

# **Marriage, Parenthood and Self-assessed Health among Japanese Adults**

## Author

Yuko Hara  
University of Maryland, College Park

## Abstract

A number of empirical studies from the West have repeatedly demonstrated that marriage is associated with improved mental and physical health as well as reduced mortality for both men and women. Research from the West has also shown that marital dissolution has a negative impact on well-being, particularly for men. Additionally, the effect of being a parent on self-assessed health has shown to be insignificant or minimal. However, existing research on the associations between marital and parental statuses and health in the non-Western regions is limited.

This paper provides new empirical evidence for factors associated with self-assessed health from the non-Western, industrialized, and highly gendered social context of Japan. Using the 8 waves of Social Science Japanese Life Course Panel Survey data, this paper examines the relationship between marital status, parental status, and self-assessed health in Japan. The results of my analyses indicate that marital and parental statuses have different effects on self-assessed health for Japanese men and women. The results indicate that marriage is associated with better self-assessed health for men, while the association for women is marginally significant. Being a parent is positively associated with women's self-assessed health, but it is negatively associated with men's.

Despite improvements in the educational attainment and labor force participation of women relative to men, social norms in Japan still emphasize women's responsibility in domestic work and childrearing, and as husbands' role as the primary breadwinner in the family. I argue that in a social context where such traditional gender norms persist, men gain from marriage by having a wife who performs the majority of domestic labor, while women may not benefit much in terms of self-assessed health by being married. However, since many women leave the labor force or work less even if they remain in the labor force upon childbirth, women may report better health when they become a parent, while the transition to parenthood may deteriorate men's health due to the increased financial responsibilities as many of them become the sole earner for the family upon childbirth.

A number of empirical studies from the West have repeatedly demonstrated that marriage is associated with improved mental and physical health and reduced mortality for both men and women (Rendall et al. 2011; Waite and Gallagher 2000; Ross, Mirowsky, and Goldsteen 1990; Walter R. Gove 1973). Research the West has also shown that marital dissolution has a negative impact on well-being, particularly for men (Williams and Umberson 2004). It is unclear whether these findings are applicable to non-Western countries. Furthermore, compared with research of the relationship between marriage and health, research on the relationship between parenthood and health is inconclusive. The relationship also have found to differ by gender (Hewitt, Baxter, and Western 2006).

The main goal of this paper is to examine how marital status and parental status are related to self-assessed health outcomes among working-age Japanese men and women. In recent decades, Japan has seen improvements in the educational attainment and labor force participation of women relative to men. Despite such progress, however, social norms still emphasize women's responsibility in domestic work and childrearing, as well as husbands' role as the primary breadwinner in the family (Fujita 1989; Fuwa 2004; Ochiai et al. 2008). Even among Asian countries, Japanese men spend less time on domestic responsibilities in the household than Chinese and Korean men (Oshio, Nozaki, and Kobayashi 2013), indicating that, regardless of work status, Japanese women bear the larger share of housework and childcare. Moreover, possibly due to this large domestic burden on women, many women leave the labor market upon marriage or childbirth. They may re-enter later, often when their children enter elementary or middle school, but as contingent or part-time workers (Brinton 2001; Yu 2005). Research on how health outcomes are associated with different marital and parental statuses is still limited in

this context, which is different from that of the Western countries where research abounds on this topic.

I address four research questions in this paper, building on the existing literature. First, do married Japanese people report better health as compared to unmarried persons? Second, among unmarried persons, do divorced people report significantly lower health than those who have never been married? Third, how is parenthood related to health? Lastly, how is the quality of the marital relationship related to health? I will conclude the paper by discussing possible mechanisms of the association between marital and parental status, and self-assessed health in Japan.

### **Marriage and health**

Numerous studies conducted in the West have demonstrated that compared with the unmarried individuals, marriage is associated with better health (Hahn 1993; Waite 2000; Waite and Gallagher 2000; Liu and Umberson 2008). For instance, Liu and Umberson (2008) confirmed the association for American men and women during the 1973-2003 period and concluded that “the married remained more likely than any other marital status group to report good health for both men and women” (2008, 247). A study by Stack and Eshleman (1998) reported a positive association between being married and better self-assessed health across 17 developed countries, including Japan.

Marital status can be linked with both objective and subjective health outcomes in different ways. Theoretical perspectives that explain these relationships are based on three models, the marital resource model, the stress model, and the selection model.

The marital resource model postulates that marriage promotes health and longevity, because marriage provides “social, physiological, and economic resources” (Liu 2009, 1159). A spouse can take care of his/her partner in case of illness. Partners may monitor each other’s health and health-related behaviors, such as drinking too much, and encourage self-regulation (Umberson 1987). Marriage may also provide emotional and psychological support (Simon 2002). Pearlin and Johnson (1977) examined the relationship between marital status and depression and concluded that “marriage can function as a protective barrier against the distressful consequences of external threats,” and “marriage does not prevent economic and social problems from invading life, but it apparently can help people fend off the psychological assaults that such problems otherwise create” (1977, 714).

Some researchers emphasize increased economic resources through marriage. In fact, the mechanisms underlying the association between marriage and better health may differ by gender. Married men tend to benefit from physiological well-being more than do women (W. R. Gove 1984). Married women benefit from increased economic resources more than do men (Bianchi and Spain 1986; Cherlin 1981). Some argue that much of the relationship between marriage and women's better self-assessed health can be explained by economic assets gained through marriage (Hahn 1993; Lillard and Waite 1995). In sum, due to these various positive factors, marriage has a positive effect on health and longevity (Waite and Gallagher 2000).

The stress model highlights the negative effect of marital dissolution on health. Studies have shown that divorce has a negative effect on both men and women. Research has shown that compared to married individuals, divorced and widowed persons are more likely to engage in negative health behaviors, such as excessive drinking. While both genders suffer under these conditions, the magnitude is greater for men than for women (Umberson 1987). Liu and

Umberson (2008) found significant differences in self-assessed health between the married and the widowed/divorced/separated individuals. These differences have increased between 1972 and 2003 due to the latter group reporting declining health over time. Hemstrom (1996) examined marriage dissolution affects survival and mortality in Sweden and confirmed an association between marriage dissolution and mortality for both men and women.

Lastly, the selection model highlights the selection effects of marriage (Goldman 1993). The model emphasizes that it is not marriage itself that provides social, physiological, and economic recourses, but those who have social, physiological, and economic recourses are the ones who marry. The model also highlights that certain disadvantaged individuals may be more likely to be divorced, or exit from a marriage, compared to their counterparts.

### **Parenthood and health**

Transitioning to parenthood is one life event that significantly changes in people's lives. Outside the home, research has shown that parenthood affects both men's and women's work, but it affects women's careers and lives at home more significantly. Motherhood negatively affects an employed woman's wages and that the motherhood wage penalty increases with the number of children she has after controlling for employees' human capital as well as job characteristics (Budig and England 2001; Petersen and Morgan 1995). On the other hand, some studies have shown a slight child wage premium for men (Stratton 2002; Petersen and Morgan 1995). At home, transitioning to parenthood is associated with a significant increase in time spent on housework for women, while men's time on housework is unchanged across most life course transitions, including changes in marital status and becoming a parent (Baxter, Hewitt, and Haynes 2008).

Despite such changes in people's lives derived from the transition to parenthood, research on the relationship between parenthood and health is more limited and inconclusive than research on marriage and health. A review paper by Ross et al. (1990) indicates that existing research generally claims that the effect of being a parent on self-assessed health has shown to be insignificant or minimal. The association between parenthood and health has also been found to be different by gender (Hewitt, Baxter, and Western 2006). Furthermore, Hewitt et al. (2006) found that having a child under five years old in the household has a positive association between parenthood and health for women, and negative association for men. Additionally, the authors found that working full-time and having a child under 18 years old in the household is negatively associated with health for women, but not for men, which makes evident the multiple-role burden for women. Their findings are consistent with Waldron et al. (1998). However, some studies found that combining childcare and a job outside the home is associated with better health for women (Fokkema 2002).

### **The Japanese context**

In Japan, female labor force participation has increased, but social norms still emphasize women's roles in domestic work and childrearing and husbands' role as the primary breadwinner (Fujita 1989; Fuwa 2004; Ochiai et al. 2008). Even in dual-earner couples, a cross-national study shows that married women do most of the housework, although Japanese men do much less compared to Chinese and Korean men (Oshio, Nozaki, and Kobayashi 2013) and substantially less compared to husbands in other industrialized countries (Fuwa 2004). Japanese mothers are expected to be the main caretakers and educators of their children at home, which makes it difficult for them to combine family with paid employment (Yu 2009; Hirao 2001). The social

disapproval of working mothers with young children is strong, especially for white-collar working mothers (Yu 2001). There are two kinds of workers in the Japanese labor force: regular employees (*seishasin*) and non-regular employees (*hiseikishain*). The former are granted opportunities for promotion and training and enjoy job security and many fringe benefits (e.g., housing allowances, travel expenses, and family allowances), they are expected to work overtime (Brinton 1993; Yu 2002). For non-regular employees, there is little or no chance for promotion and benefits and no guarantee of long-term job security. It is often difficult for even highly educated women returning to the labor force to secure a regular job (Yu 2002). Many women in Japan leave the labor market upon marriage or childbirth and re-enter it later when their children enter elementary or middle school, often as non-regular or contingent workers (Brinton 2001; Yu 2005). Recent government survey results show that 53.1 percent of married Japanese women are out of the labor force by the time their first child is born (National Institute of Population and Social Security Research 2016).

The existing research on the association between marital and self-assessed health in Japan has demonstrated that marriage is associated with better mental and physical health for women (Lim and Raymo 2016). A cross-cultural research study that included Japan also supported this positive association (Stack and Eshleman 1998). Lim and Raymo (2016) argued that the lower level of labor force participation among married women explains the positive relationship. And in the context where women do the majority of the housework and childcare, it is reasonable to assume that men also benefit from marriage as research from the West has demonstrated.

***Hypothesis 1: Marriage is associated with better self-assessed health compared to being unmarried.***

A research study in the United States shows that marital dissolution affects men more negatively compared to women (Williams and Umberson 2004). While divorce has become more common than before (Raymo, Bumpass, and Iwasawa 2004), it is still more stigmatized in Japan compared to the West, because Japanese society strongly emphasizes extended family and kinship ties in marriage (Ono 2006).

***Hypothesis 2: Divorce is negatively associated with self-assessed health, especially for men.***

While research on parenthood and health in Japan is lacking, many Japanese women may benefit in terms of health by leaving the labor force temporarily or permanently upon childbirth, staying at home, and focusing on domestic work. At the same time, such a career transition of wives may put an additional burden on married men, which may lead to worse health outcome for them. For married women who combine regular employment, housework, and childcare, I assume that such a combination is negatively associated with their health, as suggested by previous research (Hewitt, Baxter, and Western 2006; Waldron, Weiss, and Hughes 1998).

***Hypothesis 3: Parenthood is positively associated with self-assessed health for women, but negatively associated for men.***

***Hypothesis 4: The association between parenthood and health is significantly negative when married mothers are working as regular employees.***

Research from the West indicates that lower marital quality negatively affects well-being for both men and women to a similar degree (Umberson et al. 2006; Williams 2003). Therefore, I hypothesize the following:

***Hypothesis 5: Lower marital quality is negatively associated with self-assessed health for both men and women.***



## **Data and Methods**

### ***Sample***

The data used for this study were obtained from the University of Tokyo Institute of Social Science Japanese Life Course Panel Survey (JLPS) Wave 1 (2007) to Wave 8 (2014). JLPS is an ongoing panel survey conducted annually since 2007. The JLPS consists of nationally representative samples of men and women aged 20 to 34 (youth sample) and 35 to 40 (middle-aged sample). Survey questionnaires for Wave 1 were identical for the two age groups and conducted at separate times in the same year. For this study, I merged two original datasets consisting of 4,800 individuals in Wave 1.

### ***Variables***

The dependent variable is self-assessed health outcomes. Self-assessed health is an important indicator of objective health, and the predictive power of self-assessed health on mortality is higher among the among the married than the unmarried (Zheng and Thomas 2013). The respondents' health status was assessed using the question, "How do you feel about your health?" measured on a 5-point scale (1= very good, 2= somewhat good, 3= normal, 4= not so good, and 5= bad). The respondents who rated their health as "bad" accounted for 1.4 percent of the total sample of 26,891 people. I combined response categories of "bad" with "not so good" for analytic purposes, I reverse coded the answer categories of the two dependent variables so that 4 indicated the best and 1 indicated the worst self-assessed health. Key independent variables were marital status and parental status.

For control variables, I used demographic characteristics, which included age, types of work, work hours, whether respondents are a student or not, respondents' current life circumstances, whether respondents are a parent or not, and number of people in respondents'

household. Unfortunately, data on respondents' educational background are only available for Wave 1 data. Therefore, educational background is omitted from the analyses, since a fixed effects model does not allow time-invariant variables. The JLPS asked respondents to select the type of work that they do from among 12 categories. I combined these into four categories: not employed, regular employment, non-standard employment, and self-employment. In addition, I included a dummy variable indicating whether respondents were students or not. For household income, 25.8 percent of the sample either did not respond or reported that they did not know. Because any approaches to handle missing data are expected to produce biased results, instead of household income variable, I used respondents' current life circumstance as a proxy for household income. I reversed the answer categories so that 5 indicates the best and 1 indicates the worst life circumstance.

Missing values of the variables included in the analysis account for less than 2 percent. I used a listwise deletion procedure to handle the missing data. The final sample size was 26,891 person-years, with 12,464 person-years for men and 14,427 person-years for women.

The descriptive statistics of the analytical samples are shown in Table 1. For self-assessed health, around 75 percent of the respondents reported that their health was either "somewhat good" or "normal." Around 11 percent reported it was "very good" and around 15 percent reported it was either "not so bad" or "bad."

### ***Analysis Strategy***

I used a fixed effects model to control for unvarying individual characteristics (Allison 2009), with self-assessed health as a dependent variable. Research shows that self-assessed health is an important indicator of objective health (Zheng and Thomas 2013). The parameter estimates from the fixed effects model used in the analyses represent changes in the average

level of self-assessed health with a one-unit change in each of the independent variables when holding all other variables in the model constant. Statistical analysis was done using Stata version 14.

## **Results**

The results of a series of fixed effects models are presented in Table 2 for men and 3 for women. In Model 1, I only included the two key independent variables, marital status and parental status. In Model 2, I added all the control variables. Models 3-5 are limited to person-years when respondents are married to examine how the duration and quality of marriage are associated with health, as well as whether the associations between being a parent and health differ by work status. Model 3 only contains marriage duration, whereas Model 4 includes both marriage duration and the quality of marital relationship. In Model 5, I added an interaction term between parental status and work status.

Model 1 for men and women show that marital status is not associated with health for either gender. Model 1 for men shows that becoming a parent is associated with worse health, while for women it does not indicate that there is an association. When all of the controls are added in Model 2, as opposed to never being married, being married resulted in change of 0.173 in better health on average for men when holding all other variables constant, while the degree of the association for women is marginal. Contrary to previous findings, being divorced or separated is positively associated with both men's and women's health.

Model 5 for men and women indicate that the duration of marriage is not associated with health for either gender. However, Model 6 indicates that the level of marital quality does matter to health. The more respondents who are satisfied with their relationship with their spouse, report better health for both men and women. The interaction term between parental status and work

status did not provide evidence that the association between being a parent and health do not differ by work status for either gender. For men, being a parent is negatively associated with health regardless of their work status. For women, being a parent is positively associated with health regardless of their work status, which suggests that combining motherhood and employment as a regular employee, does not differ from being a housewife or combining motherhood and work as a non-regular employee in terms of self-assessed health.

## **Discussion**

The results of my analysis supported some, but not all, of the hypotheses derived from the existing literature. The model with all the control variables (Model 3) supports Hypothesis 1: Marriage is associated with better self-assessed health compared to being unmarried for men, but only marginally for women. In a country where the crude wage gap between mothers and non-mothers is the largest among all OECD countries (OECD 2012, 170), married Japanese mothers may try to remain married even if the marital relationship quality declines because divorcing incurs financial hardship and due to a strong stigma attached to divorced persons, especially single mothers (Hertog 2009). Compared with Japanese men, divorce may be more difficult for women, particularly for mothers. Remaining married even if the marital quality is low may account for the marginal positive association between marriage and health for Japanese women.

The results do not support the hypothesis that divorce is negatively associated with health for both men and women (Hypothesis 2). Even though divorce is becoming more common in Japan (Raymo, Bumpass, and Iwasawa 2004), compared to the West, divorce may be still more difficult due to social stigma and clearer division of labor between spouses. Thus, many remain

married even if their marital quality is bad. And once individuals are divorced, the relief from their bad marital relationship may positively affect their health.

The hypothesis that parenthood is positively associated with self-assessed health for women and negatively associated with self-assessed health for men is supported. In Japan, being a parent has a significant positive effect on women's self-assessed health, but not on men's. In the context where social norms still emphasize women's responsibility in domestic work and childrearing, as well as husbands' role as the primary breadwinner in the family (Ochiai et al. 2008), women may report better health when they are a parent, since many of them leave the labor force upon childbirth. But even when women combine paid work as a regular employee and domestic labor, the health advantage did not differ from when women focus on domestic labor exclusively. In other words, Hypothesis 4, the association between parenthood and health is significantly negative when married mothers work as regular employees, is not supported. This suggests that in a society where motherhood is highly valued, being a mother may motivate them to pay greater attention to their and their family's health (e.g. by preparing healthy meals) regardless of their work status. In addition to public childcare leave, which allow either parent to take up to one year of unpaid childcare leave, Japanese companies, especially large firms, are offering additional leave and shorter workdays for regular employees. It is possible that female regular employees take advantage of these policies upon childbirth, which may contribute to their better health. At the same time, the transition to fatherhood may deteriorate men's health due to the increased financial responsibilities as many of them become the sole earner for the family upon childbirth.

I argue that in a social context where traditional gender norms persist, while men gain from marriage by having a wife who performs the majority of domestic labor, women do not

benefit much in terms of self-assessed health by being married. However, since many women leave the labor force or work less even if they remain in the labor force upon childbirth, women may report better health when they are parent, while the transition to parenthood may deteriorate men's health by trying to fulfill their larger breadwinner role while also being a parent.

Lastly, the results support the hypothesis that the lower marital quality is negatively associated with self-assessed health for both men and women. Since many spouses in Japan are dependent on each other due to the sharp division of labor at home, unsatisfactory marital relationships may significantly deteriorate both men and women's health since such a relationship may limit full access to one another's resources.

This study has some limitations. First, the results indicate that marriage is associated with better health than being unmarried, and the positive association appears to be clearer for men than for women. While the results of this paper did not provide evidence for the stress model, it still remains unclear whether the advantage is due to selectivity in marriage or a positive effect of marriage in general. Second, the inference derived from this study is only applicable to working-age Japanese women and men in their 20s and 30s, due to the design of the dataset. In other words, it is unclear whether the findings can be generalized to older persons.

Nevertheless, this paper provides empirical evidence of the association between marital and parental statuses and self-assessed health from a highly gendered industrialized country, which is still relatively lacking in the literature. In conclusion, this study demonstrates that marriage and parenthood matter for self-assessed health for Japanese men and women in their 20s and 30s, and the degree and direction of the association seem to differ by gender.

Table 1. Descriptive statistics of the analytic sample (N = 26, 891 person-years)

<b>Self-assessed health (dependent variable) (%)</b>	
Very good	11.0
Somewhat good	31.8
Normal	42.8
Not so good/bad	14.5
<b>Marital status (%)</b>	
Never married	39.1
Married	57.4
Divorced/Separated	3.5
<b>Parental status (%)</b>	
Parent	50.4
Non-parent	49.6
<b>Gender (%)</b>	
Male	46.3
Female	53.7
<b>Age (Mean, SD)</b>	34.3 (6.3)
<b>Work types (%)</b>	
Not-employed	16.4
Regular employment	53.9
Non-regular employment	24.2
Self-employment	5.6
Student	8.5
<b>Work hours (Mean, SD)</b>	7.1 (3.8)
<b>Student or not</b>	
Student	3.2
Non-student	96.9
<b>Current circumstance (%)</b>	
Poor	3.7
Relatively poor	14.8
Average	61.7
Relatively affluent	16.2
Affluent	3.8
<b>Number of residents in household (Mean, SD)</b>	3.5 (1.5)

Table 2. Results from fixed-effects models predicting men's self-assessed health

	Model 1	Model 2	Among married		
			Model 3	Model 4	Model 5
Married (ref. never married)	0.051 (0.037)	0.173*** (0.038)			
Divorced/Separated	-0.027 (0.073)	0.151* (0.074)			
Parent (ref. non-parent)	-0.136*** (0.036)	-0.093* (0.037)	-0.136*** (0.036)	-0.136*** (0.036)	-0.136*** (0.036)
Not employed (ref. regular employment)		-0.227*** (0.057)	-0.239* (0.121)	-0.242* (0.121)	-0.254 (0.205)
Non-regular employment		0.010 (0.032)	0.007 (0.069)	0.011 (0.069)	-0.036 (0.146)
Family/Self-employment		0.041 (0.046)	-0.034 (0.064)	-0.032 (0.064)	-0.066 (0.144)
Parent x Not-employed					0.014 (0.224)
Parent x Non-regular employment					0.058 (0.159)
Parent x Family/Self-employment					0.039 (0.142)
Work hours		-0.025*** (0.004)	0.029*** (0.007)	0.029*** (0.007)	0.029*** (0.007)
Age		-0.033*** (0.003)	0.038** (0.014)	0.038** (0.014)	0.038** (0.014)
Student (ref. non-student)		0.042 (0.050)	0.724+ (0.375)	0.733+ (0.375)	0.742+ (0.381)
Circumstance		0.099*** (0.012)	0.082*** (0.018)	0.077*** (0.018)	0.077*** (0.018)
Number of residents in household		0.019* (0.009)	-0.022 (0.019)	-0.022 (0.019)	-0.021 (0.019)
Marriage duration (in years)			0.004 (0.013)	0.006 (0.013)	0.006 (0.013)
Marital satisfaction (ref. Unsatisfied/Somewhat unsatisfied)					
Neither				0.062 (0.058)	0.061 (0.058)
Somewhat satisfied				0.113* (0.056)	0.113* (0.056)
Satisfied				0.169** (0.058)	0.168** (0.058)
Constant	2.409*** (0.021)	3.309*** (0.111)	3.941*** (0.404)	3.810*** (0.407)	3.818*** (0.407)
Observations	12,464	12,464	5,627	5,627	5,627
R-squared	0.001	0.029	0.030	0.033	0.033
Number of id	2,345	2,345	1,168	1,168	1,168

Notes: Standard errors in parentheses

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, + p<0.1 (Two-tailed test)



Table 3. Results from fixed-effects models predicting women's self-assessed health

	Model 1	Model 2	Among married		
			Model 3	Model 4	Model 5
Married (ref. never married)	-0.004 (0.032)	0.059+ (0.034)			
Divorced/Separated	0.074 (0.067)	0.241*** (0.068)			
Parent (ref. non-parent)	0.013 (0.034)	0.083* (0.036)	0.136** (0.046)	0.152** (0.046)	0.205** (0.063)
Not employed (ref. regular employment)		0.012 (0.049)	0.063 (0.074)	0.069 (0.074)	0.167+ (0.100)
Non-regular employment		0.083** (0.027)	0.080+ (0.046)	0.083+ (0.046)	0.123+ (0.075)
Family/Self-employment		0.108* (0.052)	0.177* (0.076)	0.181* (0.076)	0.198 (0.170)
Parent x Not-employed					-0.114 (0.079)
Parent x Non-regular employment					-0.055 (0.079)
Parent x Family/Self-employment					-0.027 (0.179)
Work hours		-0.019*** (0.005)	-0.013 (0.008)	-0.012 (0.008)	-0.011 (0.008)
Age		-0.036*** (0.003)	-0.031+ (0.017)	-0.031+ (0.017)	-0.031+ (0.017)
Student (ref. non-student)		0.015 (0.047)	0.059 (0.193)	0.040 (0.192)	0.039 (0.192)
Circumstance		0.094*** (0.011)	0.103*** (0.017)	0.091*** (0.017)	0.092*** (0.017)
Number of residents in household		-0.003 (0.008)	-0.012 (0.015)	-0.008 (0.015)	-0.007 (0.015)
Marriage duration (in years)			-0.011 (0.017)	-0.010 (0.017)	-0.010 (0.017)
Marital satisfaction (ref. Unsatisfied/Somewhat unsatisfied)					
Neither				0.108** (0.039)	0.109** (0.039)
Somewhat satisfied				0.165*** (0.040)	0.166*** (0.040)
Satisfied				0.242*** (0.044)	0.242*** (0.044)
Constant	2.400*** (0.022)	3.355*** (0.108)	3.316*** (0.479)	3.110*** (0.480)	3.073*** (0.480)
Observations	14,427	14,427	7,721	7,721	7,721
R-squared	0.000	0.029	0.036	0.041	0.042
Number of id	2,416	2,416	1,493	1,493	1,493

Notes: Standard errors in parentheses

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, + p<0.1 (Two-tailed test)

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