

UC Berkeley

UC Berkeley Previously Published Works

Title

Maternal Employment and Family Socioeconomic Status: Unique Relations to Maternal Stress, Parenting Beliefs, and Preschoolers' Adjustment in Taiwanese Families

Permalink

<https://escholarship.org/uc/item/36j605cx>

Journal

Journal of Child and Family Studies, 27(11)

ISSN

1062-1024

Authors

Teng, Yin-Ping Teresa
Kuo, Li Tsung-Wen
Zhou, Qing

Publication Date

2018-11-01

DOI

10.1007/s10826-018-1173-6

Peer reviewed



Published in final edited form as:

J Child Fam Stud. 2018 November ; 27(11): 3506–3519. doi:10.1007/s10826-018-1173-6.

Maternal Employment and Family Socioeconomic Status: Unique Relations to Maternal Stress, Parenting Beliefs, and Preschoolers' Adjustment in Taiwanese Families

Yin-Ping Teresa Teng¹, Li Tsung-Wen Kuo², and Qing Zhou³

¹Department of Family Studies and Child Development, Shih Chien University, Taipei, Taiwan

²Department of Early Childhood Education, National Taitung University, Taitung, Taiwan

³Department of Psychology, University of California Berkeley, Berkeley, CA, USA

Abstract

With the rapid increase in women's labor force participation in Asia, a greater understanding of the impact of maternal employment on parenting and child development in Asia is much needed. The present study examined the concurrent relations between maternal employment status and family characteristics (e.g., socioeconomic status/SES, family structure) in Taiwanese families, and the unique relations of maternal employment and family SES to maternal stress, parenting beliefs, and preschoolers' socioemotional adjustment. In a school-based sample of 511 preschoolers (age range = 4–6 years, 52.9% girls), their mothers, and teachers in Taipei and Taitung, mothers reported their employment status, family characteristics, perceived stress and parenting beliefs. Mothers and teachers rated preschoolers' adjustment. Results showed that compared to unemployed mothers in Taiwan, employed mothers were more likely to come from families with higher SES and fewer children, and nuclear (vs. extended) families. Structural equation modeling was used to test the hypothesized model. Mothers from lower-SES families reported higher stress and higher endorsement of coercive parenting, and lower endorsement of authoritative parenting than mothers from higher-SES families. Controlling for SES, employed mothers endorsed higher coercive parenting than unemployed mothers. Mothers' endorsement of authoritative parenting was associated with better child adjustment by mothers' (but not teachers') reports, whereas maternal stress and coercive parenting were associated with poorer child adjustment (by mothers' reports only). In sum, maternal employment was intricately associated

Qing Zhou, qingzhou@berkeley.edu.

Author Contributions Y.P.T.T. designed and executed the study, and collaborated with the data analyses and writing of the paper. L.T.W.K. collaborated with the design and executed the study, and collaborated with the data analyses and writing of the paper. Q.Z. analyzed the data and wrote the paper.

Compliance with Ethical Standards

Conflict of Interest

The authors declare that they have no conflict of interest.

Ethical Approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The study protocol was approved by the Ministry of Science and Technology of Taiwan.

Informed Consent

Informed consent was obtained from all individual participants included in the study.

with family SES in Taiwanese families, and the two contextual factors shape parenting and child adjustment in different processes.

Keywords

Maternal employment; Maternal stress; Parenting beliefs; Preschoolers' adjustment

Introduction

With the trend of women's increasing participation in the workforce worldwide, extensive research has been conducted to study the impact of maternal employment on children in early childhood (Brooks-Gunn et al. 2010). Previous studies found that maternal employment and family socioeconomic status (SES) can differentially shape parenting and parental stress, which in turn shape children's psychological adjustment (e.g., Buehler et al. 2014; Chang 2013; Conger et al. 2010; Cooklin et al. 2015; Fuller et al. 2002). However, existing research on maternal employment and family SES has predominantly sampled Western families. Because both the pattern of maternal employment and its impact on children are shaped by the socio-cultural context, conducting research in non-Western countries is critical for understanding how socio-cultural factors shape the ecology of family.

Maternal employment can shape family relations and parenting through multiple processes (Allen and Martin 2017; Williams et al. 2016). First, the work-family conflict theory (Greenhaus and Beutell 1985) posits that because time and energy are limited, women's participation in the workforce may lead to conflict with their childrearing role, which in turn may lead to increased maternal stress and decreased quality of parenting. Second, the expansion theory and the work-family enrichment theory (Barnett and Baruch 1985; Barnett and Brennan 1995; Barnett and Hyde 2001) contend that women's participation in work can be beneficial for their own wellbeing and family relations by increasing family income, social support, and opportunities to experience success and develop self-confidence and self-efficacy. While earlier research tended to view work-family conflict and work-family enrichment as competing hypotheses, recent research suggests that these two processes can co-exist and have independent or additive relations to family functioning (e.g., Cooklin et al. 2015; Gareis et al. 2009).

There is extensive literature on the adverse impact of low family socioeconomic status (SES) on children's development (Yoshikawa et al. 2012). One hypothesized pathway in which low SES increases children's maladjustment is the family stress process (Conger et al. 2010; McLoyd 1990). In low-SES families, economic hardship can lead to increased psychological distress among parents and escalated inter-parental conflict, which in turn can disrupt parenting or the parent-child relationship (Conger et al. 2010). Although empirical support for the family stress theory has been predominantly based on Western samples (e.g., Lengua et al. 2014), a few researchers have examined the SES-parenting links in Chinese culture and found similar results. One study, for example, found family SES to be positively associated with parental support and negatively associated with parental harsh control and family conflict in middle-and high-school students in mainland China (X. Li et al. 2014).

Based on the economic theory, maternal employment is often driven by the family's financial needs and can subsequently bring financial benefits to the family (Duncan and Chase-Lansdale 2002). Consistent with the theory, maternal employment status is interrelated with SES (Fuller et al. 2002; Voydanoff 2002). However, maternal employment and work-related stress can impact mothers' psychological distress and parenting through the family stress process. Kalil and Dunifon (2007) found that among U.S. mothers who were welfare recipients, mothers' work participation had no direct relation to children's behaviors. By contrast, family SES factors such as financial strains had more direct associations to children's outcomes. This suggests that family SES might be a more proximal and stronger predictor of parenting and child development than mothers' employment status.

Maternal employment is also associated with family structure. Mothers' decision to seek employment can depend on the number of children at home and ages of children (Holloway et al. 2006). Because the cost of non-parental childcare can increase exponentially with the number of children who are below school age, mothers in households with a greater number of young children may be less likely to seek outside employment (Holloway et al. 2006). On the other hand, the number of young children living in the household can also negatively affect parenting by increasing the burdens and responsibilities of child-rearing. Thus, it is necessary to control for family structural characteristics (e.g., number and age of children) when studying the links between maternal employment and family processes.

Although there is an extensive literature on the links of maternal employment to child adjustment in Western countries, this research has not been well represented in Asian cultures. Like many regions in Asia, Taiwan has experienced a steady increase in women's participation in the labor force over the past several decades. Between the years 1978 and 2015, the percent of women in the labor force in Taiwan increased from 38 to 51% (Yu 2015). Most notably, the labor participation rate of married women with children under 6 years of age in Taiwan was 63.89% in 2012, which was significantly higher than the labor participation rate of 49.05% for all married women (National Statistics 2017). The rising labor participation rates of women in Taiwan is attributed to multiple factors, including the steady rise in women's educational attainment, continued growth in the service sector, and the implementation of policies calling for improvement in women's employment opportunities and gender equality on the job (National Statistics 2017). It is also important to consider the social and cultural values toward maternal employment in Taiwan, which is considered a collective society (Ali et al. 2005) and continues to be influenced by Confucian values such as filial piety and proper manners (Hwang and Han 2010). The Confucian ethical principles set different role expectations for men and women in the family and in the society (Tang et al. 2012): in traditional Chinese families, men typically have more power and status than women and are the de facto breadwinners and family heads who preside over major decision-making. By contrast, women's social roles are more narrowly defined. Despite the increasing employment rate among women in Taiwan, domestic work continues to be primarily completed by women (in over 75% of households compared to 31–35% by males; Hwang and Han 2010). Interestingly, contrary to Western findings that women in higher occupational positions may have more power to negotiate the division of housework

with their husbands, women in Taiwan spend more time on housework when they make relatively more money than their husbands (Hu and Kamo 2007).

When studying Taiwanese families, it is important to control for two other family characteristics that might confound the relation between maternal employment and parenting: a) rural (vs. urban) region and b) extended (vs. nuclear) family structure. First, due to the economic and social value differences between rural and urban areas in Taiwan, rural families tend to be more traditional than urban families. Moreover, women's employment rates are higher in urban than rural Taiwan (National Statistics 2017). Thus, there are likely regional differences in the norm and value of maternal employment. Second, because the multi-generational co-residence (e.g., elder parents living with a married child's family) is consistent with Confucian family values (e.g., filial piety and harmony), extended family living is prevalent in Taiwan (43%, Hu and Kamo 2007). In Asian cultures, it is normative for grandparents to take on childrearing responsibilities of grandchildren, especially in early childhood (Chen and Lewis 2015). While grandparents' co-residence can compensate for mothers' reduced time involvement in childrearing and other family responsibilities, it may create other challenges in parent-child relationships and parental stress (Chen et al. 2016).

Extensive research has supported the benefit of authoritative parenting (high warmth and high demandingness) and the adverse impact of authoritarian parenting (low warmth and high use of coercive and punitive discipline) on children's adjustment (see Lazelere et al. 2013). In cross-cultural studies, some researchers found that parents of East Asian backgrounds (including parents in Asia and Asian immigrant parents in North America) reported or displayed higher authoritarian parenting and/or lower authoritative parenting than European American parents (e.g., Chao 2001; Supple and Small 2006; Wu et al. 2002), although other researchers failed to find consistent cultural differences (e.g., Jose et al. 2000; Pong et al. 2010). Importantly, despite cultural group differences in average levels of parenting styles, the research findings on the associations between parenting styles and children's adjustment and academic outcomes have been largely consistent across cultures (e.g., Kim et al. 2013; Sorkhabi 2005). For example, in a longitudinal study of school-aged children in mainland China, authoritative parenting predicted multiple adaptive outcomes in children, including higher self-regulation and social competence and lower externalizing and internalizing problems. By contrast, authoritarian parenting predicted children's higher behavioral problems and these relations were partly mediated by children's self-regulation and coping efficacy (Zhou et al. 2004, 2008). In another school-aged sample, Chinese parents' parenting stress was associated with children's higher depressive symptoms (Lin et al. 2017). Similarly, studies conducted with Taiwanese families (most of which focused on school-age children or adolescents) showed that higher authoritarian parenting was associated with poorer child adjustment including higher depression and lower academic achievement, whereas higher authoritative parenting was associated with better child adjustment (Pong et al. 2010; Wang et al. 2015). Chen and Luster (2002) examined ecological predictors of maternal parenting in Taiwanese families with preschool-aged children, and found that family income was positively related to mothers' use of authoritative parenting, whereas maternal stress was positively associated with their use of authoritarian parenting and negatively associated with their use of authoritative parenting.

However, Chen and Luster (2002) did not examine the links between maternal parenting to children's psychological adjustment.

Using a socioeconomically diverse sample of Taiwanese families with preschool-age children ($N = 511$), the present study aimed to: (1) examine the associations between maternal employment and family characteristics (including SES, family structure, and rural vs. urban region) in Taiwanese families, (2) test maternal employment and family SES as joint predictors of parenting beliefs and parental stress in Taiwanese families with preschool-aged children, and (3) test the links of maternal stress and parenting beliefs to preschoolers' psychological adjustment. A methodological strength is the assessment of children's adjustment in multiple domains (including behavioral problems and pro-social behaviors) and in both home (via parent report) and preschool (via teacher report) contexts. Moreover, we controlled for other family characteristics (family structure, rural vs. urban region, extended vs. nuclear family) in the model. We further tested maternal stress and parenting beliefs as mediators in the relations of maternal employment and SES to child adjustment. Although longitudinal data can provide a more robust test of the mediated relations, this cross-sectional study is the first step to study Taiwanese families.

Based on the literature review, we hypothesized that compared to families with unemployed mothers, the families with working mothers would have higher SES and fewer children, and more likely to come from urban than rural regions. Based on the family stress theory, we hypothesized that compared to mothers from lower-SES families, mothers from higher-SES families would report lower psychological stress, higher authoritative parenting and lower coercive parenting. We had two opposing hypotheses on the relations between maternal employment status and parenting. According to the work-family conflict perspective, maternal employment would be associated with higher maternal stress, lower authoritative parenting and higher coercive parenting. According to the work-family enrichment perspective, maternal employment would be associated with lower maternal stress, higher authoritative parenting and lower coercive parenting. Finally, we hypothesized that higher maternal stress and greater endorsement of coercive parenting would be associated with poorer child adjustment, whereas greater endorsement of authoritative parenting would be associated with better child adjustment.

Method

Participants

The sample consisted of 511 preschoolers (age = 4 to 6 years, M age = 5.29 years, 52.9% girls), their mothers and teachers. Participants were recruited from 26 public and private preschools in Taipei (17 centers) and Taitung (9 centers) in Taiwan, using a multi-stage stratified cluster random sampling procedure. Of the children who participated, 81.8% were from Taipei, a highly urbanized metropolitan area, and 18.2% were from Taitung, a rural area in eastern Taiwan. In terms of family characteristics, 54% of children lived in two-parent or nuclear families, 43% lived in extended families (consisting of two parents, grandparents, and/or other adult family members), and 2.4% lived in single-parent or other types of households. Forty percent of fathers and 59.7% of mothers had a college degree, 25.9% of fathers and 25.5% of mothers completed high school, 21% of fathers and 10.4% of

mothers had a graduate degree, only 6.1% of fathers and 4.3% of mothers received junior high school or lower education. As is typical of Taiwanese families (Chen and Luster 2002; Jose et al. 2000), 65.7% of children had one sibling, 13.6% had two or more siblings, and 20.8% were the only child in the family. The majority of fathers (92.3%) and mothers (63.5%) were employed, 6% of fathers and 26.2% of mothers were homemakers, .2% of fathers and 2.0% of mothers were unemployed, and 6.9% of fathers and 8.3% of mothers listed their employment status as “other/part-time.” Fathers’ and mothers’ monthly incomes (in TWD) were reported on a 7-point scale: (1) no income (1.8% of fathers and 25.0% of mothers), (2) less than 20,000 TWD (4.9% of fathers and 9.3% of mothers), (3) between 20,000 and 40,000 TWD (23.7% of fathers and 29.8% of mothers), (4) between 40,000 and 60,000 TWD (30.8% of fathers and 24.1% of mothers), (5) between 60,000 and 80,000 TWD (16% of fathers and 7.5% of mothers), (6) between 80,000 and 100,000 TWD (11% of fathers and 2.6% of mothers), or (7) greater than 100,000 (11.8% of fathers and 1.8% of mothers). A total of 41 teachers from 26 preschools participated in the teacher survey.

Procedures

A multistage stratified cluster random sampling strategy was used to select participants. First, three administrative districts were randomly selected out of the 12 administrative districts in Taipei, and four administrative districts were randomly selected out of the 16 administrative districts in Taitung. Second, based on the registry of preschool centers in the National Early Childhood Program Network, a total of 27 preschools in Taipei and eight preschools in Taitung were randomly selected. The number of preschools selected from each administrative district was determined on the proportion of its population to the total population of the geographic region. Third, directors of the selected centers were contacted regarding their interest in study participation, advertised as a research study on mothers’ parenting and preschoolers’ (4- to 6-year-olds) socioemotional development in urban and rural families. A total of 26 centers (out of 35, 74%) agreed to participate. Fourth, a parent questionnaire and a written consent form were distributed to all mothers of preschoolers at these centers by school staff, and the mothers who agreed to participate returned the signed consent form and completed the questionnaire. A total of 511 surveys (out of 594 distributed, 86%) were returned. Classroom teachers and school staff provided help in collecting parent surveys, which partly contributed to the high response rate of parent questionnaires. Fifth, the children whose mothers returned the parent questionnaire and consent form were individually administered a test of receptive vocabulary at preschool. Sixth, children’s classroom teachers were asked to complete a teacher survey. Teacher surveys were collected for all participating children (100%). Families were given a small gift and teachers were compensated for their participation.

Measures

The present study used data collected from parent and teacher questionnaires. All questionnaires were presented in Traditional Chinese (the official written language of Taiwan).

SES and other family characteristics (mother report)

Family demographics were collected using the Chinese version of the Family Background Questionnaire, which has been used in a previous study of Taiwanese families (Li 2002). The questions included: parents' age, education level, and employment status (1 = employed, 2 = homemakers, 3 = unemployed, 4 = other/part-time); monthly income of child's mother and father; type of household (0 = nuclear family, 1 = extended or multi-generational family, 2 = other); number of children in the household; and the child's age and sex. Due to the small number of mothers who were "homemakers" (26.2%), "unemployed" (2.0%), or "other/part-time" (8.3%), these three groups were combined into one group of "homemakers/unemployed" (36.5%).

Parenting beliefs (mother report)

The Maternal Parenting Style Questionnaire (MPSQ, Li 2002) was used to assess mothers' self-report of parenting beliefs. Unlike other parenting style measures commonly used in Chinese-speaking populations (e.g., the Parenting Styles and Dimensions Questionnaire, Robinson et al. 1995; CRPBI, Schaefer 1965), which were originally developed for Western parents and translated and/or adapted for Chinese parents, the MPSQ was developed in Mandarin Chinese and intended to assess parenting attitudes among Taiwanese mothers of preschool-age children (Li 2002). Guided by Baumrind's (1996) constructs of authoritative and authoritarian parenting, the MPSQ items were written to capture four dimensions of parenting (see Table 1 for items). Three dimensions are developed to capture authoritative parenting: (1) warmth/responsiveness (19 items, e.g., "When my child is afraid of the dark, I should comfort him/her"), (2) demand/expectation (six items, e.g., "I think my child is responsible for his/her own behavior"), and (3) reasoning (three items, e.g., "When I ask my child to eat vegetables, I should explain the reasons"). One dimension captures authoritarian parenting: coercive/punitive discipline (8 items, e.g., "When my child refuses to do what I ask, he/she should be punished"). In previous studies of Taiwanese preschoolers (3- to 6-year-old) (Fang and Li 2010; Li 2002), mother-reported MPSQ authoritative and authoritarian parenting scales showed satisfactory internal reliabilities (α s = .79 and .92, split-half reliabilities = .87 and .80, respectively). Moreover, authoritative parenting was positively correlated with and authoritarian parenting was negatively correlated with children's social competence (Fang and Li 2010).

To confirm the factor structure of the MPSQ with the present sample, a second-order confirmatory factor analysis (CFA) model was tested. As shown in Table 1, the CFA model has four first-order factors (Warmth, Demand, Reasoning, and Coercive Discipline), and one second-order factor (Authoritative Parenting, which was indicated by the first three first-order factors). For model identification, the loading of the first indicator for each factor was fixed to one. The error variances of indicators designated to the same factor were allowed to be correlated. The CFA was estimated using maximum likelihood estimation in Mplus 7.6 (Muthen and Muthen 1998-2015). The model fit the data adequately: $\chi^2(df=562, N=511) = 885.17, p < .001, CFI = .94, SRMR = .046, \text{ and } RMSEA = .030$. All the model-estimated loadings were significant in the positive direction. Based on these results, we created the composite scores of Warmth ($\alpha = .89$), Demand ($\alpha = .73$), Reasoning ($\alpha = .65$), and Coercive Discipline ($\alpha = .72$) by averaging the corresponding item scores.

Mothers' perceived stress (mother report)

Mothers reported their perceived stress using the 10-item version of the Perceived Stress Scale (PSS-10, Cohen and Williamson 1988). The PSS items ask about participants' feelings and thoughts during the last month (e.g., "How often have you felt upset because of something that happened unexpectedly?", "How often have you felt that you were unable to control the important things in your life?"). Mothers rated the items on a 5-point scale (from 1 = *never*, to 5 = *fairly often*). In three community-based adult samples in Taiwan, the Chinese version of PSS-10 demonstrated satisfactory alpha reliability (.84) and test-retest reliability (.85), and participants' perceived stress assessed by PSS-10 were positively correlated with their mental health symptoms and negatively correlated with their emotion regulation (Chu and Kao 2005). In the present sample, the alpha reliability of mother-rated PSS-10 was .84. Thus, a composite score was computed by averaging the item scores.

Preschoolers' psychological adjustment (mother and teacher report)

Mothers and teachers completed the Chinese version of the Strengths and Difficulties Questionnaire (SDQ-Parent and SDQ-Teacher, Goodman 1997). The SDQ is a brief behavioral screening questionnaire for children four to 17 years old. The SDQ has five subscales: (a) emotional problems (5 items, e.g., "often complains of headaches"); (b) conduct problems (5 items, e.g., "often has temper tantrums or hot tempers"); (c) hyperactivity (5 items, e.g., "restless, over-active..."); (d) peer problems (5 items, e.g., "rather solitary, tends to play alone"); and (e) prosocial behaviors (5 items, e.g., "considerate of other people's feelings"). The Chinese version of the SDQ was available from the developers (see www.sdqinform.com for additional information), and showed satisfactory internal reliability ($\alpha = .63$) in a previous study of Chinese-speaking mothers and teachers of preschoolers (Yu et al. 2015). In the present sample, the peer problem subscale had low reliabilities for both parent ($\alpha = .41$) and teacher ($\alpha = .38$) reports, and an examination of the item-level statistics suggested that the alpha reliabilities cannot be improved by dropping certain items. Therefore, the peer problems subscale was dropped. The remaining SDQ subscales showed satisfactory alphas in the present sample: the parent report α s were .62 (emotion problems), .75 (hyper-activity), .52 (conduct problems), and .64 (prosocial behaviors); the corresponding teacher report α s were .75, .83, .50, and .72.

Data Analyses

First, correlations were computed to examine the pairwise associations among maternal employment status, SES, maternal stress, and parenting. Second, structural equation modeling (SEM) was conducted to test the unique relations of maternal employment and family characteristics to maternal stress and parenting beliefs, as well as the links of maternal stress and parenting beliefs to children's adjustment. Mediation analyses were conducted to test the indirect relations of maternal employment and SES to child outcomes via parenting beliefs and perceived stress.

Results

Descriptive statistics of study variables are presented in Table 2. All the continuous variables were normally distributed. For preliminary analyses, we first examined the pairwise relations between maternal employment status (0 = unemployed, 1 = employed), SES, and other family characteristics. Based on results of correlations (see Table 3), maternal employment was correlated with all three SES indexes such that families with employed mothers had higher income, higher maternal and paternal education levels than families with unemployed mothers (absolute r s ranged from .13 to .48). Maternal employment was correlated with the number of children such that the families with employed mothers had fewer children than those with unemployed mothers ($r = -.17$). Moreover, maternal employment was correlated with family type such that families with employed mothers were more likely to be nuclear families (vs. extended families) than families with unemployed mothers ($r = -.11$). We also examined the pairwise relations of maternal employment and family SES to parental stress and parenting beliefs. As shown in Table 3, maternal employment was correlated with dimensions of authoritative parenting such that employed mothers scored higher on authoritative parenting than unemployed mothers (r s ranged from .10 to .18). Family SES variables were positively correlated with authoritative parenting (r s ranged from .13 to .19) and negatively correlated with coercive parenting (r s ranged from $-.11$ to $-.21$).

A structural equation model was specified (see Fig. 1) to test: (a) the unique relations of maternal employment and SES to maternal stress and parenting beliefs, and (b) the relations of maternal stress and parenting to children's socioemotional adjustment. Specifically, the model had four latent factors: (a) Family SES, (b) Authoritative Parenting, (c) Mother-Reported Child Maladjustment, and (d) Teacher-Reported Child Maladjustment. The error variances of indicators belonging to the same latent factor were allowed to be correlated. Because correlation analyses suggested that parenting and parental stress showed different patterns of relations to mother- and teacher-reported child adjustment, we grouped the child adjustment variables by reporters rather than by domains of adjustment. The model hypothesized that maternal employment status and family SES would be uniquely associated with maternal stress and parenting beliefs. Maternal stress and parenting beliefs, in turn, would be associated with children's adjustment. The direct paths from covariates (i.e., family type, rural/urban area, number of children, and child age and gender) to all parenting and child adjustment factors/variables were controlled in the model (Table 3).

The model was tested in Mplus 7.4 (Muthen and Muthen 1998) using the maximum likelihood estimator (MLR) and the Type = COMPLEX function to account for non-independence of observations (i.e., children were nested in classrooms) and full information maximum likelihood (FIML) to handle missing data. The model fit the data adequately, $\chi^2(df = 163, N = 511) = 325.2, p < .001, CFI = .92, RMSEA = .044, SRMR = .046$. In the measurement model, all of the model-estimated loadings for latent factors were significant in the expected directions. In the structural model, both maternal employment status and family SES were uniquely associated with coercive parenting, such that employed mothers (compared to unemployed mothers) and mothers from lower-SES families (compared to those from higher-SES families) endorsed higher coercive parenting. Moreover, family SES was positively associated with authoritative parenting and negatively associated with

maternal stress. Both coercive parenting and maternal stress were positively associated with mother-reported child mal-adjustment. By contrast, authoritative parenting was negatively associated with mother-reported child maladjustment. Neither parenting nor maternal stress was associated with teacher-reported child maladjustment. However, there was a significant direct path from maternal employment to teacher-reported child maladjustment, such that the children of employed mothers displayed higher teacher-reported mal-adjustment than those of unemployed mothers. Among the covariates, the number of children in the family was negatively associated with authoritative parenting and negatively associated with mother-reported child maladjustment. Compared to girls, boys displayed higher mother- and teacher-reported maladjustment. Compared to the mothers living in rural areas, the mothers living in urban areas reported higher stress. We further tested the significance of indirect effects from maternal employment status and family SES to mother-reported child maladjustment via parenting or maternal stress. Indirect effects were tested using the bias-corrected bootstrap confidence interval (CI) approach (MacKinnon 2008) performed using Mplus 7.4 (Muthen and Muthen 1998). Only one indirect path was statistically significant (i.e., the CI does not include zero): the indirect path from family SES to mother-reported child maladjustment via maternal stress, the 95% CI = [-.020, -.005].

Discussion

The goals of the study were to examine the concurrent relations between maternal employment status and family characteristics (e.g., SES, family structure) in Taiwanese families and to test the unique relations of maternal employment and family characteristics to mothers' parenting beliefs and preschoolers' adjustment. We found that compared to unemployed mothers, employed mothers in Taiwan were more likely to come from families with higher SES, fewer children, and nuclear (vs. extended) families. We found support for the unique relations of SES to maternal stress and parenting: mothers from lower-SES families reported higher levels of stress and higher endorsement of coercive parenting, and lower endorsement of authoritative parenting than mothers from higher-SES families. Controlling for SES and other family characteristics, only maternal employment status was uniquely related to coercive parenting, such that employed mothers endorsed higher coercive parenting than unemployed mothers. Further, we found that mothers' endorsement of authoritative parenting was negatively associated with mother-rated (but not teacher-rated) child maladjustment, whereas maternal stress and mothers' endorsement of coercive parenting were positively associated with mother-rated child maladjustment. In addition, maternal employment had a direct association to teacher-rated child mal-adjustment such that children of employed mothers had poorer adjustment compared to children of unemployed mothers according to teachers. Overall, the findings suggest that both family SES and maternal employment have salient influences on parenting and child adjustment in Taiwanese families, but the two factors may impact child adjustment in different pathways.

This study sampled Taiwanese families from both urban (Taipei) and rural (Taitung) areas, families of different SES and families of different structures (nuclear and extended families). The maternal employment rate in the sample (64%) is comparable to the national rate of Taiwan (National Statistics 2017). We found that in Taiwanese families, maternal employment was directly associated with SES (with small to moderate effect sizes): families

in which mothers were professionally employed had higher income, higher maternal and paternal education levels, and fewer children than families in which mothers were unemployed. This finding is consistent with the economic theory that maternal employment is often driven by the family's financial needs and can subsequently bring financial benefits to the family (Duncan and Chase-Lansdale 2002). Indeed, sociological research showed that the increase in married women's employment in Taiwan might have led to disproportionately large percentage of dual-earning families among the well-educated population (Yu 2015). Our finding is also consistent with the observation that upper and upper-middle class families in Taiwan are increasingly becoming dual-earners, whereas lower and lower-middle SES families are more likely to have a single earner (Yu 2015).

Maternal employment was also associated with family structure: maternal employment rate was higher in nuclear families than in extended (multi-generational) families, and families with employed mothers had fewer children than those with unemployed mothers. Although the magnitude of these relations was small, these results suggest that families in which mothers stayed home seemed more traditional in terms of family composition than families in which mothers worked. An important direction for future research on Taiwanese families is to examine the links between maternal employment and family cultural processes (e.g., cultural values, culture-related behaviors such as parenting and emotion expression), which can shed light on the complex processes in which macro socioeconomic changes (e.g., increase in women's labor participation) and cultural shifts (e.g., changes in societal attitudes towards women's labor participation) shape individual families and child development.

Consistent with the family stress theory (Conger et al. 2010; McLoyd 1990), we found that lower SES was associated with mothers' higher perceived stress and higher endorsement of coercive parenting and lower endorsement of authoritative parenting (with small effect sizes). Interestingly, although maternal employment was moderately and positively associated with SES, an opposite relation was found between maternal employment and parenting: controlling for SES and other family characteristics, employed mothers reported higher coercive parenting (e.g., control of children's behaviors by force or punishment, demand of the child's obedience) than unemployed mothers. This result is consistent with the work-family conflict hypothesis (e.g., Greenhaus and Beutell 1985), and suggested that working mothers in Taiwanese families might be under significant stress due to challenges of fulfilling multiple roles and responsibilities. With the steady increase in mothers' employment rate in Taiwan since the 1990s, public opinion toward mothers' employment has shifted. Yu (2015) noted that "today, well-educated women with considerable income potential may even be considered selfish if they do not work to contribute to family income" (p. 8). However, likely because of the continuing influences of traditional gender-specific role expectations in Taiwanese families, working mothers might need to take on more family responsibilities to compensate for their unconventional role (Hu and Kamo 2007). Thus, while maternal employment has become a norm in Taiwan, working mothers are still in great need of support to navigate between their professional and family roles. Although these findings need to be replicated in future studies, they suggest that working mothers in Taiwan need additional support (e.g., childcare assistance, parenting classes or support groups,

work-family accommodations such as flexible work hours) to juggle their professional, parenting, and other family roles.

The relations found between maternal stress and parenting beliefs and mother-reported child adjustment are largely consistent with the previous parenting literature on Asian families (e.g., Kim et al. 2013; Sorkhabi 2005). Endorsement of authoritative parenting was associated with better child adjustment (i.e., fewer behavioral problems and more prosocial behaviors), whereas the opposite associations were found with coercive parenting and maternal stress. The effect sizes were small for the parenting belief-child adjustment associations and moderate for the maternal stress-child adjustment associations. The mediation analysis showed that maternal stress mediated the links between family SES and mother-reported child maladjustment. These findings, despite the limitation of being cross-sectional and single informant, were supportive of the benefits of authoritative parenting and the adverse effects of coercive parenting and parental stress in Asian families.

Although the latent factors of mother-rated and teacher-rated child maladjustment were positively correlated with each other (see Fig. 1), maternal stress and parenting beliefs were unrelated to teacher-reported child maladjustment. It is not uncommon that measures of parenting are more strongly associated with parent-reported child outcomes than teacher-reported child outcomes because young children behave differently in home and school settings (De Los Reyes and Kazdin 2005). Informant discrepancy between parent and teacher reports of children's emotional and behavioral problems might be especially common in Asian cultures because there is less cultural tolerance of anger and under-regulated behaviors in schools compared to homes (Zhou et al. 2009). Moreover, the parenting style measure used in the present study (Li 2002) likely captured mothers' parenting beliefs more than actual parenting behaviors, another factor contributing to the lack of associations with teacher-reported child outcomes. Further, family processes such as mothers' perceived stress and parenting beliefs likely have more distal impact on children's behaviors at school than their behaviors at home. Future research should incorporate other methods (e.g., behavioral observation) to assess parenting in Taiwanese families and investigate the more complex processes in which family processes impact children's behaviors across settings.

This study had several other limitations. First, the Coercive Parenting scale used in the study does not include items related to verbal hostility or physical coercion (e.g., corporal punishment), which are considered key characteristics of authoritarian parenting (Baumrind 1996). Moreover, because the study did not measure indigenous dimensions of parenting, it did not capture the full range of individual differences in parenting among Taiwanese families. Second, some subscales of the SDQ for assessing children's adjustment had moderate internal reliability, which might have limited the study's statistical power to detect significant associations. Third, the sample consisted of disproportionately more urban families than rural families. Thus, the study might be underpowered to detect regional differences. Fourth, maternal employment was analyzed as a categorical variable (employed vs. not employed), which does not capture the diversity in type and nature of mothers' work experience (e.g., work hours and work schedule). Fifth, the cross-sectional data did not allow for testing the direction of associations among constructs. While it is possible that

maternal employment impact parenting and parental stress, which in turn impact child adjustment, it is also possible that behavioral problems in children affect parenting and parental stress, which in turn impact mother's employment decision and experience at work. Thus, longitudinal data can allow researchers to examine more complex relations. Finally, the study did not measure cultural processes (e.g., cultural values on maternal employment, and culturally-unique parenting practices in Taiwanese families), and thus cultural influences were assumed and not empirically investigated.

Future research on maternal employment and its impact on family and child development in Taiwan need to assess the processes of maternal employment (e.g., mothers' work experience, work schedules, the psychological processes of work-family conflict and work-family enrichment) and examine their complex impact on or transactions with parenting and parental psychological adjustment. Future research should utilize a longitudinal design and multi-methods assessment approach to examine the mediated and moderated relations of maternal employment and family SES to parenting and child adjustment. Furthermore, future research should examine how cultural processes (e.g., cultural values towards maternal employment, culturally-unique parenting values or practices in Chinese families) shapes maternal employment and its impact on child development in Taiwanese families.

Acknowledgments

Funding

This study was funded by a grant from the Ministry of Science and Technology of Taiwan. Work on this paper was also supported by a grant from the University of California Berkeley East Asian Studies

References

- Ali AJ, Lee M, Hsieh Y, & Krishnan K (2005). Individualism and collectivism in Taiwan. *Cross Cultural Management: An International Journal*, 12(4), 3–16. 10.1108/13527600510798105.
- Allen TD, & Martin A (2017). The work-family interface: A retrospective look at 20 years of research in JOHP. *Journal of Occupational Health Psychology*, 22(3), 259–272. 10.1037/ocp0000065. [PubMed: 28150990]
- Barnett RC, & Baruch GK (1985). Women's involvement in multiple roles and psychological distress. *Journal of Personality and Social Psychology*, 49, 135–145. [PubMed: 4020611]
- Barnett RC, & Brennan RT (1995). The relationship between job experiences and psychological distress: A structural equation approach. *Journal of Organizational Behavior*, 16, 259–276.
- Barnett RC, & Hyde JS (2001). Women, men, work, and family: An expansionist theory. *American Psychologist*, 56(10), 781–796. 10.1037/0003-066X.56.10.781. [PubMed: 11675985]
- Baumrind D (1996). The discipline of controversy revisited. *Family Relations*, 45, 405–414.
- Brooks-Gunn J, Han W, & Waldfogel J (2010). First-year maternal employment and child development in the first 7 years. *Monographs of the Society for Research in Child Development*, 75(2), 1–147. [PubMed: 20500631]
- Buehler C, O'Brien M, Swartout KM, & Zhou N (2014). Maternal employment and parenting through middle childhood: Contextualizing factors. *Journal of Marriage and Family*, 76(5), 1025–1046. 10.1111/jomf.12130. [PubMed: 25530631]
- Chang YE (2013). The relation between mothers' attitudes toward maternal employment and social competence of 36-month-olds: The roles of maternal psychological well-being and sensitivity. *Journal of Child and Family Studies*, 22(7), 987–999. 10.1007/s10826-012-9660-7.

- Chao RK (2001). Extending research on the consequences of parenting style for Chinese Americans and European Americans. *Child Development*, 72(6), 1832–43. <http://www.ncbi.nlm.nih.gov/pubmed/11768148>. [PubMed: 11768148]
- Chen FM, & Luster T (2002). Factors related to parenting practices in Taiwan. *Early Child Development and Care*, 172(5), 413–430. 10.1080/03004430214549.
- Chen HM, & Lewis DC (2015). Chinese grandparents' involvement in their adult children's parenting practices in the United States. *Contemporary Family Therapy*, 37(1), 58–71. 10.1007/s10591-014-9321-7.
- Chen WW, Wu CW, & Yeh KH (2016). How parenting and filial piety influence happiness, parent-child relationships and quality of family life in Taiwanese adult children. *Journal of Family Studies*, 22(1), 80–96. 10.1080/13229400.2015.1027154.
- Chu LC, & Kao HSR (2005). The moderation of meditation experience and emotional intelligence on the relationship between perceived stress and negative mental health. *Chinese Journal of Psychology*, 47(2), 178–194. 10.6129/CJP.2005.4702.05.
- Cohen S, & Williamson G (1988). Perceived stress in a probability sample of the United States. *The Social Psychology of Health*, 10.1111/j.1559-1816.1983.tb02325.x.
- Conger RD, Conger KJ, & Martin MJ (2010). Socioeconomic status, family processes, and individual development. *Journal of Marriage and Family*, 72(3), 685–704. 10.1111/j.1741-3737.2010.00725.x. [PubMed: 20676350]
- Cooklin AR, Westrupp E, Strazdins L, Giallo R, Martin A, & Nicholson JM (2015). Mothers' work-family conflict and enrichment: Associations with parenting quality and couple relationship. *Child: Care, Health and Development*, 41(2), 266–277. 10.1111/cch.12137.
- De Los Reyes A, & Kazdin AE (2005). Informant discrepancies in the assessment of childhood psychopathology: A critical review, theoretical framework, and recommendations for further study. *Psychological Bulletin*, 131(4), 483–509. 10.1037/0033-2909.131.4.483. [PubMed: 16060799]
- Duncan GJ, & Chase-Lansdale L (2002). *For better and for worse: Welfare reform and the well-being of children and families*. New York, NY: Russell Sage Foundation.
- Fang LY & Li KLW (2010). The research of the relevance between parents' attitudes in education and children's independence. In *The 11th Pacific Early Childhood Education Research Association Conference Hangzhou, China*.
- Fuller B, Caspary G, Kagan SL, Gauthier C, Huang DSC, Carroll J, & McCarthy J (2002). Does maternal employment influence poor children's social development? *Early Childhood Research Quarterly*, 17(4), 470–497. 10.1016/S0885-2006(02)00187-4.
- Gareis KC, Barnett RC, Ertel KA, & Berkman LF (2009). Work-family enrichment and conflict: Additive effects, buffering, or balance? *Journal of Marriage and Family*, 71(3), 696–707. 10.1111/j.1741-3737.2009.00627.x.
- Goodman R (1997). The Strengths and Difficulties Questionnaire: A research note. *Journal of Child Psychology and Psychiatry*, 38, 581–586. [PubMed: 9255702]
- Greenhaus JH, & Beutell NJ (1985). Sources and conflict between work and family roles. *The Academy of Management Review*, 10(1), 76–88.
- Holloway SD, Suzuki S, Yamamoto Y, & Mindnich JD (2006). Relation of maternal role concepts to parenting, employment choices, and life satisfaction among Japanese women. *Sex Roles*, 54(3–4), 235–249. 10.1007/s11199-006-9341-3.
- Hu CY, & Kamo Y (2007). The division of household labor in Taiwan. *Journal of Comparative Family Studies*, 38(1), 105–124.
- Hwang K, & Han KH (2010). Face and morality in Confucian society In Bond MH (Ed.), *Oxford Handbook of Chinese Psychology* (pp. 479–498). Oxford, UK: Oxford University Press.
- Jose PE, Huntsinger CS, Huntsinger PR, & Liaw FR (2000). Parental values and practices relevant to young children's social development in Taiwan and the United States. *Journal of Cross-Cultural Psychology*, 31(6), 677–702. 10.1177/0022022100031006002.
- Kalil A, & Dunifon R (2007). Maternal work and welfare use and child well-being: Evidence from 6 years of data from the Women's Employment Study. *Children and Youth Services Review*, 29(6), 742–761. 10.1016/j.childyouth.2006.12.004.

- Kim SY, Wang Y, Orozco-lapray D, Shen Y, & Murtuza M (2013). Does “Tiger Parenting”. Exist? Parenting Profiles of Chinese Americans and Adolescent Developmental Outcomes, 4(1), 7–18. 10.1037/a0030612.
- Lazelere RE, Morris AS & Harrist AW (Ed.) (2013). Authoritative parenting: Synthesizing nurturance and discipline for the optimal child development. Washington, DC: American Psychological Association.
- Lengua LJ, Kiff C, Moran L, Zalewski M, Thompson S, Cortes R, & Ruberry E (2014). Parenting mediates the effects of income and cumulative risk on the development of effortful control. *Social Development*, 23(3), 631–649. 10.1111/sode.12071.
- Li T-W (2002). A comparison of maternal parenting style attitudes of grandmothers and mothers of young children in Taiwan: Development of a new measure of parenting style. In Annual Meeting of the American Educational Research Association New Orleans, LA.
- Li X, Zou H, Liu Y, & Zhou Q (2014). The relationships of family socioeconomic status, parent – adolescent conflict, and filial piety to adolescents’ family functioning in Mainland China. *Journal of Child and Family Studies*, 23, 29–38. 10.1007/s10826-012-9683-0.
- Lin X, Zhang Y, Chi P, Ding W, Heath MA, Fang X, & Xu S (2017). The mutual effect of marital quality and parenting stress on child and parent depressive symptoms in families of children with oppositional defiant disorder. *Frontiers in Psychology*, 8, 1–11. 10.3389/fpsyg.2017.01810. (OCT). [PubMed: 28197108]
- MacKinnon DP (2008). Introduction to statistical mediation analysis. *Introduction to Statistical Mediation Analysis.*, 1–14. <http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2008-04188-000&site=ehost-live>.
- McLoyd V (1990). The impact of economic hardship on black families and children: Psychological distress, parenting, and socioemotional development. *Child Development*, 1(61), 311–346.
- Muthen LK, & Muthen BO (1998). *Mplus User’s Guide*. Los Angeles, CA: Muthen & Muthen.
- National Statistics. (2017). The labor participation rate of married women with children under 6 years of age has recently been rising: What is the main reason for this phenomenon?. Taipei, Taiwan: National Statistics, Republic of China (Taiwan) <https://eng.stat.gov.tw/ct.asp?xItem=31351&ctNode=5730&mp=5>.
- Pong S-L, Johnston J, & Chen V (2010). Authoritarian parenting and Asian adolescent school performance: Insights from the US and Taiwan. *International Journal of Behavioral Development*, 34(1), 62–72. 10.1177/0165025409345073. [PubMed: 24850978]
- Robinson CC, Mandlco BL, Olsen SF, & Hart CH (1995). Authoritative, authoritarian, and permissive parenting practices: Development of a new measure. *Psychological Reports*, 77, 819–830.
- Schaefer ES (1965). Children’s reports of parental behavior: An inventory. *Child Development*, 36, 413–424. [PubMed: 14300862]
- Sorkhabi N (2005). Applicability of Baumrind’s parent typology to collective cultures: Analysis of cultural explanations of parent socialization effects. *International Journal of Behavioral Development*, 29(6), 552–563. 10.1177/01650250500172640.
- Supple AJ, & Small SA (2006). The influence of parental support, knowledge, and authoritative parenting on Hmong and European American adolescent development. *Journal of Family Issues*, 27(9), 1214–1232. 10.1177/0192513X06289063.
- Tang CSK, Chua Z, & Jiaqing O (2012). A gender perspective on Chinese social relationships and behavior. *Oxford Handbook of Chinese Psychology*. 10.1093/oxfordhb/9780199541850.013.0032.
- Voydanoff P (2002). Linkages between the work-family interface and work, family, and individual outcomes: An integrative model. *Journal of Family Issues*, 23(1), 138–164. 10.1177/0192513X02023001007.
- Wang Y-CL, Chan H-Y, Lin C-W, & Li J-R (2015). Association of parental warmth and harsh discipline with developmental trajectories of depressive symptoms among adolescents in Chinese society. *Journal of Family Psychology*, 29(6), 895–906. 10.1037/a0039505. [PubMed: 26168265]
- Williams JC, Berdahl JL, & Vandello JA (2016). Beyond work-life “Integration.” *Annual Review of Psychology*, 67(1), 515–539. 10.1146/annurev-psych-122414-033710.

- Wu P, Robinson CC, Yang C, Hart CH, Olsen SF, Porter CL, & Wu X (2002). Similarities and differences in mothers' parenting of preschoolers in China and the United States. *International Journal of Behavioral Development*, 26(6), 481–491. 10.1080/01650250143000436.
- Yoshikawa H, Aber JL, & Beardslee WR (2012). The effects of poverty on the mental, emotional, and behavioral health of children and youth. *American Psychologist*, 67(4), 272–284. 10.1037/a0028015. [PubMed: 22583341]
- Yu J, Sun S, & Cheah CSL (2015). Multitrait–multimethod analysis of the Strengths and Difficulties Questionnaire in young Asian American children. *Assessment*, 1073191115586459. 10.1177/1073191115586459.
- Yu W (2015). Women and employment in Taiwan: Taiwanese women's employment from a comparative perspective. <https://www.brookings.edu/opinions/women-and-employment-in-taiwan/>.
- Zhou Q, Eisenberg N, Wang Y, & Reiser M (2004). Chinese children's effortful control and dispositional anger/frustration: Relations to parenting styles and children's social functioning. *Developmental Psychology*, 40(3), 352–366. 10.1037/0012-1649.40.3.352. [PubMed: 15122962]
- Zhou Q, Lengua LJ, & Wang Y (2009). The relations of temperament reactivity and effortful control to children's adjustment problems in China and the United States. *Developmental Psychology*, 45(3), 724–39. 10.1037/a0013776. [PubMed: 19413428]
- Zhou Q, Wang Y, Deng X, Eisenberg N, Wolchik SA, & Tein J (2008). Relations of parenting and temperament to Chinese children's experience of negative life events, coping efficacy, and externalizing problems. *Child Development*, 79(3), 493–513. [PubMed: 18489409]

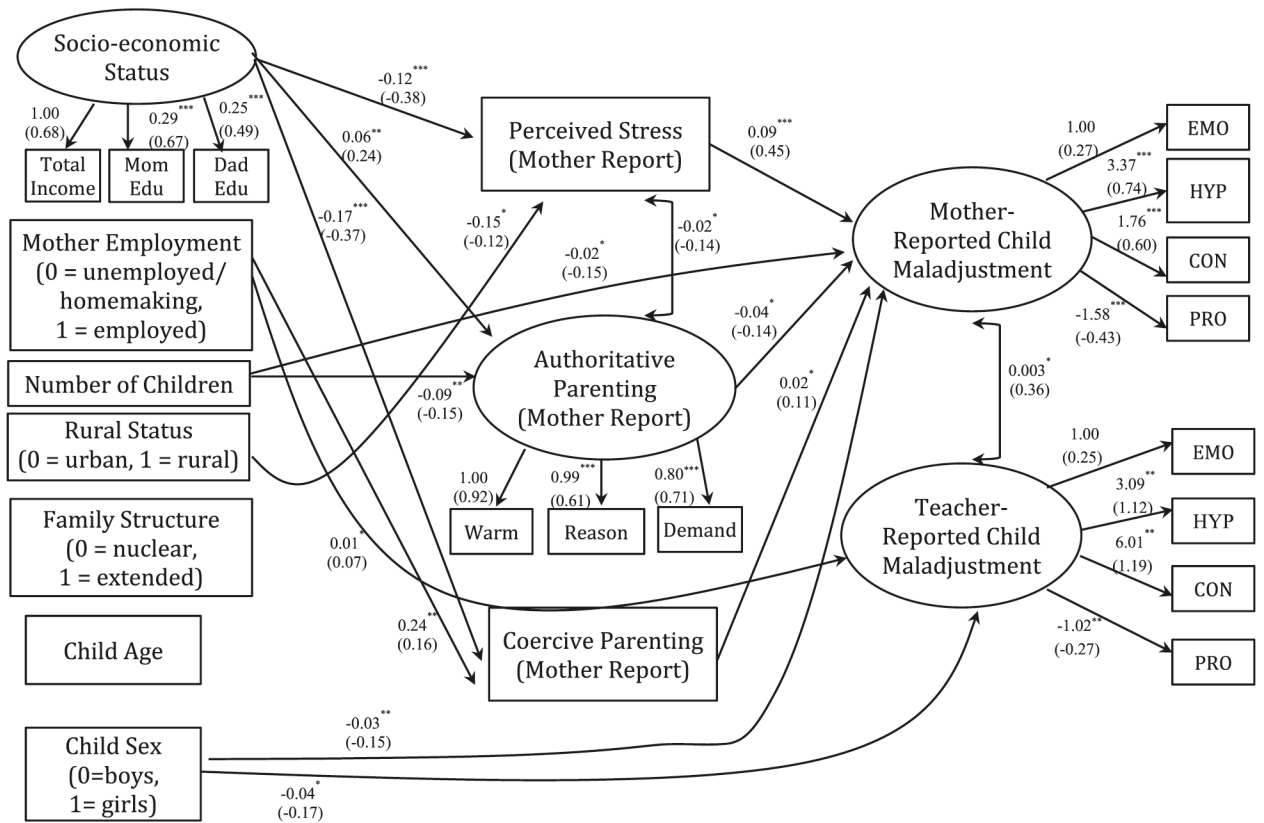


Fig. 1. The Structural Equation Model testing the relations of among maternal employment, family characteristics, parenting beliefs and child psychological adjustment. *Notes.* EMO emotional problems, HYP hyperactivity, CON conduct problems, PRO prosocial behaviors. The coefficients outside parentheses are unstandardized coefficients, and the coefficients inside parentheses are standardized coefficients or correlations. * $p < .05$, ** $p < .01$, *** $p < .001$. Please note that all the paths from predictors (employment, family SES, and other family characteristics) to mediators (maternal stress and parenting), from predictors to child adjustment, and from the mediators to child adjustment were estimated in the model. However, only statistically significant paths were reported in the figure for ease of presentation

Table 1

Second-order confirmatory factor analysis of maternal parenting style questionnaire

	Standardized loading
First-order factors	
<i>Warmth/Responsiveness</i>	
I believe I should be calm when I discipline my child.	.55
When my child asks me questions based on his/her curiosity, I do NOT need to answer them. (R)	.72
I believe I should NOT maintain a calm manner when I discipline my child. (R)	.59
When my child is afraid of dark, I should comfort him/her.	.37
When my child asks me questions based on his/her curiosity, I should answer them patiently.	.50
When my child talks to me, I do NOT really need to pay attention and I give no response. (R)	.60
When my child talks to me, I should listen and give responses.	.56
I should remind myself not to be annoyed or impatient when my child disobeys.	.36
When my child asks me to hug him/her, I should ignore him/her. (R)	.73
I think a child should be given comfort when he/she is scared or upset.	.49
When my child asks me to hug him/her, I should do it.	.46
I should actively talk with my child and encourage him/her to talk to me.	.68
I should NOT encourage my child to develop his/her own individuality. (R)	.70
I should encourage my child to have intimate verbal contact with me.	.66
When I am displeased, I don't think I need to comfort my crying child. (R)	.38
I should ask child to express his/her own opinions.	.47
I should ask my child's opinion.	.54
I should NOT ask my child to express opinions. (R)	.67
I should encourage my child to develop his/her own individuality.	.65
<i>Demand/expectation</i>	
I believe my child should share some family responsibilities, such as setting up dinner table and picking up newspaper.	.52
I should set limitations for TV or video games for my child, such as, when and what he/she could watch TV or play video games.	.53
I think my child should be responsible for his/her own behavior.	.60
I should stop my child if he/she displays obstructive behavior, such as teasing other people.	.56
I should ask my child to sit on his/her chair and use chopsticks or a spoon during dinner time.	.48
I should require my child to dress himself/herself.	.57
<i>Reasoning</i>	
When I ask my child to eat vegetables, I should explain the reasons.	.48
I do NOT think I need to explain the reasons when I ask my child to eat vegetables. (R)	.63
When my child disobeys me, I do NOT need to explain the reasons for my orders in further detail. (R)	.62
<i>Coercive/punitive discipline</i>	
I should tell my child that he/she must obey me.	.62
I should teach my child that parent always know what is the best.	.48
My child should be allowed to refuse my requests and commands. (R)	.54
I believe that scolding, criticism, and spanking cannot help my child to improve. (R)	.32
If my child questions my decisions, I should let him/her know who is in charge.	.49
I should NOT expect my child to obey just for the sake of obedience. (R)	.33

	Standardized loading
When my child refuses to do what I ask, he/she should NOT be allowed to get away with it.	.53
When my child defies my, I should punish him/her.	.60
Second-order factor	
<i>Authoritative parenting</i>	
Warmth	1.00
Demand/expectation	.86
Reasoning	.79

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Table 2

Descriptive statistics of study variables

Variables	N	Min	Max	Mean	SD	Skewness	Kurtosis
Mom's income ^a	511	1	14	7.23	2.39	.34	.05
Dad's income ^a							
Mom's education ^b	509	1	4	2.76	.69	-.44	.32
Dad's education ^b	509	1	4	2.83	.83	-.32	-.43
No. of children	510	1	5	1.96	.67	.96	3.20
Mom's age ^c	507	2	6	4.92	.84	-.48	-.10
Child's age ^d	509	1	3	2.29	.63	2.3.	-.67
PSDQ-Dem (M)	511	3.67	6.00	5.20	.43	-.09	.38
PSDQ-Warm (M)	511	3.63	6.00	5.18	.41	-.37	.68
PSDQ-Reason (M)	511	2.33	6.00	5.04	.61	-.80	1.32
PSDQ-Coercive (M)	511	1.38	6.00	3.40	.72	.16	.06
Perceived stress (M)	511	0	3.60	1.76	.50	-.24	1.27
SDQ-EMO (M)	511	0	1.60	.45	.37	.89	.35
SDQ-HYP (M)	511	0	2.00	.80	.46	.37	-.23
SDQ-CON (M)	511	0	1.80	.39	.29	1.07	1.85
SDQ-PRO (M)	511	0	2.00	1.46	.37	-.39	-.14
SDQ-EMO (T)	511	0	2.00	.44	.42	.82	-.30
SDQ-HYP (T)	511	0	2.00	.72	.53	.67	-.24
SDQ-CON (T)	511	0	1.40	.28	.29	1.27	1.26
SDQ-PRO (T)	511	.20	2.00	1.49	.40	-.37	-.71

No. of children total number of children in the family, *PSDQ* Parenting Style and Dimensions Questionnaire, *Dem* demand/expectation, *Warm* warmth, *Reason* reasoning, *Coercive* coercive/punitive discipline, *SDQ* Strength and Difficulties Questionnaire, *EMO* emotion problems, *HYP* hyperactivity, *CON* conduct problems, *PRO* prosocial behavior, *M* mother report, *T* teacher report

^a Mom's income and dad's income levels were reported as: 1 = no income, 2 = less than 20,000 TWD (per month), 3 = between 20,000 and 40,000 TWD, 4 = between 40,000 and 60,000 TWD, 5 = between 60,000 and 80,000 TWD, 6 = between 80,000 and 100,000 TWD, 7 = greater than 100,000 TWD

^b Mom education and dad education levels were reported as: 1 = less than high school, 2 = high school, 3 = college, and 4 = graduate school

^c Mom's age was reported as: 1 = younger than 19 years, 2 = between 20 and 24 years, 3 = between 25 and 29 years, 4 = between 30 and 34 years, 5 = between 35 and 39 years, 6 = between 40 and 44 years, 7 = between 45 and 49 years, and 8 = older than 50 years

^d Child's age was reported as: 1 = 4 years old, 2 = 5 years old, and 3 = 6 years old

Table 3

Correlations among all study variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Mom work ^a	-																						
Income	.48	-																					
Mom edu	.22	.48	-																				
Dad edu	.13	.52	.62	-																			
Child age	.06	.02	-.08	-.01	-																		
No. of kids	-.17	-.13	-.14	-.15	.02	-																	
Rural area ^b	-.08	-.32	-.24	-.33	.001	.26	-																
Family type ^c	-.11	-.19	-.20	-.19	.02	.14	.10	-															
Child sex ^d	.03	-.03	.01	.004	.06	.10	.04	-.03	-														
Mom age	.02	.27	.15	.20	.11	.10	-.13	-.14	.06	-													
PSDQ-Dir	.10	.18	.19	.18	.03	-.12	-.08	-.15	.03	.02	-												
PSDQ-War	.12	.18	.17	.18	.01	-.19	-.12	-.11	-.04	.02	.65	-											
PSDQ-Rea	.14	.10	.14	.13	.02	-.18	-.04	-.06	.02	-.05	.44	.57	-										
PSDQ-Coe	.04	-.15	-.21	-.11	.05	-.18	.07	.04	-.06	-.03	.02	-.14	-.02	-									
Mom stress	-.03	-.19	-.23	-.13	.01	.10	.04	.08	.01	-.10	-.19	-.21	-.06	.16	-								
SDQM-EM	-.02	-.12	-.11	-.07	.06	.09	.03	.08	.03	-.06	-.08	-.13	-.08	.10	.28	-							
SDQM-HY	.03	-.10	-.18	-.16	.002	-.12	-.04	.09	-.16	-.19	-.10	-.11	-.08	.14	.35	.22	-						
SDQM-CP	-.02	-.11	-.16	-.08	.02	.03	-.00	.07	-.02	-.08	-.06	-.12	-.09	.14	.29	.35	.44	-					
SDQM-PR	-.01	-.01	.02	-.01	.001	.01	.12	-.03	.13	.003	.17	.21	.09	-.05	-.24	-.10	-.33	-.33	-				
SDQT-EM	-.07	.08	.10	.08	.02	.07	-.22	.03	-.01	-.03	.000	-.01	.01	-.05	.04	.19	.01	.07	-.06	-			
SDQT-HY	.06	.06	-.06	-.02	-.01	-.12	-.07	.04	-.29	-.03	.02	.01	-.01	.05	.06	-.03	.33	.27	-.16	.27	-		
SDQT-CP	.07	.06	-.07	.001	.07	.09	-.08	.04	-.13	-.06	.04	-.02	-.04	.06	.09	.02	.29	.33	-.11	.28	.55	-	
SDQT-PR	.04	-.02	.04	-.02	.03	.01	-.03	-.02	.17	.09	.03	-.04	-.01	-.02	.00	.02	-.08	-.11	.14	-.09	-.30	-.33	

Note: Correlations (in absolute values) larger than .087 are significant at $p < .05$, values larger than .114 are significant at $p < .01$, larger than .145 are significant at $p < .001$

PSDQ Parenting Styles Dimensions Questionnaire, Dir directiveness, War warmth, Rea reasoning, Coe coercive parenting, SDQM mother-reported Strengths and Difficulties Questionnaire, SDQT teacher-reported Strengths and Difficulties Questionnaire, EM emotional problems, HY hyperactivity, CP conduct problems, PR prosocial behaviors

^aMom work is coded as: 0 = unemployed/homemaking, 1 = employed

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

^bRural (vs. urban) area is coded as: 0 = urban, 1 = rural

^cFamily type is coded as: 0 = nuclear family, 1 = extended family

^dChild sex is coded as: 0 = boys, 1 = girls