 2003), few, if any, studies have investigated whether multiple roles are associated with better or poorer health for women. Also, it remains unclear whether the characteristics of role extension in family firms would help women cope with conflict between work and family roles and thus have different health effects compared to those who work in non-familial businesses or who are self-employed. Accordingly, this study examines the impacts of certain combinations of roles occupied and the characteristics of work and family roles on Taiwanese women's health. A major contribution of this study is that it goes beyond previous research, which often focuses only on the health comparison between working women and non-working housewives, by examining the health impacts of different types of employment (self-employed, familial employed, and non-familial employed).

II. CONCEPTUAL BACKGROUND

(1) Effects of Multiple Roles on Women's Health

Given the cultural expectations in many societies, including Taiwan, men are defined as the primary breadwinners, and women are defined as

homemakers. Because of these role expectations, women tend to experience more stress when facing conflict between work and family roles (Artazcoz et al. 2001). In a society that gives extra weight to women's traditional roles as wives and mothers, the effects of positive and negative factors associated with paid work can counterbalance each other (Ahmad-Nia 2002).

In earlier literature that explains health differences between employed women and housewives, two theoretical hypotheses regarding "multiple roles," i.e., the combination of different social roles, are usually applied. The Role Accumulation Hypothesis proposes that while a multiplicity of roles may produce role strain as a consequence of role conflict or role overload, the benefits of role accumulation on health tend to outweigh any stress caused by multiple roles. The benefits of multiple roles include more sources of social support, satisfaction, self-esteem, and financial resources (Sieber 1974). Verbrugge (1983) provided different arguments concerning the accumulation hypothesis. She suggested that people with both job and family roles enjoyed only the combination of health benefits of each role and experienced no special health disadvantage from being so busy. In other words, the combination of job plus family responsibilities has no substantial effects on health, either negative or positive. She suggested that social selection of healthier people into multiple roles might explain the beneficial effects.

Contrary to the Role Accumulation Hypothesis, the Role Strain Hypothesis proposes that multiple roles tend to produce role overload and role conflict that contribute to increased stress and excessive demands on time, energy, and psychological resources with the result of poorer health for women. Thus, the number of roles occupied is negatively related to individual health (Verbrugge 1986). While this hypothesis may apply to both men and women, most existing studies focus on the impacts of the

combination of work and family roles on women's health.

Since multiple role occupancy can have both positive and negative health effects, rather than simply focusing on health impacts of the number of roles, latter theoretical hypotheses focus on specific effects of various combinations of work and family responsibilities. Two modifications of the Role Accumulation Hypothesis recognize that the effects of certain role on women's health could vary depending on what other roles the women have. The Role Substitution Hypothesis proposes that two roles can substitute for each other if they provide similar resources. Hence, while women's health can benefit from having either role, having both of them may not yield additional advantages. For instance, both employment and marriage can provide financial resources and social support for women, so they can substitute for each other (Ali and Avison 1997; Waldron and Jacobs 1989). Thus, employment is more beneficial to health for unmarried women than for married women (Waldron et al. 1998). Similarly, marriage is found to produce more health benefits for women who are not employed than for those who are employed (Arber 1991).

The Role Complementation Hypothesis, on the contrary, suggests that certain pairs of roles provide complementary or buffering effects for each other. That is, a woman can be more beneficial from one role if she has the other role (Barnett 1993; Thoits 1983). For instance, the financial and psychological support from a husband could be especially crucial for a woman with parental responsibilities, so marriage may be more beneficial to health for women who have children (McLanahan and Adams 1987). Also, some scholars argue that employment may provide financial resources and social support to buffer stresses resulted from child-rearing, so women with children would benefit more in health from the working role than those who do not have children (Ross et al. 1990).

Like the advocates of the Role Accumulation Hypothesis, scholars who believe in the Role Strain Hypothesis also change their focus of discussions from the number of roles to characteristics of specific roles. As one specific formulation of the Role Strain Hypothesis, the Role Combination Strain Hypothesis maintains that since both employment and parenting consume considerable time and energy from women, employed mothers are particularly vulnerable in role overload and role conflicts. Thus, employment could produce harmful or less beneficial health effects on mothers. On the other hand, motherhood may be more harmful in health for working women (Ross et al. 1990).

In addition, the relationship between multiple roles and health may also vary depending on the characteristics of employment. Research shows that, combining full-time employment and motherhood may have a detrimental impact on health, but when children are present in the household, part-time work or non-employment seem to have beneficial health effects (Hewitt et al. 2006). Moreover, the impact of multiple roles on health for women may vary according to age of women. Lee and Powers (2002) found that occupying multiple roles is associated with poorer health for young women, but is linked to better health for middle aged women. Therefore, in order to better understand the impact of multiple roles on health, more specific characteristics of social roles need to be examined (Fokkema 2002; Janzen and Muharjarine 2003).

To summarize, prior discussions on the relation of multiple roles to women's health include "additive effects" (i.e., the effects of number of roles occupied) and "interacting effects" (i.e., the interactions between the roles occupied). As the Role Substitution Hypothesis, the Role Complementation Hypothesis, and the Role Combination Strain Hypothesis were proposed, empirical studies of the health effects resulted from multiple

roles have gradually moved on from the examination of the "additive effects" to "interacting effects." Lately, how health effects of multiple roles vary in different contexts has been also included into the discussions. Potentially important contexts include the type of employment, the nature of family roles, and stage in the life course.

(2) Women's Work and Family Roles in Taiwan

Despite the fact that a policy of maternity benefits in Taiwan has shown positive effects on Taiwanese women's return to the labor force after childbirth (Zveglich et al. 1997), about 45% of Taiwanese women withdrew from the labor market after being married or giving birth (Yi and Chien 2001). Chang (2006) reports that job status of both wives and husbands and husbands' ethnic backgrounds and gender-role attitudes have significant effects on women's decisions about quitting their jobs. According to results from the "Taiwanese Women's Life Survey" (Ministry of the Interior, Executive Yuan, Taiwan 2002), the major reason for women not being employed was "taking care of children"(26.0%). In a large-scale comparative study of the impact of economic development on workers' employment and family life in Taiwan and China, Chow and Hsung (2002) reported "marriage and especially parenthood remained barriers to women's employment, promotion, and equity in the workplace." In addition, Chuang and Lee (2003) indicated that a husband's negative attitude toward a working wife greatly influences his wife's decision regarding entering the labor market.

Facing the challenge of fulfilling work and family roles, Taiwanese women usually shift from formal to informal employment in order to take care of children and household (Lu 1992; Yi and Chien 2002). Among informally employed women, many work for a family business established

by the husband's family. Yi and Chien (2001) report that, for Taiwanese women, working in family firms may serve as a compromise between demands from family and work. Women's work roles in family firms can be viewed as an extension of their family roles. While men are in charge of "exterior" matters such as contacting customers or taking orders from them, women are responsible for administration of the firms. In particular, establishing and maintaining good relationships with customers and other collaborative firms is viewed as analogous to promoting emotional linkages among family members (Lu 1996).

Work-related power relations and gender roles (for both husband and wife) are mutually shaped in family businesses (Lu 2001). This kind of interaction does not happen in a non-familial firm. In addition, compared to those employed in non-family firms, women working for family businesses may enjoy more flexibility in balancing family responsibilities with a paid job. As women's roles in family business are extensions of their family roles, it is expected that the male employers (usually family heads) will be more understanding and lenient if a related female worker needs to take time off to carry out her family responsibilities. This flexibility in work responsibility may decrease women's stress caused by role conflict.

However, some researchers have found that multiple roles are associated with stress and poor health among Taiwanese women. Cheng and Chen (1995) have shown that married working women experience a high degree of stress. Work overload and children's discipline were identified as the sources of stress women find most difficult to handle, and stress is significantly associated with poorer health (House 2001). Nevertheless, since no non-employed housewives were included in that study, it is not possible to determine whether multiple roles are associated with poorer health for women, in general.

In Taiwan, many parents live with their adult children, whether the children are married or not (Lin 1990). Consequently, after getting married, it is not uncommon for Taiwanese women to live with parents-in-law. Taiwanese women are more likely than men to be the major caregiver in a family. Chao and Roth (2000) indicated that caregiving behaviors were influenced by cultural expectations when a parent-in-law was ill. For Taiwanese women, maintaining filial piety was identified as a primary duty, a lifelong commitment, and a desired outcome.

While examining level of stress perceived by women for different roles, Hu and Chen (1992) found that women in Taiwan considered the roles of mother and of daughter-in-law as very demanding, much more than roles of worker and of wife. Results of this study imply that the evaluation of role demand was associated with level of stress. Rather than the physical workload of roles, the worry and distress of the caretaking process attached to the role were found more related to women's stress. On the other hand, parents-in-law living in the household could also provide assistance in childcare or housework. In terms of health effects for women, whether child-rearing and living with parents/in-laws are complimentary or conflicting to each other remain unclear.

Based on the above discussions, the present study intends to test the Role Substitution Hypothesis, the Role Complementation Hypothesis, and the Role Combination Strain Hypothesis to clarify how multiple role occupancy affects women's health: (1) To test the Role Substitution Hypothesis, we examine whether employment provide more protective effects on health for married women than for unmarried women. (2) To test the Role Complementation, we assess whether marriage and employment produce more health benefits for women who have children. Also, considering the prevalence of extended families in Taiwan society, we

examine the interactions between women's filial role (i.e., as a daughter or daughter-in-law) and motherhood to find out whether these two roles provide complementary or buffer health effects for each other. (3) To test the Role Combination Strain Hypothesis, we examine whether employment is associated with poorer health status for women with children.

In addition, our research extends research on the Role Substitution Hypothesis, the Role Complementation Hypothesis, and the Role Combination Strain Hypotheses by investigating whether the health impacts of multiple roles can be modified by different types of employment. Moreover, since Lee and Powers (2002) indicate that the effects of multiple roles on women's health vary among women of different generations, this research will also test for interaction effects between multiple roles and age.

III. DATA AND METHOD

The data are drawn from the Taiwan Social Change Survey (TSCS). The TSCS is conducted by the Institute of Sociology, Academia Sinica in Taiwan. All data were collected through face-to-face interviews. Responses of the first questionnaire of the third survey of the fourth cycle (TSCS 4.3, Q1) conducted in 2002 are adopted as the sample. The sampling population for TSCS 4.3, Q1 are non-institutionalized Taiwanese adults aged 18 and above, and the sampling method of "Probability Proportional to Size" (PPS) is applied. There were 3,735 cases selected island-wide for interviews, and successful interviews was 1,992 (53%). The research population of this study is adult Taiwanese women age 18 to 64, so respondents age 65 or above are omitted from the sample. Given the small amount of missing data for most variables (less than 0.1%), cases with missing information are deleted. The final unweighted sample size is 896.

The dependent variable, women's perceived health status, is measured by self-rated health. Self-rated health is one of the most frequently used health status measures in survey studies. Idler and Benyamini (1997) argued that self-rated health is an inclusive and accurate measure of health status and health risk factors. The major determinants of self-rated health include the frequency of falling ill, the number of chronic illnesses, sleep quality, and minor psychiatric morbidity (Cheng and Chan 2006; Singh-Manoux et al. 2006). Although some research illustrates that the frame of reference used to evaluate one's health status may vary by age and education (Krause and Jay 1994), self-rated health has proved more valid and reliable in predicting mortality than most other health measures (Gold et al. 1996; Lundberg and Manderbacka 1996; Miilunpalo et al. 1997; Rogers et al. 2000). Idler and Benyamini (1997) reviewed twenty-seven studies in U.S. and international journals and discovered that self-ratings of health reliably predicted survival in populations even when known health risk factors were controlled. They suggested that self-rated health is a dynamic evaluation based on both past and current levels of health. In addition, self-rated health reflects the presence or absence of resources that can affect decline in health.

The question addressing self-rated health is: "How do you evaluate your health in the past two weeks?" Response to this question consists of four categories: "very good," "good," "poor," and "very poor." Since about 80% of respondents evaluate their health as "good" or "very good," to preserve adequate cell sizes in estimating regression models, the responses of "poor" and "very poor" were recoded to 1 as "poor health", and "good" and "very good" were recoded to 0.

The social roles examined in this research include family and work roles. The family roles include whether or not currently married (yes =1,

otherwise =0), having children living in the household (yes =1, otherwise =0), and having parents/in-laws living in the household (yes =1, otherwise=0). Work role is measured by both employment status and employment type. Employment status is measured by whether or not currently employed (yes =1, otherwise =0). The measure of employment type consists of four categories: self-employment, employed in family firms, and employed in non-family firms, with women who are not currently employed serving as the reference group. The control variable of this study is respondents' educational attainment, which is measured by the year of schooling, ranging from 0 to 24.

The sample is divided into two age groups: young women (ages 18 - 44) and, middle-aged women (ages 45 - 64). These age categories are taken as approximations of stages in the life course. However, because these groupings certainly do not represent precise demarcations of life course transitions and because sheer biological age is clearly related to health status, we also control age in single years.

The analysis is conducted in three stages: (1) We first estimate logistic regression models containing all social role indicators and control variables to identify which factors are most relevant to health for women in certain stages of the life cycle. Logistic regression models are estimated separately within each of the two age groups. (2) We then examine the effects of the following four interaction terms: employment-by-marriage (for testing the Role Substitution Hypothesis), marriage-by-motherhood, filial role-by-motherhood (for testing the Role Complementation Hypothesis), and employment-by-motherhood (for testing the Role Complementation Hypothesis and the Role Combination Strain Hypothesis), (3) Finally, we explore the possible variation of health effects yielded by different types of employment among married young and middle-aged Taiwanese women.

The proportions of reporting poor health status are compared between married women in each type of employment and non-employed married women. Formulas for significance test for two proportions and logistic regression models are shown in the Appendix.

IV. FINDINGS

Table 1 displays the health and sociodemographic profile for women in two age groups. As expected, women's health status decline with age; young women (21.12%) are less likely than middle-aged women (32.75%) to report poor health. The proportion of being currently married is much higher among the middle-aged women (82.16%) than among the young women (59.03%). When more than 60% young women are currently employed (64.62%), only less than 40% of middle-aged women (38.01%) work outside families. Among the employed women, the middle-aged are more likely than the young to be self-employed or familial employed. Young women, on the other hand, are most likely to work for non-familial firms. Regarding living arrangement, young women are more likely to live with parents or in-laws (55.78% for young women, and 11.99% for middle-aged women), whereas middle-aged women are more likely to have unmarried children living in the household (56.14% for young women, and 65.79% for middle-aged women). As to sociodemographic characteristics, young women tend to have higher degree than middle-age women, which reflect the result of education expansion in Taiwan in the past several decades.

In order to examine the issue of which roles are most strongly related to the perceived health of women at different stages of the life cycle, the models in Table 2 and Table 3 estimate the effects of marital status,

Table 1. Descriptive Statistics by Two Age Groups, Taiwan 2002

Variable	Age 19 - 44		Age 45 - 64	
	Mean	SD	Mean	SD
Health Status				
% reporting poor health	21.12		32.75	
Family and Work Roles Occupied				
% married	59.03		82.16	
% employed	64.62		38.01	
% of self-employed	5.05		5.56	
% of non-familial employed	51.62		20.47	
% of familial employed	7.94		11.99	
% having parents/in-laws in the household	55.78		11.99	
% having unmarried children in the household	56.14		65.79	
Number of parents/in-laws in the household	0.96	0.92	0.16	0.47
Number of unmarried children in the household	1.21	1.21	1.34	1.22
Sociodemographic Characteristics				
Age	31.79	7.73	53.70	6.30
Educational attainment				
% junior high school or below	19.86		76.32	
% senior high school	37.00		13.74	
% junior college or above	43.14		9.94	
Sample size	554		342	

employment status, and living arrangements on self-rated health for young and middle-aged women, respectively. Each table presents five models: Model 1 estimates effects of these four social roles on women's health status, with age and education controlled; Model 2 additionally includes the interaction term of employment-by-marriage; Model 3 tests the interaction of marriage to motherhood; Model 4 examines the interaction between employment and motherhood; Model 5 tests the interaction of filial role to motherhood. Age is centered in Table 2 by subtracting 18 (the youngest age in the group of young women), and in Table 3 by subtracting 45 (the

Table 2. Logistic Regression Models of Reporting Poor Self-rated Health on Family and Work Roles Occupied for Women Age 18 to 44, Taiwan 2002

	Model 1			Model 2			Model 3			Model 4			Model 5		
	β	SE	Exp (β)	β	SE	Exp (β)	β	SE	Exp (β)	β	SE	Exp (β)	β	SE	Exp (β)
Social Roles															
Currently married	-.653†	.349	.521	-.679	.488	.507	-1.035†	.549	.355	-.638†	.350	.528	-.696†	.363	.499
Living w/t parents/in-laws	-.541*	.256	.582	-.543*	.257	.581	-.577*	.260	.561	-.554*	.257	.575	-.680	.413	.507
Having children	.109	.372	1.115	.109	.372	1.116	-.332	.601	.718	-.133	.506	.876	.025	.419	1.025
Currently employed	-.102	.221	.903	-.123	.353	.884	-.085	.222	.919	-.285	.341	.752	-.117	.224	.890
Control Variables															
Age - 18	.012	.019	1.012	.012	.019	1.012	.016	.019	1.016	.014	.019	1.014	.011	.019	1.011
Education	-.056	.037	.945	-.057	.037	.945	-.060	.037	.942	-.058	.037	.943	-.056	.037	.946
Interaction Terms															
Employment × Married				.035	.461	1.036									
Married × Having children							.742	.776	2.100						
Employment × Having children										.318	.454	1.374			
Living w/t parents × Having children													.215	.506	1.240
Constant	-.106	.637	.900	-.088	.676	.915	-.027	.642	.973	.029	.664	1.030	.009	.690	1.009
<i>df</i>	6			7			7			7			7		
-2 log likelihood	558.89			558.88			557.93			558.40			558.71		
Sample Size	554			554			554			554			554		

† p<.10; * p<.05; ** p<.01

youngest age in the group of middle-aged women).

Model 1 in Table 2 shows that, among the four social roles examined, being currently married and living with parents/in-laws are beneficial to young women's health. Living with children and being employed are not significantly associated with young women's perceived health status. The odds of reporting poor health for married young women is 47.9% significantly less than those who are not married ($Exp(\beta) = 0.521$). Also, for young women who have parents/in-laws living in the household, their odds of reporting poor health is 41.8% less than those who do not live with parents/in-laws ($Exp(\beta) = 0.582$). If family income is further adjusted in this model (unshown results available upon request), the coefficient of

Table 3. Logistic Regression Models of Reporting Poor Self-rated Health on Family and Work Roles Occupied for Women Age 45 to 64, Taiwan 2002

	Model 1			Model 2			Model 3			Model 4			Model 5		
	β	SE	Exp (β)	β	SE	Exp (β)	β	SE	Exp (β)	β	SE	Exp (β)	β	SE	Exp (β)
Social Roles															
Currently married	-.235	.307	.791	-.337	.366	.714	.072	.434	1.075	-.185	.308	.831	-.215	.307	.807
Living w/t parents/in-laws	-.110	.396	.896	-.103	.395	.902	-.083	.398	.921	-.168	.403	.845	.248	.611	1.281
Having children	-.688*	.273	.503	-.707*	.275	.493	-.216	.542	.806	-.310	.323	.734	-.626*	.284	.535
Currently employed	-.166	.260	.847	-.453	.621	.636	-.152	.261	.859	.534	.417	1.706	-.180	.261	.835
Control Variables															
Age - 45	.013	.023	1.013	.012	.023	1.012	.011	.023	1.011	.016	.023	1.016	.012	.023	1.012
Education	-.079*	.031	.924	-.080*	.031	.924	-.081**	.031	.923	-.076*	.031	.927	-.081**	.031	.922
Interaction Terms															
Employment \times Married				.344	.676	1.411									
Married \times Having children							-.610	.609	.543						
Employment \times Having children										-.1148*	.533	.317			
Living w/t parents \times Having children													-.610	.805	.543
Constant	.391	.496	1.479	.499	.538	1.646	.191	.536	.722	.088	.520	1.092	.365	.497	1.441
<i>df</i>	6			7			7			7			7		
-2 log likelihood	404.45			404.18			403.45			399.73			403.86		
Sample Size	342			342			342			342			342		

† p<.10; * p<.05; ** p<.01

marriage becomes insignificant, suggesting that the protective health effects associated with marital role is mainly mediated through financial resources provided by the husband. On the other hand, when family income is adjusted (unshown results), the coefficient of living with parents/in-laws decreases slightly but remains significant, implying that living with parents/in-laws is more associated with social benefits for young women's health. That is, having other adults in the household may enhance young women's health by providing aid in addition to financial support. For example, parents/in-laws may offer social support by helping with childcare and housework. Social support can be expected to reduce stress and lessen the risk of poor health.

Model 2 to Model 4 in Table 2 examine interacting effects between employment, marriage, motherhood, and filial role on young women's health. In Model 2, the employment-by-married interaction term exhibits insignificant effects on women's perceived health status, suggesting the health effects of employment do not vary significantly between married and unmarried young women. On the other hand, the health benefits yielded from marriage are not different between employed and non-employed young Taiwanese women. Hence, the Role Substitution Hypothesis is not supported. In Model 3, the married-by-having children interaction terms displays no significant association with women's health, suggesting no complementary effects between marriage and motherhood for young Taiwanese women. In Model 4, the interacting effects between employment and having children are not significant, indicating that employment produces no different health impacts between young mothers and young women without children. Also, the effects of having children on health do not vary significantly between employed and non-employed young women. Hence, neither the Role Complementation Hypothesis nor the Role Combination Strain Hypothesis is supported. In Model 5, the interaction between living with parents/in-laws and having children is not significant, suggesting that the health benefits of living with parents/in-laws are similar for young mothers and for young women without children.

Table 3 demonstrates the relations of social roles to health status for middle-aged Taiwanese women. Model 1 shows that, for middle-aged women, having children living in the household is significantly associated with better perceived health status. The odds for middle-aged mothers to report poor health are 49.7% less than those who are not currently married ($\text{Exp}(\beta) = 0.503$). The coefficient of having children living in the household remains significant even if family income are controlled (not shown),

suggesting that children may provide women with social support and in turn enhance their health. Also, middle-aged women with higher education tend to report better perceived health status. Having one additional year of schooling is associated with a 7.6% decrease in odds of reporting poor health ($\text{Exp}(\beta) = 0.924$). In Model 2, the interacting effect between employment and marriage is not significant, rejecting the Role Substitution Hypothesis. In Model 3, the interaction term of married-by-having children is insignificant, suggesting no complementary health effects between these two roles. In Model 4, the interaction term of employment-by-having children displays significant effects on middle-aged women's perceived health status. This implies that, for middle-aged women, employment may yield more protective effects on health for those with children than for those without children. On the other hand, middle-aged motherhood may produce greater health benefit for employed women than for non-employed women. Hence, the Role Complementation Hypothesis is supported among middle-aged Taiwanese women. Also, the Role Combination Strain Hypothesis is rejected. In Model 5, the interacting effect between living with parents and having children is insignificant, suggesting no buffering health effect is found between these two roles.

To explore the possible different health effects yield by various types of employment for married women, we compare the proportion of reporting poor perceived health status for those in each type of employment with those who are not currently employed. The upper panel of Table 4 displays the comparisons among young married women. Probably due to small sample size, the differences in proportions among the four subgroups do not meet the standard of statistical significance. However, we can still observe that married women who are self-employed or familial employed appear to have a smaller chance than non-employed women to report poor perceived

health status. On the other hand, the differences between non-familial employed women and non-employed women are minimal.

The lower panel of Table 4 reports the comparisons among middle-aged married women. Results shows that, the proportion of reporting poor perceived health status for non-familial employed women is significantly lower than the proportion for those who are non-employed ($p = 0.057$). It is noteworthy that the health effects of non-familial employment change drastically between young women and middle-aged women. Also, the familial employed young women appear to have a smaller chance of reporting poor perceived health than non-employed young women, but the middle-aged familial employed women tend to have a greater chance than non-employed middle-aged women to report poor health. Taken together, the effects of employment on perceived health status for married women not only depend on the types of employment, but also interact with the stages

Table 4. Proportion of Poor Health by Types of Employment and Age Groups among Married Taiwanese Women

Age 19 to 44	N	% of poor health (π_i)	t_a	p-value
<i>Self-employed</i>	21	9.52	-1.380	0.168
<i>Non-familial employed</i>	156	21.15	-0.325	0.741
<i>Familial employed</i>	36	16.67	-0.784	0.435
<i>Non-employed</i>	114	22.81		
Total	327			
Age 45 to 64				
<i>Self-employed</i>	16	18.75	-1.209	0.226
<i>Non-familial employed</i>	55	20.00	-1.899	0.057
<i>Familial employed</i>	40	40.00	0.773	0.441
<i>Non-employed</i>	170	33.53		
Total	281			

a test statistic for π type of employment - π non-employed

of women's life course. While familial employment and self-employment appears to yield more health benefits to young married women, non-familial employment is more favorable for middle-aged women's health. The various health effects yielded by different types of employment at different life stages partly explain why employment status does not exhibit significant health effects in logistic regression models presented in Table 2 and Table 3.

V. DISCUSSION

Using a national representative sample of Taiwanese women age 18 to 64, we have investigated the effects of work and family roles to perceived health status for young and middle-aged women. We find that certain social roles are more relevant to health status for women in specific stage of the life course. For instance, living with parents/-in laws is associated with a lower likelihood of reporting ailments for young women, and having unmarried children in the household is beneficial to middle-aged women's health. These findings imply that intergenerational relationships are strongly associated with Taiwanese women's perceived health status.

Additionally, in order to clarify the effects of multiple role occupancy on women's health, in light of the Role Substitution Hypothesis, the Role Complementation Hypothesis, and the Role Combination Strain Hypothesis, we examine the association between certain combinations of work and family roles and women's health. We find no evidence that employment and marriage can substitute for each other to produce health benefits for Taiwanese women. Also, the combination of marriage and motherhood appears to have no complementary health effects for each other. Moreover, living with parents/in-laws neither increases nor decreases the impacts of

motherhood on women's health. However, we do find complementary effects between employment and motherhood among middle-aged women. The health benefit yielded by middle-aged motherhood is greater for those who are employed. According to the arguments proposed by Role Complementation Hypothesis, employment may provide social support and financial resources that help to buffer the stresses of child-rearing. Since children of middle-aged women may be older than those of young women and demand less time and energy for childcare, the complementary health effects from employment is particularly eminent among middle-aged mothers.

In addition, to further assess whether the effects of multiple roles on health vary by age and the nature of work roles, we compare the perceived health statuses among married women with different types of employment to married women who are not currently employed. Results show that the impacts of work role on health can be modified according to women's age and the type of employment.

The strength of this study is that it investigates the differential health impacts of multiple roles on women's health by examining combinations of different work and family roles. Results provide empirical evidence to support the Role Complementation Hypothesis and to reject the Role Combination Strain Hypothesis regarding the health effects of combining employment and motherhood among middle-aged women. In addition, regarding the cultural features in Taiwan, such as emphasis of filial piety and the common practice of familial employment among married women, we look into the health effects of different types of employment for married women.

Because of using cross-sectional data sets, this research is not able to control health selection in the labor market and in marriage. However, while

part of the health differences between the employed and the non-employed may be explained by health selection, Research shows that employment does yield protective effects on health (Graetz 1993; Hewitt et al. 2006; Ross and Mirowsky 1995). In addition, health selection cannot fully account for the health differences among individuals in different types of employment at different life stages. To illustrate, health selection cannot explain why non-familial employment provide significant health benefit to middle-aged women but not to young women. Also, many studies have demonstrated that marriage provides both social control regarding negative health behaviors (Broms et al. 2004; Roos et al. 1998; Umberson 1992; Williams 2004) and financial resources (Lillard and Waite 1995; Waldron et al. 1998) for women. Thus, we are confident that the possible effects of health selection will not entirely invalidate our arguments that certain types of employment and marriage at certain life stage could produce health benefits for women.

Evidence provided by the present research suggests that the health impacts of multiple roles could vary depending on age, the nature of family roles, and the type of employment. The interaction between age and the type of employment is likely to determine the health impacts of additional work roles. For instance, acquiring non-familial employment may produce no health benefit for young married women, but it could produce considerable protective health effects for middle-aged married women. Also, familial employment seems to link to a lower chance of reporting poor health for young women, but not for middle-aged women. Since women's roles in family firms are likely the extension of their family roles (Lu 1996), the impacts of familial employment among women in different age groups are probably associated with the roles they play in family firms as well as in the family. For young familial employed women, their roles in family firms

likely include taking care of the young children (or grandchildren) of the employer. Thus, in order to take care of children, young familial employed women might enjoy schedule flexibility or shorter work hours. In turn, they are likely to experience less work-family conflicts compared to young women working in other types of businesses. Middle-aged women, probably due to a smaller burden in childcare and more responsibilities as a "boss's wife", tend to work much longer hours than their counterparts in other types of employment (Kao 1999). The long working hours may account for the detrimental health effects of familial employment among middle-aged women.

As women are traditionally defined as primary homemakers and caregivers, we can also expect that their health outcomes will be associated with their parental or filial roles. Our analyses reveal that the impacts of certain family roles on health vary with age. For instance, living with parents/in-laws is associated with a lower risk of reporting poor self-rated health for young women. This may be because parents/in-laws provide help in childcare or housework for young women. In contrast, because middle-aged women are more apt to be responsible for taking care of elderly parents/in-laws, living with parents/in-laws does not produce protective effects on health. Additionally, middle-aged women who have more children living in the household are less likely to report poor health status. The implication is that, for middle-aged women, unmarried children living at home are at least teenagers and demand less time and effort for baby-sitting or other kinds of care. Instead, older children may provide psychological support or assistance in housework for their working parents.

Considering the overall results, it seems clear that in order to delineate the complicated relationships, more specific characteristics of the social roles need to be taken into account. Evidence provided by this research

shows that the association between multiple roles and women's health is subject to variation by age, types of employment, and the nature of family roles. To proceed from current findings, we suggest that future researchers examine the mechanisms between work and family roles and women's health. The associations between women's health and factors such as working conditions and environment of each type of employment, division of housework within household, and husband's attitude toward wife's employment warrant further investigations.

REFERENCE

- Ahmad-Nia, S. 2002. "Women's work and health in Iran: A comparison of working and non-working mothers." *Social Science and Medicine* 54(5): 753-765.
- Ali, J. and W. R. Avison. 1997. "Employment transitions and psychological distress: the contrasting experiences of single and married mothers." *Journal of Health and Social Behavior* 38(4): 345-362.
- Arber, S. 1991. "Class, paid employment and family roles: making sense of structural disadvantage, gender and health status." *Social Science and Medicine* 32(4): 425-436.
- Artazcoz, L., C. Borrell, and J. Benach. 2001. "Gender inequalities in health among workers: the relation with family demands." *Journal of Epidemiology and Community Health* 55(9): 639-647.
- Barnett, R. C. 1993. "Multiple roles, gender, and psychological distress." Pp. 427-445 in *Handbook of Stress: Theoretical and Clinical Aspects*, edited by Goldberger, Leo and Schlomo Breznitz. New York: The Free Press.
- Broms, U., K. Silventoinen, E. Lahelma, M. Koskenvuo, and J. Kaprio. 2004. "Smoking cessation by socioeconomic status and marital status: the contribution of smoking behavior and family background." *Nicotine and Tobacco Research* 6(3): 447-455.
- Chang, C. F. 2006. "The employment discontinuity of married women in Taiwan: job status, ethnic background and motherhood." *Current Sociology* 54(2): 209-228.
- Chao, S.Y. and P. Roth. 2000. "The experiences of Taiwanese women caring for parents-in-law." *Journal of Advanced Nursing* 31: 631-638.

- Cheng S. T. and A. C. M. Chan. 2006. "Social Support and Self-rated Health Revisited: Is There a Gender Difference in Later Life?" *Social Science and Medicine* 63: 118-122.
- Cheng, J. C. and J. M. Chen. 1995. "The effects of life stress and ego state on health of married working women." *Journal of Women and Gender Studies* 5: 47-67.
- Chow, E. N. I. and R. M. Hsung. 2002. "Gendered organizations, embodiment, and employment among manufacturing workers in Taiwan." Pp. 81-103 in *Transforming Gender and Development in East Asia*, edited by chow, E. N. I. New York: Routledge.
- Chuang, H. L. and H. Y. Lee. 2003. "The return on women's human capital and the role of male attitudes toward working wives." *American Journal of Economics and Sociology* 62(2): 435-459.
- Directorate-general of Budget, Accounting and Statistics, Executive Yuan, Taiwan. 2003. "National Statistics: Human Resources Survey." Retrieved April 12, 2006 ([http://www.dgbas.gov.tw/ct.asp? xItem=676andctNode=3246](http://www.dgbas.gov.tw/ct.asp?xItem=676andctNode=3246)).
- Fokkema, T. 2002. "Combining a job and children: contrasting health of married and divorced women in the Netherlands?" *Social Science and Medicine* 54(1): 741-752.
- Gold, M., P. Franks, and P. Erickson. 1996. "Assessing the Health of the Nation: The Predictive Validity of a Preference-based Measure and Self-rated Health." *Medical Care* 34: 163-177.
- Graetz, B. 1993. "Health consequences of employment and unemployment: longitudinal evidence for young men and women." *Social Science and Medicine* 36(6): 715-724.
- Hewitt, B., J. Baxter, and M. Western. 2006. "Family, work and health: the impact of marriage, parenthood and employment on self-reported health

- of Australian men and women." *Journal of Sociology* 42(1): 61-78.
- House, J. S. 2001. "Understanding social factors and inequalities in health: 20th century progress and 21st century prospects." *Journal of Health and Social Behavior* 43: 125-42.
- Hu, Y. H. and C. Y. Chen. 1992. "The myth of social role and stress." *Journal of Women and Gender Studies* 3: 25-39.
- Idler, E. L. and Y. Benyamini. 1997. "Self-Rated Health and Mortality: A Review of Twenty-seven Community Studies." *Journal of Health and Social Behavior* 38: 21-37.
- Janzen, B. L. and N. Muharjarine. 2003. "Social role occupancy, gender, income adequacy, life stage and health: a longitudinal study of employed canadian men and women." *Social Science and Medicine* 57(8): 1491-1503.
- Kao, C. 1999. *The Economic Activities and Social Meanings of the "Boss's Wife" in Small and Medium-Sized Enterprises in Taiwan*. Taipei: Linking Press. (in Chinese).
- Krause, N. M. and G. M. Jay. 1994. "What Do Global Self-rated health Items Measure." *Medical Care* 32: 930-942.
- Lee, C. and J. R. Powers. 2002. "Number of social roles, health, and well-being in three generations of Australian women." *International Journal of Behavioral Medicine* 9(3): 195-215.
- Lillard, L. A. and L. J. Waite. 1995. "Til death do us part: marital disruption and mortality." *American Journal of Sociology* 100(5): 1131-1156.
- Lin, M. J. 1990. "An investigation of adult children's relationship with their parents living in the same household." *Journal of Education and Psychology* 13: 61-94.
- Liu, T. C. and C. S. Chen. 2002. "An analysis of private health insurance purchasing decisions with national health insurance in Taiwan." *Social*

- Science and Medicine* 55(5): 755-774.
- Lu, Y. H. 1992. "Married women's informal employment in Taiwan." *Proceedings of the National Science Council, ROC. Part C: Humanities and Social Sciences* 2: 202-217.
- Lu, Y. H. 1996. "Exploring Women's roles in Taiwanese family businesses." Pp . 177-212 in *Essays of Population, Employment, and Welfare*, edited by chen, J. C., K. C. Liu, and T. H. Sun. Taipei: Institute of Economics, Academia Sinica.
- Lu, Y. H. 2001. "Gender, family, and economy: analyses of the status of boss's wife in family business." *Taiwanese Sociology* 2: 163-217.
- Lundberg, O. and K. Manderbacka. 1996. "Assessing Reliability of a Measure of Self-rated Health." *Scandinavian Journal of Social Medicine* 24: 218-224.
- Macintyre, S. 1992." The effects of family position and status on health." *Social Science and Medicine* 35(4): 453-464.
- McLanahan, S. and J. Adams. 1987. "Parenthood and Psychological Well-Being." *Annual Review of Sociology* 13: 237-257.
- Miilunpalo, S., I. Vuori, P. Oja, M. Pasanen, and H. Urponen. 1997. "Self-rated Health Status as a Health Measure: The Predictive Value of Self-reported Health Status on the Use of Physician Services and on Mortality in the Working-age Population." *Journal of Clinical Epidemiology* 50: 517-528.
- Ministry of the Interior, Executive Yuan, Taiwan. 2002. "Summary Report of Taiwanese Women's Life Survey." Retrieved April 12, 2006 (<http://www.moi.gov.tw/stat/Survey/91women.doc>)
- Rogers, R. G., R. A. Hummer, and C. B. Nam. 2000. *Living and Dying in the USA*. CA: Academic Press.
- Roos, E., E. Lahelma, M. Virtanen, R. Prattala, and P. Pietinen. 1998. "Gen-

- der, socioeconomic status and family status as determinants of food behavior." *Social Science and Medicine* 46(12): 1519-1529.
- Ross, C. and J. Mirowsky. 1995. "Does employment affect health?" *Journal of Health and Social Behavior* 36(3): 230-243.
- Siebert, S. D. 1974. "Toward a Theory of role accumulation." *American Sociological Review* 39(4): 567-578.
- Singh-Manoux, A., P. Martikainen, J. Ferrie, M. Zins, M. Marmot, and M. Goldberg. 2006. "What does self-rated health measure? results from the British Whitehall II and French Gazel cohort studies." *Journal of Epidemiology and Community Health* 60: 364-372.
- Thoits, P. A. 1983. "Multiple Identities and Psychological Well being: a reformulation and test of the social isolation hypothesis." *American Sociological Review* 48: 174-187.
- Umberson, D. 1992. "Gender, marital status and the social control of health behavior." *Social Science and Medicine* 34(8): 907-917.
- Verbrugge, L. M. 1983. "Multiple roles and physical health of women and men." *Journal of Health and Social Behavior* 24(1): 16-30.
- Verbrugge, L. M. 1986. "Role burdens and physical health of women and men." *Women and Health* 11(1): 47-77.
- Waldron, I. and J. A. Jacobs. 1989. "Effects of multiple roles on women's health - evidence from a national longitudinal study." *Women and Health* 15(1): 3-19.
- Waldron I., C. C. Weiss, and M. E. Hughes. 1998. "Interacting effects of multiple roles on women's health." *Journal of Health and Social Behavior* 39(3): 216-236.
- Williams, K. 2004. "The transition to widowhood and the social regulation of health: consequences for health and health risk behavior." *Journals of Gerontology Series B - Psychological Sciences and Social Sciences* 59

(6): S343 -349.

- Yi, C. C. and W. Y. Chien. 2001. "Continual employment for married women: a compromise between family system and labor market." *Taiwanese Sociology* 1: 149-182.
- Yi, C. C. and W. Y. Chien. 2002. "The linkage between work and family: female's employment patterns in three Chinese societies." *Journal of Comparative Family Studies* 33(3): 451-474.
- Zveglich, J. E., Y. V. Rodgers, and W. M. Rogers. 1997. "The persistence of gender earnings inequality in Taiwan, 1978-1992." *Industrial and Labor Relations Review* 50(4): 594-609.

APPENDIX¹

1. Significance Tests About $\pi_2 - \pi_1$

$$H_0: \pi_2 = \pi_1$$

$$H_a: \pi_2 \neq \pi_1$$

	Y=1	Y=0	Total
X1	f_{11}	f_{10}	$n_1 = f_{11} + f_{10}$
X2	f_{21}	f_{20}	$n_2 = f_{21} + f_{20}$

$$p_1 = f_{11} / n_1$$

$$p_2 = f_{21} / n_2$$

$$P = (f_{11} + f_{21}) / (n_1 + n_2)$$

$$\sigma_{p_2 - p_1} = \sqrt{P(1-P)(1/n_1 + 1/n_2)}$$

$$z = [(p_2 - p_1) - 0] / \sigma_{p_2 - p_1}$$

2. The Logistic Regression Model for Binary Responses

$$\log [\pi / (1 - \pi)] = \alpha + \beta X$$

$$\pi / (1 - \pi) = \text{Estimated odds} = e^{\alpha + \beta X} = e^\alpha (e^\beta)^X$$

1 Formulas listed here are drawn from Agresti, Alan and Barbara Finlay (1997) *Statistical Methods for the Social Sciences*. Saddle River, NJ: Prentice Hall.

就業型態與家庭角色對台灣青年 與中年女性自評健康的影響

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中文摘要

本文以 2002 年的台灣社會變遷基本調查中年齡為 18 至 64 歲的 896 位女性受訪者為分析樣本，探討多重角色與台灣青年和中年女性健康狀況之間的關聯。根據角色替代假設 (the Role Substitution Hypothesis)、角色互補假設 (the Role Complementation Hypothesis)、以及角色組合緊張假設 (the Role Combination Strain Hypothesis) 所揭示的理論觀點，我們檢視了婚姻、就業、育有子女、與長輩同住這四個變項的特定組合對女性健康所產生的交互作用。同時，為了檢測婦女在不同生命階段的社會角色和健康之間的關聯，以及年齡和其家庭與工作角色內涵的相互作用對健康的影響，我們分別對青年和中年婦女的受訪資料做統計分析。結果顯示，特定社會角色會對身處特定生命階段女性的健康狀況有較為顯著的影響。對青年婦女而言，已婚或與長輩同住與其自評健康呈正相關；而對中年婦女而言，育有子女與其自評健康有正向關聯。這兩項發現顯示代間關係對台灣婦女健康的可能重要影響。分析也指出，就業和母職這兩個角色之間對健康的互補作用，在中年婦女身上較為顯著。整體而言，多重角色對台灣婦女自評健康的影響，會隨其年齡、家庭角色內涵、以及就業型態不同而有差異。因此本文強調，若要釐清社會角色與婦女健康之間的複雜關係，必須審慎檢視女性所擔負的角色內容特質。

關鍵詞：健康、多重角色、工作、家庭

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