Mental well-being of mothers with preschool children in Japan:

Investigating the association between depression and spouse's participation in childrearing

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### ABSTRACT

In industrialized societies, medical attention to new mothers is high during pregnancy; however this drops after birth. This is understood as a "normal" transition, resulting in little attention paid to study new parents' well-being. In Japan since the 1990s, the importance of the father's involvement in childrearing is emphasized in public policies and through the media as an attempt to halt decreasing fertility as well as a response to criticism towards gendered division of labor. However, how such social movement contributed to women's health postpartum has not been assessed. In addition, increasing concern toward child abuse and suicide of mothers with infants in Japan makes the study of parental health of infants and young children extremely important and timely.

Using a logistic regression, this study analyzed a Japanese survey based on women with infants and preschool children (育児や介護と仕事の両立に関する調査) and examined the relationship between mothers' experience of stress and depression postpartum and their spouses' involvement in childrearing. In the survey, 47.3 percent of women who are in the labor force have experienced depression and/or neurosis from child-rearing. Among women who are in the labor force, 47.7 percent of women have experienced such mental conditions postpartum. The finding suggests that rather than labor force participation, the spouse's involvement in childrearing can be a key significantly influencing the possibility of stress and depression after birth.

### 1. Introduction

Bringing home a new baby is not only a joyful but also a stressful event for new parents. Not corresponding to a happy and caring image, new parents may feel guilty and find it difficult to discuss their physical and mental problems in public. In industrialized societies, medical attention is high during pregnancy; however it drops after birth. Since this is understood as a "normal" transition, it results in little attention paid to studying new parents' well-being (Albers 2000; Saurel-Cubizolles 2000; Schytt et al. 2005). Recently, increasing numbers of studies recognized the importance of studying mother's health after birth, and they show physical and mental problems are common for these women.

The studies based in Western nations reported a high prevalence of physical symptoms and emotional problems among women after birth even among those who went through a normal pregnancy and delivery (Chien et al. 2009; Brown and Lumley 1998; Webb et al. 2008). There is no consensus in terms of the duration of physical and mental problems, ranging from a month to a year, some argue even longer than a year (Albers 2000; Chien et al. 2009; MacArthur et al. 1991). Based on a statewide postal survey of women six to seven months after birth in Victoria, Australia, Brown and Lumley (1998) found that 94 percent of these women reported one or more than one physical problems. A recent study in Philadelphia by Webb et al. (2008) showed that 69 percent of women at 9 to 12 months postpartum reported at least one physical problem. Reviewing studies on infant crying and maternal tiredness in the first three months postpartum in English, French, and German from 1980 and 2007, Kurth et al (forthcoming) claimed that the amount of infant crying is associated with the experience of tiredness and fatigue. Finally, a longitudinal study conducted in Italy and France investigated women's health at 12 months after birth, and showed that women's physical problems (e.g. backache, headache, sleep disorders, extreme tiredness) tend to increase over time (Saurel-Cubizolles et al. 2000).

Few studies have looked at health problems after birth in Asian nations (Chien et al. 2009). In Taiwan, Chien et al. (2009) found that at one year postpartum, women reported 3.35 physical symptoms on average, and 23.5 percent of women reported depressive symptoms. In Japan, since the 1980s, research on new parents' well-being has been mainly focused on issues regarding parenting stress. Some research reported that 90 percent of mothers of infants and young children have some moment where they feel hardship or difficulty in childrearing (Kuwana and Hosokawa 2007; Cardenas and Suehara 2008; Tanaka et al. 2008). Sakama (2000) conducted a regional study of mothers of children younger than three years in Ibaraki prefecture, and reported that cumulative fatigue symptoms were positively associated with parenting strain.

In Japan, increasing numbers of nuclear families and decreasing fertility have weakened the local support networks, resulting in a greater pressure on women to take care of their children on their own (Cardenas and Suehara 2008). As more women continue to stay in the labor force after marriage and child birth, such social problems increased public awareness towards gendered inequality where care is considered as women's work. As an attempt to solve such problems and to halt decreasing fertility, since the 1990s the importance of the father's involvement in childrearing is emphasized in public policies and through the media. However how such social change influenced women's health after birth has not been assessed in previous studies. In the Japanese cultural context, being in a labor force after child birth could be an additional burden since women are expected to take the major task of caring their family members. In Japan, as increasing numbers of women gain higher education and stay in the labor force, the emotional

adjustment after birth is discussed to be especially challenging for those who wish to identify themselves not solely as a mother. These women struggle to balance their goals, expectations from family members, and their expectations toward their family members (Kuwana and Hosokawa 2007; Tanaka et al. 2008). However, as Hochschild (1997) suggested, while taking care of family members is "women's work", remaining in the world of "male work" seems more valuable and honorable. Recent U.S. studies found that women who do paid work feel less depressed than women who stay home, and another study reported that women who work outside the home feel more valued at home than those who stay at home (Hochschild, 1997). Thus whether being in a labor force has a negative or positive effect of mental health of mothers of preschool children is unknown in the Japanese context.

This study examines the experience of depression of mothers with preschool children in Japan in relation to the spouse's participation in childrearing. This study has a significant contribution to identify socially vulnerable populations and provide public policy implications. Increasing concern toward child abuse and suicide of young mothers with infants also makes this study timely and necessary.

# 2. Method

### 2.1. Data

This study analyzes a Japanese survey based on women with preschool children (育児や介護 と仕事の両立に関する調査) in 2003. The survey is designed by the Japan institute for Labour Policy, a government-related organization, and the actual survey is conducted by INTAGE Inc., the largest market researcher in Japan. The sample is selected from members of INTAGE Inc. (Currently, INTAGE Inc. has 141, 20,000 members), and a Web survey was conducted. This survey interviewed mothers of preschool children who are currently in the labor force and those who quit their work a year before giving a birth, which allows us to comparatively look at women who went back to the labor force after birth, and those who remained home to take care of their child after birth. This study focuses on these mothers who live with their spouse to comparatively analyze the association between spousal support and mothers' experience of depression. This survey also asked respondents' expectation of their spouse's involvement in childrearing that allows us to detect whether there is a significant association between mother's experience with depression and spouse's involvement in childrearing. The data set also includes the information about the experience of depression and/or neurosis of child-rearing.

### 2.2 Measures

Respondents' expectation on fathers' involvement with childbearing is measured using two categorical variables, one asking female respondents when they felt stress of anxiety about child-rearing (1) whether they wish their spouse to be a person who could have good conversation about their experience and worry regarding childrearing in daily life, and (2) whether they wish their spouse to take care of housework and children on weekend. Those who answered they wished their spouse to do so are coded 1, and otherwise coded 0. Whether they leave their child to daycare center or kindergarten for full-time is also included in the analysis as a dichotomous variable, coded 1 for yes, and otherwise coded 0. For the outcome variable, respondents' experience with depression and neurosis of child-rearing is measured as dichotomous variable, coded 1 for yes and otherwise coded 0. In asking a question about depression, researchers

included some information in the questionnaire about depression and neurosis of child-rearing that about 10 percent of women experience it and they listed out some symptoms (loss of sleep, lack of affection to children, irritation, no appetite, self-accusation, and anxiety).

The study variable also includes various control variables including measures of demographic characteristics (sex, age, age of the youngest child, presence of sibling, living arrangement) and socioeconomic characteristics (education, work status, income). Respondents' age is measured as an ordinal variable, and the youngest child's age is measured as continuous variables in a range of 0 to 6 years old; the mean was 3.49 years for currently employed mothers and 2.87 years for stay-home mothers (Table 1). For mothers who are currently in the labor force, their income was used, and the mean was about U.S. 22, 636 dollars. For stay-home mothers, their family income is used and the mean was about U.S. 71, 352 dollars (Table 1). In addition, previous studies pointed out that weakened social support networks and nuclear family households increased the responsibility of parents to take care of their children by their own. Living in three-generational households remains common in Japan and alleviates parents from the sole responsibility of caring for a preschool child as well as social isolation. Thus, a dichotomous variable, whether respondents live in three-generational households, is included in the study, coded 1 for yes and 0 for those living in nuclear family. Logistic regression was used to see the effects of various factors on mothers' experience of depression and/or neurosis of child-rearing and separate analysis was made for mothers who are currently in labor force and stay-home mothers.

## Result

In the survey, for mothers in the labor force and stay-home mothers, close to 50 percent of them have experienced depression and/or neurosis from child-rearing. Employed mothers have a

higher percentage of living in three generational households and having more than one child, leaving their child to day-care centers for full-time, than stay-home mothers (Table 1). Being in a labor force give them priority to enroll their children to day-care centers, and having parents to take care of housework help them to remain in the labor force after birth, and having more than a child could be one of the reasons to remain in the labor force thinking about the expensive cost of raising a child in Japan. In terms of their expectations of their husbands' involvement in childcare, greater than 50 percent of both stay-home mothers and mothers in the labor force wished their husband to be more supportive in terms of daily communication about child-rearing and weekend support on childcare and housework (Table 1).

Table 2 shows the logistic regression result for currently employed mothers. The first model looks at basic demographic and socioeconomic characteristics, the second model added their information about childcare support, whether the respondents leave their child in day care centers or kindergarten for full time, and whether they wish their husband to be more supportive in terms of daily conversations about child-rearing. The third model added the question, whether they wish their husband to be more supportive in terms of taking some tasks of childcare and housework on weekend. Surprisingly, living with parents, higher income, working as full-time, having younger preschool child, and leaving their children to daycare center or kindergarten for full time did not have a significant association with mothers' experience of depression and/or neurosis from child-rearing. As expected, those who wish their husband to be more supportive have greater likelihood of answering that they have experienced depression and/or neurosis from child-rearing. When they felt stress or anxiety about child-rearing, those who wished their husband to be more supportive in terms of daily conversation about child-rearing was about twice more likely to answer that they have experienced depression and/or neurosis from child-

rearing (Table 2). Thus there is a significant association between spousal support and the experience of depression and neurosis from child-rearing. Since this data set is cross-sectional, it greatly limits us to specify the causal relationship between spousal support and experience of depression and/or neurosis from child-rearing.

Table 3 shows the result for stay-home mothers. Similar to the result for mothers in the labor force, while other factors being insignificant (living with parents, higher income, having younger preschool child, and leaving their children to daycare center or kindergarten for full time), those who wish their husband to be more supportive have a greater likelihood of answering that they have experienced depression and/or neurosis from child-rearing. When they felt stress or anxiety about child-rearing, those who wished their husbands to be more supportive in terms of daily communication about child-rearing was about twice more likely to answer that they have experienced depression and/or neurosis from child-rearing (Table 3). In other words, those who did not need to wish their husband to be more supportive in the time they felt stress or anxiety about child-rearing was less likely to fall into depression and neurosis from child-rearing. The cross-sectional nature of this data set limits us to discuss further about causal relationships, however the result suggests the importance of spousal involvement especially in the time mothers feel stress or anxiety about child-rearing to avoid them to fall into the stage they recognize the possibility of medical illness.

# Discussion

For both stay-at-home mothers and mothers in the labor force, there is a significant association between spousal support and mothers' experience of depression and/or neurosis from child-rearing. Future research requires the development of longitudinal studies to understand the

causal relationship between these variables, adding more variables to assess the stages of depression. Thinking that greater than 50 percent of stay-at-home mothers and mothers in the labor force wished their husband to be more supportive when they felt stress and/or anxiety about child-rearing, rather than understanding this life stage as a normal transition with the happy image of mothers taking care of young children, researchers and policy makers should study this stage as a challenging stage for both stay-home mothers and mothers in labor force. As the Japanese government develops more official policies for fathers' involvement in child-rearing, while the continuous gendered structure of Japanese industries and lack of access to daycare centers urgently need improvement, thinking of the time required to change and adapt, small steps husbands can take without legal enforcement, such as listening to their wife's thoughts and sharing their opinions on a daily basis and helping the housework and child-rearing on the weekend, could be both a short and long-term fix to the problem of mothers' experience of depression.

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Table 1 Descriptive Statistics

Variables		Employed	Non-employed
Age	20s	31.7%	46.2%
C	30s	65.8%	45.8%
	40s	2.5%	7.9%
Sibling	No sibling	65.9%	90.3%
Income (U.S. dollars based		Individual	Family
on the currency on March		22,636	71,352
1, 2011)		(139.868)	(714.666)
Children going to daycare			
(full-time)	Yes	76.8%	27.8%
		3.49	2.87
Age of the Youngest Child	Mean (SD)	(1.74)	(1.57)
Depression	Yes	47.3%	47.7%
Living with parents	Yes	14.5%	7.7%
Wished their husband has been more helpful (daily communication)	Yes	53.9%	61.3%
Wished their husband has been more helpful (child- care and housework on weekend)	Yes	57.5%	51.3%
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Full-time employee	Yes	60.5%	
Ν		740	493

# Table 2

Logistic Regression of Depression and/or Neurosis of Child-Rearing (Currently employed mothers)

	Model 1 Beta (standard	Model 2 Beta (standard	Model 3 Beta (standard
Variables	error)	error)	error)
Individual Income	.998 (.001)***	.999 (.001)	.999 (001)
Age	.678 (.169)*	.718 (.174)	.702 (.172)*
Living with parents	.807 (.235)	.808 (.243)	.823 (.239)
Age of the youngest child	1.057 (.052)	1.015 (.060)	1.015 (.059)
Sibling	1.146 (.179)	1.158 (.190)	1.145 (.187)
Childcare/Kindergarten (Full-Time)		1.141 (.226)	1.199 (.223)
Full-time Employee		1.584 (.253)	1.596 (.249)
Wish their husband to be more helpful (daily communication)		2.329 (.166)***	
Wish their husband to be more helpful (help housework and childcare on weekend)			1.545 (.165)**
Df -2 log likelihood Chi-square	5 860.218 25.236***	8 829.226 56.228***	8 848.596 36.858***

Note: \* <.05 \*\*<.01 \*\*\* <.001

# Table 3

Logistic Regression of Depression and/or Neurosis of Child-Rearing (Currently unemployed mothers)

	Model 1 Beta (standard	Model 2 Beta (standard	Model 3 Beta (standard
Variables	error)	error)	error)
Family Income	1.000 (.000)	1.000 (.000)	1.000 (0.000)
Age	.895 (.190)	.910 (.193)	.917 (.192)
Living with parents	.811 (.599)	.846 (.404)	.820 (.402)
Age of the youngest child	1.075 (.075)	1.107 (.091)	1.084 (.091)
Sibling	1.060 (.369)	1.164 (.389)	1.095 (.386)
Childcare/Kindergarten (Full-Time)		.882 (.314)	.905 (.312)
Wish their husband to be more helpful (daily communication)		1.987 (.221)**	
Wish their husband to be more helpful (help housework and childcare on weekend)			1.702 (.215)*
Df -2 log likelihood Chi-square	5 495.738 2.104	7 485.898 11.944	7 489.502 8.341

Note: \* <.05 \*\*<.01 \*\*\* <.001