



Does having children matter? Associations between transitions in work-family role combinations and depressive symptoms among married women in Korea

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ABSTRACT

Although having a variety of roles is generally beneficial for mental health, little is known about the relationships between work-family role combinations and depressive symptoms among married women in Korea, where child rearing is strongly considered a mother's responsibility. This study examines how the four types of work-family role combinations may be associated with depressive symptoms among married Korean women younger than 50 years old. Data were collected from 2012 through 2020 in five surveys by the Korean Longitudinal Survey of Women & Families. In total, 4811 married women (14,851 person-period observations) were analyzed using regression models with fixed effects. This enabled estimation of the within-person effects of transitions in work-family role combinations on depressive symptoms. Work-family role combinations were categorized as follows based on whether respondents had a job or at least one child: having both worker and mother roles, having a worker role only, having neither a worker nor a mother role, and having a mother role only. The findings indicate that married women who had only a mother role had more severe depressive symptoms than the other three groups. However, after controlling for whether respondents had a preschool-aged child, only those with both worker and mother roles had significantly lower levels of depressive symptoms compared with those with a mother role only. This study suggests that transitioning to being a working mother from a full-time mother may benefit the mental health of married Korean women. Furthermore, whether married women have a child critically impacts their mental health more than the number of roles. Raising a preschool-aged child seems to potentially be especially stressful for married Korean women. Working outside the home can protect the mental health of married Korean mothers who are affected by the social pressure to immerse themselves in child-rearing.

1. Introduction

It has been observed that having a variety of societal roles (i.e., multiple roles) provides less benefit to women's mental health than to men's (e.g., Christie-Mizell et al., 2019; Simon, 1995). Specifically, having both parent and worker roles may lead to greater psychological burden and role conflict among women compared with men because the mother role has been shown to lead to excessive obligations for women (Barnett & Baruch, 1985). Nevertheless, a few studies have shown that having multiple roles (or the combined worker-mother role) is positively associated with women's mental health (Christie-Mizell et al., 2019; Lahelma et al., 2002). Longitudinal studies have also demonstrated the benefits of multiple roles among women by showing positive

associations between working during mid-life and later-life health (Caputo et al., 2020; Engels et al., 2021). Such findings imply that having both work and family roles benefits women's mental health compared to having only a family role.

However, the current understanding of the relationships between work-family role combinations and women's mental health remains limited. First, it is questionable whether and how work-family role combinations (especially the worker-mother role combination) are associated with married women in Asian countries such as Korea since existing studies have mostly been conducted in a few countries within Western social contexts (e.g., Christie-Mizell et al., 2019; Lahelma et al., 2002). Indeed, the effects of work-family role combinations on mental health may depend on role-related contexts associated with gender role

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norms and the level of gender equality in a given society (Barnett & Hyde, 2001; Mortazavi et al., 2009; Tang & Tang, 2001). Therefore, it cannot be assumed that having both mother and worker roles benefits women in Asian societies in a corresponding way.

Moreover, Korea is an interesting social context that leads to two opposite expectations of the associations between work and family role combinations and mental health. In Korea, rapid societal changes in women's human capital and labor market participation have occurred in recent years (Statistics Korea, 2021b; Ministry of Education & Korean Educational Development Institute, 2020), but conservative gender norms, especially related to child-rearing, remain in place. This implies that Korean working mothers may feel greater role conflict and negative emotions which can lead to psychological distress. Simultaneously, it has been observed that highly educated unmarried women in Korea showed a stronger orientation toward their careers than their Japanese counterparts (Brinton & Oh, 2019). This suggests a strong desire among Korean women to protect their career options after marriage and childbirth. In short, these two competing forces, role conflict for working mothers and career opportunity costs for full-time mothers, are both strong in Korea. Considering this context, it is worthwhile to examine whether having both worker and mother roles would be associated with altered depressive symptoms among Korean women.

Second, few studies have considered the age or developmental period of women's children, despite it being an important proxy for role-related contexts (e.g., Leupp, 2017). Associations between work-family role combinations and women's mental health may vary according to the age of children since this factor substantially affects how the mother role may lead to role overload or conflict. However, it remains unknown whether having both mother and worker roles lowers mental health by increasing role conflicts or negative emotions such as guilt and frustration, especially when a child is young.

Finally, some methodological considerations are necessary to enable a nuanced analysis. Unfortunately, analysis with cross-sectional data cannot adequately control for differences between those who choose to have multiple roles and those who do not. This hinders causal arguments. In comparison, analysis using longitudinal data is more likely to control these sorting processes by focusing on the investigation of whether and how *transitions* in work-family role combinations are associated with *changes* in depressive symptoms in individuals. Additionally, only married women should be analyzed to ensure straightforward comparisons between the role combinations considering worker and mother roles. For instance, if married women are compared to divorced or widowed women, it cannot be determined whether observed differences in mental health are caused by a lack of a role as a spouse or the experience of marital dissolution. Thus, unmarried women, including never married, divorced, and widowed women were excluded from the analysis.

Motivated by these limitations in the literature, this study proposes the following research questions: (1) How are work-family role combinations associated with depressive symptoms among married Korean women? (2) Do married women who have both worker and mother roles have better mental health? (3) Do the associations between work-family role combinations and depressive symptoms in women change when the age of their children is considered? If so, how?

Based on these research questions, this study examines married Korean women aged 19–49 years using a nationally representative longitudinal survey. Focusing on married women (i.e., all respondents had a spouse role), four types of work-family role combinations are compared: having both worker and mother roles, having a worker role only, having neither a worker nor a mother role, and having a mother role only. Furthermore, considering the age of the women's children, this study elucidates how work-family role combinations may be differently associated with depressive symptoms among married Korean women based on their children's development periods.

2. Literature review

2.1. Multiple roles, role combinations, and mental health

The identity accumulation perspective and role expansion theory are based on the shared core assumption that having multiple roles benefits one's mental health (Barnett & Hyde, 2001; Thoits, 1983, 1991). According to the identity accumulation perspective, individuals obtain various experiences and identities as they assume diverse roles, which leads to a sense of self as a meaningful and purposeful entity (Thoits, 1983). If individuals assume fewer roles or a single role only, commitment toward the role associated with the amount of time and energy invested increases. This makes them more vulnerable to the effects of the loss of the role (Thoits, 1983).

According to the role expansion theory (Barnett & Hyde, 2001; Nordenmark, 2004), when individuals have diverse roles, they are more engaged in diverse social relationships, which can enhance social and economic resources. Thus, multiple roles may provide useful resources such as social support and income. They can also increase an individual's self-complexity and sense of existential self because additional roles can increase the number of perceived aspects of the self (Barnett & Hyde, 2001). Filling multiple roles can also reduce the harmful effects of stressors related to or caused by one's social roles and provide opportunities to experience more diverse social engagements and activities.

In both concepts, the substantial effects of multiple roles on mental health may vary by role-related contexts as critical conditions that shape the effects of multiple roles. The effects of multiple roles may depend on social context, role quality, and the perceived importance of each role (Barnett & Hyde, 2001; Thoits, 1983, 1991). Given that roles are sets of social and normative expectations based on societal norms (Thoits, 1991), it is unsurprising that all roles do not have the same perceived social value and importance.

Despite similarities between the two perspectives, the role expansion theory provides a more extended and nuanced argument regarding the potential negative effects of multiple roles on mental health. According to the theory, overload, and distress can occur if the demands of a role are excessive (Barnett & Hyde, 2001). Specifically, women's traditional social roles (e.g., mother) tend to have low social value and lead to excessive obligations rather than privileges (Barnett & Baruch, 1985). Being a mother is an important source of stress among women.

In this context, examining the number of roles individuals have would be less valid than comparing different role combinations because simply counting roles may not reflect social values or the importance given to each role. For instance, it would be imprudent to assume that being a parent and a worker should be equivalent to being an adult child and a worker. Considering role-related contexts is especially important when explaining women's multiple roles and their impacts. In previous research, filling multiple roles was less beneficial for women than men (Christie-Mizell et al., 2019; Simon, 1995). Furthermore, having children was positively associated with psychological distress and chronic stress for Canadian women regardless of their employment status (Maclean et al., 2004). This finding might be related to gender role norms emphasizing the mother's role as the primary caregiver for children. The mother role may lead to a greater psychological burden in societies where the traditional gender role norm is still influential.

Although some studies have reported that having multiple roles is less beneficial for women than for men (Christie-Mizell et al., 2019; Simon, 1995), this does not mean that having multiple roles harms women. A few studies have shown the beneficial effects of multiple roles on women's mental health. For instance, the number of roles has been positively associated with better mental health among women (Kang & Jang, 2020; Thoits, 1983). In other research, African American women with three roles (married, employed, and parent) were found to have less severe depressive symptoms than those with no defined role (Christie-Mizell et al., 2019). Moreover, Lahelma et al. (2002) found that

women with a partner and children function better mentally than women in other family types or single women, and that having a paying job benefits women's health in England and Finland. In Japan, married women working with or without a family caregiving role (having children or caring for older persons) had a lower level of psychological distress compared with women with only a worker role (Honda et al., 2015). The benefits of multiple roles for women may also extend throughout the course of a lifetime. Women who worked during mid-life had better mental and physical health in later life than women who did not work (Benson et al., 2017; Caputo et al., 2020).

Associations between work-family role combinations and mental health can be differently shaped within societies and change throughout one's life course. The mother role may especially affect the level of role-related strain based on a child's age or developmental period. As children get older, their care needs and the mother's level of time-intensive responsibility tend to decrease. Moreover, the intensive mothering ideology emphasizes women's devotion to their children (Hays, 1996), especially during early developmental stages. Previous studies have shown that beliefs related to intensive mothering and the pressure to be a perfect mother harm mothers' mental health (Henderson et al., 2016; Rizzo et al., 2013). Given that mothers' responsibilities and the importance of the role are emphasized during the early stage of childhood, the effects of the mother role on individual mothers may change alongside the age or development stage of their children.

However, few studies have considered the age of children or their developmental periods, even though it is an important proxy for role-related contexts (e.g., Leupp, 2017). The beneficial mental health effects of being employed are reduced for women who have young children, but not men (Leupp, 2017). According to a previous study, work-family conflict was the highest when the youngest child was 5 years old or younger (Allen & Finkelstein, 2014). These studies suggest that the child's age is critical in determining whether and how the mother role leads to role overload or conflict.

2.2. Korean context

Women's labor force participation rates and human capital in Korea have increased greatly over the last several decades. According to Statistics Korea (2021a), women's labor force participation rates among those aged 15 or over increased from 50.1% in 2012 to 53.3% in 2021. Furthermore, women's employment rates among women aged 15 to 64 were 52.7% and 57.7% in 2010 and 2021, respectively (Statistics Korea, 2021b). A national survey also indicates that having a job is a normal expectation for most Korean women. 90.0% of Korean women aged 13 and over expressed their belief that women should have a job (Statistics Korea, 2019). Additionally, the level of women's human capital has dramatically increased. In Korea, women's educational attainment now exceeds men's. For example, the percentage of women going to college was 60.3% in 2000 and increased to 75.1% in 2006 when it exceeded the men's rate (73.8%). The educational gender gap has increased since then, and as of 2018, the percentage of men attending college was 65.9% while 73.8% of women attended (Ministry of Education & Korean Educational Development Institute, 2020).

Although the labor force participation and human capital of Korean women have increased substantially over recent decades, child-rearing is still considered a mother's responsibility. Women are expected to fulfill the gender role of the mother as the main caregiver and educator of their children (Shin et al., 2019). Therefore, child-rearing is regarded as one of the most important family responsibilities and roles, especially for women. Mothers are expected to provide strong social support and devotion (Lee, 2008). It has been emphasized socially that a mother's care is crucial to infants' and children's healthy psychological, physical, and cognitive development. Since extended families who live in the same household have become less common, child rearing has become increasingly difficult for Korean women because of a lack of daily social support. Many married women suffer from *dokbag-yuga* (single

parenting) even if they have a spouse because of the gender norm emphasizing the mother's role. Furthermore, Korean society promotes governmental family policies which favor single-earner families despite the increase in dual-earner families and low-quality available childcare support (Lee et al., 2016).

Female responsibility for child-rearing is reflected in the M-shaped graph of female labor force participation in Korea. Korea and Japan are the only OECD countries with decreasing female labor force participation rates after the 20s, increasing throughout the late 30s and 40s, and decreasing again following the 50s. This overall pattern forms an M-shape graphically based on age. Korea shows even a sharper valley in the M-shape than Japan (Brinton & Oh, 2019). The M-shape suggests that women interrupted careers for marriage and childbirth and that partial recovery occurs several years after childbirth. In other words, the role transition to full-time mother and then to working mother could be the most prominent and important transition occurring in Korea compared with other OECD nations. It will be important to understand how the role change and associated status change affect mothers' mental health.

Gender differences in parental leave also reflect the unequal situation in child rearing according to gender. In Korea, the use of parental leave has increased but remains relatively uncommon. The percentages of mothers with a newborn who used parental leave were 40.5% in 2010 and 63.9% in 2021, whereas the percentages of fathers who used parental leave were 0.2% in 2010 and 3.4% in 2021 (Statistics Korea, 2021c). This suggests that parental leave has increased, but the low rate for men reflects the gender inequality based on traditional gender norms in childrearing. Additionally, parental pay is generally 80% of the baseline salary, with the minimum at 700,000 Korean won (approximately USD 700) and the maximum at 1,500,000 Korean won.

In this context, it is possible that having a child increases the psychological stress and burden imposed on Korean women. However, very few studies have investigated whether having a worker role and a mother role exacerbates psychological distress by increasing role conflicts and overload. Although one previous study showed that Korean women who have multiple role combinations have better mental health than others (Kang & Jang, 2020), it was not clearly shown whether having both worker and mother roles is more beneficial than having only a mother role.

Some previous studies have also shown that having children harms the mental health of Korean women. Interestingly, having more than two children was positively associated with suicide attempts among Korean women compared to those with no children (Kim et al., 2021). Another study analyzed married women aged 20 to 49 and found that the number of children was not significantly associated with mothers' mental well-being, but having a child younger than seven years old significantly increased the likelihood of having suicidal ideations (Kim et al., 2013). Therefore, having a young child seems to cause intense stress and harm one's mental health. Thus, it is worth investigating whether having a worker role reduces the strain related to the mother role or increases role conflicts or strain among Korean women.

3. Methods

3.1. Data

Data were drawn from the 2012 (wave 4) through 2020 (wave 8) surveys of the Korean Longitudinal Survey of Women & Families (KLoWF), a nationally representative survey conducted by the Korean Women's Development Institute. Following the first and second surveys conducted in 2007 and 2008, the survey has been conducted every 2 years. The target population of the KLoWF was Korean women aged 19 to 64 as of 2007. The data were collected using a multi-stage stratified probability sampling method. Based on the 2005 Population and Housing Census of Korea, enumeration districts were used as the basic sampling frame to select the primary sampling unit, and then 1700 enumeration districts were selected using probability proportion to size

sampling. The secondary sampling unit was a household in the districts. Approximately five households were selected by systematic sampling from a selected district. Finally, women from these households who were aged 19 to 64 as of 2007 were interviewed (Korean Women's Development Institute, 2022).

The total number of respondents during the 2007 wave 1 was 9997 women aged 19 to 64. The attrition rates of respondents from waves 2 through 5 were 21.7%, 25.4%, 32.3%, and 37% respectively (Korean Women's Development Institute, 2022). To compensate for attrition, 2621 women were added to the survey in 2016 (wave 6) after analyzing the characteristics of respondents who did not participate in the survey from wave 2 to wave 5 (Korean Women's Development Institute, 2022). Thus, wave 6 ($N = 10,065$) had a greater number of respondents than wave 5 ($N = 7745$). The present study used data from 2012 (wave 4) because survey questions for depressive symptoms were not included before 2012.

This study includes only married women younger than 50 from waves 4 to 8 for the analyses because of the focus on associations between work-family role combinations and depressive symptoms associated with having a young child. Restricting the sample through the 40s is also consistent with the M-shaped female labor force participation rates in Korea where the second peak of women's reemployment occurred in those in their 40s (OECD, 2017). The numbers of respondents across the study waves with and without the sample restriction are summarized in Supplementary Table 1 of the Appendix. Given that this study is a secondary data analysis of publicly available KLoWF data, no Institutional Review Board review was required. By including married aged 19 to 49 without nonresponse items, the final sample included 14,851 person-period observations from 4811 married women aged 19 to 49 from survey waves 4 to 8. Because the source data are from a nationally representative sample of Korean women, the present findings can be generalized to married women aged 19 to 49.

3.2. Measures

3.2.1. Depressive symptoms

Depressive symptoms were measured using a 10-item version of the Center for Epidemiological Studies-Depression (CES-D) scale. The items used were (1) "I was bothered by things that usually don't bother me," (2) "I had trouble keeping my mind on what I was doing," (3) "I felt depressed," (4) "I felt that everything I did was an effort," (5) "I was happy," (6) "I felt fearful," (7) "My sleep was restless," (8) "I enjoyed life," (9) "I felt lonely," and (10) "I could not get 'going'." The response categories for each item ranged from "rarely or none of the time (0)," to "most or all of the time (3)." The dependent variable was measured by summing the scores of 10 items. Positive statements were counter-coded so that higher values indicated more severe depressive symptoms. The reliability of depressive symptoms was 0.882 (Cronbach's α).

3.2.2. Work-family role combinations and Child's age

Work-family role combinations were classified into the following four groups based on whether respondents had a job or at least one child at the time of each survey: having both worker and mother roles, having a worker role only, having neither a worker nor a mother role, and having a mother role only. Having a job was defined as working for at least the last month before each survey. Given that respondents included in the study were limited to married women, all respondents had a spouse role regardless of the work-family role combinations. Considering the ages of children, two variables were separately measured as dummy variables: whether one had a preschool-aged child(ren) and/or whether one had a school-aged child(ren).

3.2.3. Covariates

Sociodemographic variables included age, educational level, household income, government subsidy recipient, and whether respondents lived with a parent or parent-in-law. Age was measured in years.

Educational level ranged from 1 (no schooling) to 7 (college or higher). Household income was measured as a continuous variable and was logged because it was skewed after adding a value of 1. Household income was a particularly important control variable because income changes in a household may be closely related to switches between the work-family role combinations. For example, a switch from working mother to full-time mother may result in decreased household income and hence increased depressive symptoms. Receiving a government subsidy indicated whether a respondent was eligible for the governmental subsidy for the poor (eligible = 1). Living with a parent or parent-in-law was measured to control for other family-related contexts. We examined whether the effects of work-family role combinations were still significant after controlling for this variable. Additionally, a health outcome variable was included: that of having a chronic disease. This was a dummy variable that indicated whether respondents had a least one chronic disease diagnosed by a physician. Diagnosis with a chronic disease may force a woman to quit a job and simultaneously cause symptoms of depression. Unlike studies conducted in Western societies, race and ethnicity were not controlled for in this study because Korea is ethnically highly homogenous. Furthermore, time-constant characteristics did not require controls since they would be controlled by respondent-level fixed effects.

3.3. Analytic strategy

Fixed-effect regressions were used to examine associations between the work-family role combinations and depressive symptoms of married women. Unlike conventional ordinary least squares (OLS) and random-effect models, the fixed-effect model estimates the effects of time-varying variables on within-person changes in the outcome variables over time (Angrist & Pischke, 2009). In other words, fixed-effect models can eliminate the potential confounding effects originating from any time-invariant heterogeneity across respondents. In the present case, it will control any mechanism for different women sorting into different work-role combinations. The within-change estimation by fixed effect estimation enables the interpretation of the effect of work-role combinations as the "transition" effect from one combination to another.

The fixed-effect regression analyses included three analytical models. The first model examined associations between work-family role combinations and depressive symptoms after controlling for demographic variables. These included age, educational level, household income and government subsidy recipient. The second model added living with a parent or parent-in-law and having a chronic disease to examine whether the effects of work-family role combinations remained significant after controlling for living with a parent or parent-in-law and the health variable. The final model included two variables for considering the age of a child (i.e., having a preschool-aged child or having a school-aged child).

4. Results

4.1. Descriptive statistics

Table 1 summarizes the descriptive statistics for all variables included in the study. The numbers of respondents and observations across the study waves were 4811 and 14,851, respectively. The mean value of depressive symptoms was 4.562 and the between-person standard deviation ($SD = 3.815$) is comparable with the within-person standard deviation ($SD = 3.55$). Thus, married women experienced considerable changes in the levels of depressive symptoms across the 8 years, and the within-change model with fixed effects used here is expected to produce valid estimates.

The descriptive statistics of work-family role combinations show that most married respondents either had both worker and mother roles or a mother role only. Only 2.1% and 1.7% of respondents were workers without children and childless wives without a job, respectively.

Table 1
Descriptive statistics of the 14,851 person-period observations from 4811 married women aged 19 to 49 across waves 4 to 8 of the KLoFW

Variables	Range	Mean/ Proportion	Overall SD	Between person SD	Within person SD
Depressive symptoms	0–29	4.562	4.807	3.815	3.550
Work-family role combinations					
Worker + Mother	0,1	0.524			
Worker only	0,1	0.021			
Neither worker nor mother	0,1	0.017			
Mother only	0,1	0.438			
Age	19–49	41.530	5.286	5.336	2.273
Educational level	1–7	4.818	0.979	1.007	0.061
Household income (logged)	0–11.082	8.500	0.603	0.558	0.366
Receiving governmental subsidy	0,1	0.006			
Having a chronic disease	0,1	0.148			
Living with a parent or parent-in-law		0.077			
Having a preschool-aged child		0.254			
Having a school-aged child		0.724			

Notes: SD = standard deviation. Standard deviations for categorical variables are excluded.

Regarding children’s ages, 25.4% and 72.4% of married women had preschool-aged children and school-aged children, respectively.

Table 2 presents transitions in work-family role combinations between the adjacent study waves. Most married women in the sample maintained the same role combinations between waves. Among women with both mother and worker roles, 89.42% maintained these roles between the waves. Meanwhile, 78.6% of married women with only a mother role maintained this role. In contrast, 10.58% of married women with both mother and worker roles experienced a role transition to only the mother role (full-time mother). Furthermore, 21.4% of full-time mothers switched to working mothers. Finally, 28.03% of those who were initially neither a worker nor a mother (spouse role only) had children between the waves.

Table 2
Transitions in work-family role combinations across adjacent waves among married women aged 19 to 49.

		Worker + Mother	Worker only	Neither worker nor mother	Mother only	Total
Worker +	n	4565	0	0	540	5105
Mother	%	89.42	0	0	10.58	100
Worker only	n	28	116	26	19	189
	%	14.81	61.38	13.76	10.05	100
Neither worker nor mother	n	3	22	88	44	157
	%	1.91	14.01	56.05	28.03	100
Mother only	n	973	0	0	3573	4546
	%	21.4	0	0	78.6	100
Total	n	5569	138	114	4176	9997
	%	55.71	1.38	1.14	41.77	100

4.2. Associations between work-family role combinations and depressive symptoms

Table 3 presents the results of fixed-effect regression analyses. The analytical models in Table 3 have added variables in hierarchical ways to examine whether and how work-family role combinations are associated with depressive symptoms. Research question 1 examined how role combinations are associated with depressive symptoms. Regarding this research question, the findings summarized in Table 3 indicate that work-family role combinations were statistically significantly associated with depressive symptoms. Unlike married respondents with a mother role only, all three types of role combinations were associated with decreased depressive symptoms even after controlling for whether respondents lived with a parent or parent-in-law and had a least one chronic health condition as shown in Model 2. Compared to married women with a mother role only, those with both worker and mother roles, with a worker role only, and with neither a worker nor mother role (i.e., only spousal role) had statistically lower levels of depressive symptoms.

Given that the within-change estimation by fixed effect estimation enables the interpretation of the effect of work-role combinations as the transition effect from one combination to another, the findings in Models 1 and 2 suggest that quitting work for mothers (i.e., transitioning from having both a mother and worker roles to having a mother role only) was associated with increased depressive symptoms. Meanwhile, resuming work (i.e., transitioning from a mother role only to having both mother and worker roles) was associated with decreased depressive symptoms. A drastic role change from being a working wife (having a worker role only) to a full-time mother (having a mother role only) was

Table 3
Fixed-effect regression models analyzing associations between work-family role combinations and depressive symptoms among married Korean women aged 19 to 49.

	Model 1	Model 2	Model 3
Work-family role combinations (referent = mother only)			
Worker + Mother	-0.309 (0.142) *	-0.293 (0.142) *	-0.287 (0.142) *
Worker only	-1.333 (0.579) *	-1.330 (0.577) *	-0.776 (0.608)
Neither worker nor mother	-1.532 (0.551) **	-1.569 (0.550) **	-1.018 (0.583) +
Age	-0.537 (0.017) ***	-0.532 (0.017) ***	-0.509 (0.019) ***
Educational level	0.008 (0.489)	0.020 (0.487)	-0.004 (0.490)
Household income (logged)	-0.451 (0.110) ***	-0.456 (0.109) ***	-0.459 (0.108) ***
Receiving governmental subsidy	0.660 (1.033)	0.561 (1.017)	0.587 (1.009)
Having a chronic disease		0.404 (0.149) **	0.417 (0.149) **
Living with a parent or parent-in-law		0.402 (0.341)	0.414 (0.342)
Having a preschool-aged child			0.468 (0.171) **
Having a school-aged child			0.257 (0.136) +
Constant	30.858 (2.531) ***	30.546 (2.517) ***	29.399 (2.581) ***
R ² within	0.133	0.134	0.134
R ² between	0.023	0.022	0.022
R ² overall	0.002	0.002	0.002
F	207.36	164.12 ***	135.34 ***
N of observations	14851	14851	14851
N of persons	4811	4811	4811

Notes: Unstandardized coefficients are presented. Numbers in parentheses are robust standard errors.
+p < .1, *p < .05, **p < .01, ***p < .001.

associated with increased depressive symptoms; the reverse scenario is very unlikely in our Korean data and was not reported by any of the participants (see [Table 2](#)). Additionally, married women who were neither a worker nor a mother would be considerably more likely to experience increased depressive symptoms after the birth of their first child.

Research question 2 examined whether married women who had both worker and mother roles had better mental health. Regarding this research question, the present findings indicated that having both worker and mother roles was positively associated with mental health. Married women who had both worker and mother roles had lower levels of depressive symptoms compared to those with a mother role only in Models 2 and 3. These findings suggest that transitioning from a mother role only to having both mother and worker roles would be negatively associated with depressive symptoms. Thus, our analysis with fixed effects supports that adding the worker role to Korean mothers improves their mental health rather than harming it.

Research question 3 examined whether and how associations between work-family role combinations and depressive symptoms in women change when considering the age of their children. For this research question, the findings of Model 3 indicated that associations between the role combinations and depressive symptoms changed after controlling for the age of mothers' children. Having a worker role only became non-significant and neither a worker nor a mother role became marginally significant after controlling for the two variables related to children's ages in Model 3. Only working mothers had statistically significantly less severe depressive symptoms than full-time mothers at a 5% level. That implies that quitting work among mothers was associated with increased depressive symptoms, whereas resuming work was associated with decreased depressive symptoms among them.

Furthermore, having a preschool-aged child was positively associated with depressive symptoms, and those who had a preschool-aged child were more likely to be depressed than others. Having a school-aged child was marginally significantly associated with depressive symptoms. Thus, married women who had a preschool-aged child were likely to have greater depressive symptoms.

Regarding other covariates, age, household income, and having a chronic disease were statistically significant. Age and household income were negatively associated with depressive symptoms. Those who had a chronic disease had greater depressive symptoms than their counterparts. However, living with a parent or parent-in-law was not significantly associated with depressive symptoms.

As a supplementary analysis, the result of the random-effect model is summarized in the appendix ([Supplementary Table 2](#)). The result of the random-effect model is quite consistent with that of the fixed-effect models in terms of associations between the role combinations and depressive symptoms (Model 3 in [Table 3](#)), but their significances are greater in the random-effect model. Married women with roles as both a worker and a mother had significantly lower levels of depressive symptoms than those with a mother role only. Additionally, having a worker role only was marginally significant, and neither a worker nor a mother role was significant at a 5% level. This indicated that the fixed-effect models provided more conservative tests after controlling for time-constant differences across respondents.

Another supplementary analysis was conducted to examine whether there were differential effects associated with having both a worker and mother role by the types of occupations. The group of "having both a worker and mother role" were categorized into four sub-groups by occupation types: (1) managerial or professional worker + mother; (2) office worker + mother; (3) service or sales worker + mother; and (4) others + mother. The "having a worker role only" category was not refined by the types of occupation because it was not statistically significant in the final model of [Table 3](#). Additionally, there were a small number of cases in the category of "having a worker role only" ($n = 312$). In these findings, only the category "manager or professional + mother" was marginally significant. These individuals had lower levels

of depressive symptoms compared with respondents who had a mother role only at a 10% level. This indicates that the transition from having a managerial or professional worker role and a mother role, to having a mother role only, increased depressive symptoms at a 10% level. Although it was not strongly significant, it implies that quitting a managerial or professional job would be more harmful to mental health than other occupation types. The results of this analysis are summarized in [Supplementary Table 3](#) of the Appendix.

5. Discussion

The findings have shown that having both worker and mother roles benefits the mental health of married Korean women aged 19 to 49. Compared with married respondents with only a mother role, the other three role combination types were associated with decreased depressive symptoms after controlling for whether respondents lived with a parent or parent-in-law or had a chronic disease. Married women with only a worker role and with neither mother nor worker roles (i.e., spouse role only) had better mental health than those with a mother role. However, having a worker role only became non-significant and neither the worker nor mother roles became marginally significant after controlling for the two variables related to children's age. Only working mothers had statistically significantly less severe depressive symptoms than full-time mothers at a 5% level. The results of fixed-effect models suggest that the transition from having mother and worker roles to having only a mother role is associated with increased depressive symptoms, whereas the opposite transition from only a mother role to having both mother and worker roles is associated with decreased depressive symptoms.

These findings are consistent with the role expansion theory and identity accumulation perspective ([Barnett & Hyde, 2001](#); [Thoits, 1983](#)) that suggest that having both worker and mother roles is more beneficial to mental health compared with having a mother role only. They also concur with a few empirical studies that support the benefits of multiple roles for women ([Christie-Mizell et al., 2019](#); [Lahelma et al., 2002](#)). Having multiple roles may provide women with useful resources such as social support and income, while also increasing self-complexity and mothers' sense of meaningfulness and existential self ([Barnett & Hyde, 2001](#); [Thoits, 1983](#)). Filling multiple roles can also reduce the harmful effects of stressors related to social roles and allows women to experience diverse social engagements and activities.

Even in Korea, where child rearing is strongly considered a mother's responsibility, working mothers appear to have better mental health than full-time mothers. This is largely consistent with a previous study which found that married Korean women with both mother and worker roles, and those with a sole mother role, had lower levels of depressive symptoms than women without either role ([Kang & Jang, 2020](#)). Working outside the home gives women economic power, which can be related to psychological resources such as a positive self-concept and empowerment. This may especially reduce psychological distress resulting from the family role because outside work distracts women from being overly immersed in their family responsibilities. Thus, having both worker and mother roles also benefits Korean women. While having both roles may increase work-family imbalances from some perspectives, a job can provide mothers with useful psychological and economic resources such as improved self-esteem, and increased income and social support, thereby decreasing the depressive symptoms experienced by married women with children.

Interestingly, adding a mother role is not beneficial to the mental health of married Korean women. This suggests that adding a role does not always protect mental health but might increase psychological burden and stress depending on societal role-related norms. Married women with neither a worker nor a mother role had lower levels of depressive symptoms compared with those with a mother role (Model 2 of [Table 3](#)). Although the difference between the two groups became marginally significant after controlling for whether the mother had a preschool-aged child (Model 3 of [Table 3](#)), this result implies that adding

a mother role is not beneficial to mental health among childless housewives.

Thus, having a child (in contrast to merely the number of roles filled) seems to be a critical condition associated with the mental health of married Korean women. Being a mother with young children appears to lead to especially significant depressive symptoms among Korean women due to excessive obligations assigned to mothers. Specifically, these findings demonstrate that having a preschool-aged child was positively associated with depressive symptoms while having a school-aged child was marginally significantly associated with mental health. Raising a preschool-aged child can be very stressful for married women in the Korean context, and previous studies have shown that having children is harmful to the mental health of Korean women (Kim et al., 2013, 2021).

The present findings support the identity accumulation perspective and role expansion theory by showing that simultaneously having both worker and mother roles is beneficial to mental health compared with having a mother role only. This study, however, also provides new implications for future research related to multiple roles. The findings suggest that stress associated with the mother role may be resolved or reduced by activities and resources obtained at the workplace but that the opposite relief of workplace stress by mothering is unlikely. Thus, cross-role benefits are not additive but directional or contingent. Further elucidation of those directional benefits or contingent factors associated with benefits is warranted in future research.

Additionally, these findings may inspire further studies of whether and how role combinations are associated with depressive symptoms in married women in other Asian societies. Women's labor force participation rates have continuously increased in many countries in East Asia and the Pacific, including China, Japan, and Malaysia (World Bank, 2021). Additional studies of married women in these countries may examine whether the findings of this study correlate with the experiences of married women in other Asian countries associated with increasing participation in their labor forces by women and relatively traditional gender norm ideologies.

Several limitations of this study need to be addressed. First, the percentages of respondents who had a worker role only and neither a worker nor a mother role were relatively low and this may reduce the statistical power of the variables. In the descriptive statistics, only 2.1% of respondents were a worker without a child and 1.7% were neither a worker nor a mother. Additionally, the numbers of the transitions of these two groups to having both roles or having a mother role only are also limited and could lead to the type 2 error because of the lowered statistical power associated with these transitions. Second, the types of employment and the transitions between them across waves could not be examined. A logical next step for future research is to examine whether and how employment transitions between full-time and part-time work are associated with depressive symptoms among married women.

Third, we could not control for personal income because of the high collinearity with the role combinations. Two combination categories, neither worker nor mother, and mother only, have no personal income. Considering that the negative effect of quitting work on mental health could be associated with the reduction of personal income, further research should investigate whether reduced individual income after quitting work leads to depressive symptoms net of full-time child-rearing. Nevertheless, the findings in Table 3 suggest that the mediating mechanism associated with reduced income is relatively unlikely because "Neither worker nor mother" shows the lowest levels of depressive symptoms across the three models, even lower than "Worker only". If reduced income had improved depressive symptoms, a transition from "worker only" to "neither worker nor mother" would have increased the level of depressive symptoms, which is the opposite of these observations.

Fourth, relatively short-term effects of role transitions were estimated. The advantage of both worker and mother roles may either decay

or cumulatively increase over time. We did not explore how work-family transitions may be associated differently with depressive symptoms in the medium and long term. Thus, more respondents and survey waves are needed to estimate longer-term effects. Additionally, having a mother role might also be beneficial to women's mental health as children grow. Therefore, we should be careful not to conclude that having a child would be deleterious to women's mental health over the course of their lives. Finally, despite the methodological advantages of the employed fixed-effect model, the possibility of reverse causation remains because the fixed-effect model only controls for time-constant, between-person, heterogeneity. That is, a married woman with improving mental health might decide to continue working in combination with parenting.

6. Conclusion

Despite the limitations, this study provides clear evidence that having both mother and worker roles can benefit the mental health of married Korean women. The mother role might lead to greater responsibility and burden, especially when a child is young. Meanwhile, having a job may decrease the psychological burden of married women with young children instead of increasing role overload or conflicts. Handling work-family roles simultaneously can benefit women by providing valuable resources such as social support, income, and increased self-esteem.

Furthermore, our findings on the negative association between having a preschool-aged child and mental health suggest an implication for Korean society concerning low fertility rates as well as women's mental health. Korea has the lowest fertility rate in the world, with fertility rates of 1.239 in 2015 and 0.84 in 2020 (Statistics Korea, 2021d), which might also be associated with mothers' mental health. With increasing participation by women in the labor force and their increasing human capital (Statistics Korea, 2021a; Ministry of Education & Korean Educational Development Institute, 2020) many women believe that they should also have jobs (Statistics Korea, 2019). However, child rearing remains considered women's work, which leads to a psychological burden and employment disruption. As of 2021, 43.2% of all married women who quit working did so to raise their preschool-age children (Statistics Korea, 2021e). These findings suggest that this situation in Korea worsens the mental health of married women. Additionally, it increases the likelihood that women will not have children or delay childbirth (Brinton & Lee, 2016; Brinton & Oh, 2019; Seo, 2019). Furthermore, it has been reported that Korean women are less likely to have a second child if they are employed after having a first child (Ma, 2016). Therefore, governmental policies for increasing women's work and improving work-family balance based on gender equality should be implemented.

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Ethical statements

The data are publicly available at <https://klowf.kwdi.re.kr> and do not include any personally identifiable information. The data were collected by the Korean Women's Development Institute. However, the collector of the original data does not bear any responsibility for the analyses or interpretations presented here.

Author statement

Min-Ah Lee: Conceptualization, Methodology, Formal analysis,

Writing-Original draft; Jeong-han Kang: Methodology, Software, Writing-Review & Editing, Funding acquisition.

Declaration of competing interest

The authors have no conflicts of interest.

Data availability

The data are publicly available at the website of Korean Women's Development Institute.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.ssmph.2023.101405>.

References

- Allen, T. A., & Finkelstein, L. M. (2014). Work-family conflict among members of full-time dual-earner couples: An examination of family life stage, gender, and age. *Journal of Occupational Health Psychology, 19*(3), 376–384. doi:10.1037/a0036941.
- Angrist, J. D., & Pischke, J. S. (2009). *Most harmless econometrics: An empiricist's companion*. Princeton University Press.
- Barnett, R. C., & Baruch, G. K. (1985). Women's involvement in multiple roles and psychological distress. *Journal of Personality and Social Psychology, 49*(1), 135–145. <https://doi.org/10.1037/0022-3514.49.1.135>
- Barnett, R. C., & Hyde, J. S. (2001). Women, men, work, and family: An expansionist theory. *American Psychologist, 56*(10), 781–796. <https://doi.org/10.1037/0003-066X.56.10.781>
- Benson, R., Glaser, K., Corna, L. M., Platts, L. G., Di Gessa, L., Worts, D., Price, D., McDonough, P., & Sacker, A. (2017). Do work and family care histories predict health in older women? *The European Journal of Public Health, 27*(6), 1010–1015. <https://doi.org/10.1093/eurpub/ckx128>
- Brinton, M., & Lee, D. (2016). Gender-role ideology, labor market institutions, and post-industrial fertility. *Population and Development Review, 42*(3), 405–433. doi:10.1111/padr.161.
- Brinton, M. C., & Oh, E. (2019). Babies, work, or both? Highly educated women's employment and fertility in East Asia. *American Journal of Sociology, 125*(1), 105–140.
- Caputo, J., Pavalko, E. K., & Hardy, M. A. (2020). Midlife work and women's long-term health and mortality. *Demography, 57*, 373–402. <https://doi.org/10.1007/s13524-019-00839-6>
- Christie-Mizell, C. A., Talbert, R. D., Hope, A. R., Frazier, C. G., & Hearne, B. N. (2019). Depression and African Americans in the first decade of midlife: The consequences of social roles and gender. *Journal of the National Medical Association, 111*(3), 285–296. <https://doi.org/10.1016/j.jnma.2018.10.012>
- Engels, M., Wahrendorf, M., Dragano, N., McMunn, A., & Deindl, C. (2021). Multiple social roles in early adulthood and later mental health in different labour market contexts. *Advances in Life Course Research, 50*, Article 100432. <https://doi.org/10.1016/j.alcr.2021.100432>
- Hays, S. (1996). *The cultural contradictions of motherhood*. Yale University Press.
- Henderson, A., Harmon, S., & Newman, H. (2016). The price mothers pay, even when they are not buying it: Mental health consequences of idealized motherhood. *Sex Roles, 74*, 512–526. <https://doi.org/10.1007/s11199-015-0534-5>
- Honda, A., Abe, Y., Date, Y., & Honda, S. (2015). The impact of multiple roles on psychological distress among Japanese workers. *Safety and Health at Work, 6*, 114–119. <https://doi.org/10.1016/j.shaw.2014.12.004>
- Kang, J., & Jang, S. (2020). Effects of women's work-family multiple role and role combination on depressive symptoms in Korea. *International Journal of Environmental Research and Public Health, 17*(4), 1249. <https://doi.org/10.3390/ijerph17041249>
- Kim, Y., Cha, C., & Lee, M. (2021). Comparison of causes for suicidal ideation and attempt: Korean longitudinal survey of women and families. *Archives of Women's Mental Health, 24*, 107–117. <https://doi.org/10.1007/s00737-020-01048-6>
- Kim, E., Lee, S., Lim, S., & Chung, W. (2013). Relationship between the suicidal ideation of the married women and the characteristics of their children (in Korean) *Health Policy and Management, 23*(4), 358–368. <https://doi.org/10.4332/KJHPA.2013.23.4.358>.
- Korean Women's Development Institute. (2022). The KLoWF user's guide (in Korean) <https://klowf.kwdi.re.kr/portal/data/dataInfoPage.do?pageSize=10&pageIndex=1&bbsId=ETCDATA&searchItem=all&searchText=&articleSeq=804>. (Accessed 26 September 2022).
- Lahelma, E., Arber, S., & Kivela, E. (2002). Multiple roles and health among British and Finnish women: The influence of socioeconomic circumstances. *Social Science & Medicine, 54*, 727–740. [https://doi.org/10.1016/S0277-9536\(01\)00105-8](https://doi.org/10.1016/S0277-9536(01)00105-8)
- Lee, J. (2008). Changes in mothering of Korean women: Based on narrative interview data. *Development and Society, 37*(2), 141–167.
- Lee, S., Duvander, A., & Zarit, S. H. (2016). How can family policies reconcile fertility and women's employment? Comparisons between South Korea and Sweden. *Asian Journal of Women's Studies, 22*(3), 269–288. <https://doi.org/10.1080/12259276.2016.1202027>
- Leupp, K. (2017). Depression, work and family roles, and the gendered life course. *Journal of Health and Social Behavior, 58*(4), 422–441. <https://doi.org/10.1177/0022146517737309>
- Ma, L. (2016). Female labour force participation and second birth rates in South Korea. *Journal of Population Research, 33*, 173–195. <https://doi.org/10.1007/s12546-016-9166-z>
- MacLean, H., Glynn, K., & Ansara, D. (2004). Multiple roles and women's health in Canada. *BMC Women's Health, 4*(S3). <https://doi.org/10.1186/1472-6874-4-S1-S3>
- Ministry of Education & Korean Educational Development Institute. (2020). *Statistical yearbook of education 2020* (in Korean).
- Mortazavi, S., Pedhiwala, N., Shafiro, M., & Hammer, L. (2009). Work-family conflict related to culture and gender. *Community, Work & Family, 12*(2), 251–273. <https://doi.org/10.1080/13668800902779023>
- Nordenmark, M. (2004). Multiple social roles and well-being. *Acta Sociologica, 47*(2), 115–126. <https://doi.org/10.1177/0001699304043823>
- OECD. (2017). *OECD.stat*. Paris: OECD.
- Rizzo, K. M., Schiffrin, H. H., & Liss, M. (2013). Insight into the parenthood paradox: Mental health outcomes of intensive mothering. *Journal of Child and Family Studies, 22*, 614–620. <https://doi.org/10.1007/s10826-012-9615-z>
- Seo, S. H. (2019). Low fertility trend in the Republic of Korea and the problems of its family and demographic policy implementation. *Population and Economics, 3*(2), 29–35. <https://doi.org/10.3897/popecon.3.e37938>
- Shin, K., Jahng, K. E., & Kim, D. (2019). Stories of South Korean mothers' education fever for their children's education. *Asia Pacific Journal of Education, 39*(3), 338–356. <https://doi.org/10.1080/02188791.2019.1607720>
- Simon, R. W. (1995). Gender, multiple roles, role meaning, and mental health. *Journal of Health and Social Behavior, 36*, 182–194. <https://doi.org/10.2307/2137224>
- Statistics Korea. (2019). 2019 social survey results (in Korean) https://kostat.go.kr/portal/korea/kor_nw/1/6/3/index.board?bmode=read&bSeq=&aSeq=378876&pageNo=1&rowNum=10&navCount=10&currPg=&searchInfo=&sTarget=title&sTxt=
- Statistics Korea. (2021a). *Women's labor force participation rates. Economically Active Population Survey* (in Korean) https://www.index.go.kr/potal/main/EachDtlPageDetail.do?idx_cd=1572.
- Statistics Korea. (2021b). *Employment rates by gender. Economically active population survey* (in Korean) <https://www.index.go.kr/unify/idx-info.do?idxCd=4212>. (Accessed 20 September 2022).
- Statistics Korea. (2021c). *Maternal leave statistics, 2020*. (in Korean) https://kostat.go.kr/portal/korea/kor_nw/1/3/6/index.board. (Accessed 6 February 2023).
- Statistics Korea. (2021d). 2021 birth statistics (in Korean) https://www.index.go.kr/portal/main/EachDtlPageDetail.do?idx_cd=1428. (Accessed 20 September 2022).
- Statistics Korea. (2021e). Local area labour force survey (in Korean) https://index.go.kr/potal/visual/VisualDtlPageDetail.do?idx_cd=3039. (Accessed 20 September 2022).
- Tang, T. N., & Tang, C. S. (2001). Gender role internalization, multiple roles, and Chinese women's mental health. *Psychology of Women Quarterly, 25*, 181–196. <https://doi.org/10.1111/1471-6402.00020>
- Thoits, P. A. (1983). Multiple identities and psychological well-being: A reformulation and test of the social isolation hypothesis. *American Sociological Review, 48*(2), 174–187. <https://doi.org/10.2307/2095103>
- Thoits, P. A. (1991). On merging identity theory and stress research. *Social Psychology Quarterly, 54*(2), 101–112. <https://doi.org/10.2307/2786929>
- World Bank. (2021). Labor force, female (% of total labor force)-East Asia & Pacific. *World Development Indicators Database*. Retrieved from <https://data.worldbank.org/indicator/SL.TLF.TOTL.FE.ZS?end=2021&locations=Z4&start=2006>. (Accessed 25 March 2023).