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The Gendered Effects of Marriage on Health:
Evidence from Japan

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Gendered Effects of Marriage on Health: Structure and Role Expectations

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Abstract

One of the most robust findings in health literature is the association between marital status and health.   A growing body of research in the United States has shown that married individuals are healthier than their single counterparts.   The gender difference in the health benefit of marriage, however, is still in debate.   While some argue that marriage is more important for men's health than women's, others find no gender difference in the positive effect of marriage.   This paper uses the first wave of the Japanese Life Course Panel Survey (JLPS 2007), a nationally representative sample of Japanese men and women aged 20 to 40, to test hypotheses regarding the relationship among gender, marriage, and health.   Taken together, results show that the gendered relationship between marriage and health is more nuanced than previous literature suggested.   While marriage is generally associated with better health for both men and women, the magnitude of the association is larger for women than for men in Japan.   Furthermore, this paper finds gender differences in the structural mechanisms linking marriage and health, and in the impact of combining different gender roles on health: being out of the labor force partially explains the health benefit of marriage for women but not for men; and combining marriage and employment reduces women's health but not men's.

1. THEORETICAL BACKGROUND

Marriage is widely regarded as one of the most important social relations.   Its impact on individuals' health, in particular, has recently received a growing attention both in public and in academia (Parker-Pope 2010; Saslow 2011; Waite and Gallagher 2000).   A vast body of research finds that being married, relative to being single, has a positive and direct impact on general health status (Koball et al. 2010; Williams and Umberson, 2004), longevity (Lillard and Waite 1995; Schoenborn 2004), mental health (Marks and Lambert 1998), and various health conditions, including arthritis, hypertension, and heart disease (Lorenz et al. 2006; Prigerson, Maciejewski, and Rosenheck 2000; Zhang and Hayward 2006).   The health benefit of marriage is largely explained by three structural mechanisms: greater economic resources, social integration and support, and the regulation of health behaviors conferred by marriage (Ross, Mirowsky and Goldsteen 1990).   Although selection of healthier individuals into marriage cannot be entirely ruled out, panel studies that followed same individuals over time confirm the positive influence of marriage on health for both women and men (Wood, Goesling, and Avellar 2007; Wilson and Oswald. 2005).

While the positive effect of marriage on health is consistent and strong, the debate remains as to the gender difference in the magnitude of health benefit of marriage (Carr and Springer 2010; Kiecolt-Glaser and Newton 2001).   Since the early 1970s, classical gender-role theorists have emphasized that marriage provides greater health benefits to husbands than to wives, because women's roles are more demanding than men's and they are more likely to experience conflicts when they enter labor force (Bernard 1972; Gove and Tudor 1973). Recent examination of this claim, however, finds conflicting results (Waite and Gallagher 2000).   Some studies argue that changes in gender ideology have eased the burden of combining work and family for women and that having multiple roles can be beneficial to both sexes, by providing greater self-esteem, prestige, wealth and social support (Barnett and Hyde 2001).   Other studies also suggest that men and women benefit equally from marriage but through different aspects: men gain better health status through social support and regulation of health behaviors while women improve their health through increased economic resources (Waite and Gallagher 2000).   Another line of research emphasizes gendered socialization in expressing distress where women are socialized to develop emotional attachment and encouraged to internalize their distress (Simon 2002).   Because past research only focused on psychological disorders, it is argued that researchers have overestimated the mental problems of women and neglected the problems typical of men (Aneshensel et. al. 1991).   These developments in literature suggest that social and cultural contexts surrounding marriage play an important role in understanding how marriage affects men and women's health.

Despite the increasing popularity and debates on the topic, little has been known about the gendered relationship between marriage and health outside the United States and Western European countries. Japan is one of the first non-western countries to experience economic development, and yet maintained traditional gender norms (Cabinet Office 2010, Ministry of Internal Affairs and Communications 2012). By using Japan as a case, this paper aims to test the robustness of the marriage benefit hypothesis and its gender variations.

Marriage in Japan

Contemporary marriage in Japan has been characterized by the rigid gendered division of labor and women's close identification with motherhood (Brinton 1993, Takeda 2005). While men work as a "family wage" earner for the entire family, women are often expected to become nurturers of their husband and children upon marriage (Brinton 1993). For women, marriage, childbearing, childrearing, and care for the elderly are often linked together as a marriage "package" that is viewed as a life-long commitment (Rindfuss et al. 2004). I argue below that these features of Japanese marriage expose men and women to different work and family experiences, which in turn, leads to different health consequences.

Traditional gender roles often shape Japanese men and women's everyday lives. Men's lives tend to be centered on work, due to their strong commitment to their company and overtime work which are often times part of the life-time employment contract in Japan (Ogasawara 1998). According to Cabinet Office (2011), about 23% of Japanese employed men in their 30s reports working more than 60 hours per week. Comparison of the Japanese and U.S. time-use surveys administered in 2001 further indicates that after adjusting for demographic compositions, Japanese full-time male workers spend on average 57 hours per week on paid work and commuting, whereas in the U.S., the average work hours, including commute time was 47 hours among male full-time workers (Kuroda 2010).

Demands from work make Japanese husbands spend less time with family. Data collected in 2009 show that on average, married women spend 27 hours per week on household tasks while husbands spent only 3 hours on house work (Tsuya et.al. 2012). This number is striking when compared to the U.S. where married men and women spend 10 and 19 hours a week respectively on housework in 2000 (Bianchi, Robinson, and Milkie 2006). Japanese married men's lack of involvement in family, thus, may reduce their opportunity to benefit from marriage in Japan.

A lack of flexibility and long hours of work also make it difficult for married women, especially those with children, to remain in the labor force. In contrast to men, women are more likely to reduce their work hours or to exit the labor market altogether upon marriage (Brinton 2001). According to the Ministry of Health, Labour, and Welfare's longitudinal

surveys, 28% of women who married between 2002 and 2008 terminated their job, while only 1% of newly-married men left their job. Among the continuously-single individuals from 2002 to 2008, only 3.2% and 2.9% of women and men left their jobs, respectively (Ministry of Health, Labour, and Welfare 2010a). Many scholars point out that Japanese business practices and tax policies encourage married women to stay at home. Japanese companies have traditionally provided a family wage and welfare to their employees and their dependents (Dore 1973). Even in 2010, about 65% of Japanese companies, and 75% of companies with more than 299 employees, provided family allowances as part of the wage to their (typically male) employees (Ministry of Health, Labour, and Welfare 2010b). Japanese income tax legislations also allow for spousal deductions if the spouse's annual income is below the threshold of 1.35 million yen, that is, approximately $ 13,000 (Akabayashi 2006). Because of its negative effect on married women's decisions to (re-)enter the labor force, the elimination of the spousal deduction has been a key issue in political debates in recent years (The Yomiuri Shimbun 2012). Institutional support for the gendered division of labor, therefore, is likely to pressure women to stay at home and make it difficult to maintain work and marriage roles.

Taken together, work hours can be another mechanism through which marriage influences men and women's health in Japan. Compared to other factors in the literature, such as economic resources, social support, and health behaviors, work hours have received little attention until now when investigating the gendered link between marriage and health. Yet, studies have shown associations between long periods of work time and increased stress as well as stress-related diseases such as elevated blood pressure and heart rate, poor sleep quality and subjective fatigue, and overall poor health behavior (Dahlgren, Kecklund, and Akerstedt 2006; Hayashi et al 1996; Nakamura et al. 1998; Shields 1999). Working long hours can prolong individual exposure to work-related stressors and decreases time for leisure activities, family, and recuperation. (Kleiner and Pavalko 2010). Because Japanese women are more likely to reduce their work hours upon marriage, women's health is, on average, expected to benefit from marriage through reduced work hours. Japanese men's commitment to their work as a bread winner, however, is likely to increase their health problems and dilute the protective effects of marriage.

Hypotheses
The following hypotheses summarize the relationship between marriage, gender, and health for the purpose of this study. H1 and H2 summarize the general relationship between marriage, gender, and health in Japan. H3 though H5 are drawn from the structural perspective of marriage and health and are based on findings in the United States. H6 identifies Japanese contexts of marriage and health as they relate to work hours.
H1: Married individuals are, overall, healthier than single individuals in Japan.

H2: Health benefit of marriage is generally smaller for men than for women.

H3: Higher levels of economic resources mediate the positive association between marriage and health especially for women.

H4: Presence of supportive networks mediates the positive association between marriage and health especially for men

H5: Healthy behavior mediates the association between marriage and health especially for men.

H6: Work hours mediate the association between marriage and health especially for men.

Turning to the gender role theory of marriage and health, the meaning of combining work and family is likely to be gendered in Japan.   Because of the strong norm of gendered division of labor, married women with employment are still responsible for the majority of housework and therefore they are likely to experience the "second shift" (Hochschild 1989; Tsuya et al. 2012).   Unlike the contemporary United States, role conflict and work overload are likely to take away the health benefit of occupying multiple roles for wives in Japan.   Previous research by Kawakami and others (2006), for example, shows that sleep deprivation is greater for women with full time job and co-residing with parents.   In contrast, it is expected that men's health is unaffected by their employment, since men are culturally expected to be a breadwinner of the family.

H7: The combination of full-time employment and marriage reduces the health benefit of marriage for women but not for men.

3. DATA AND METHODS

Japanese Life Course Panel Survey

Japanese Life Course Panel Survey (JLPS) collected data on work, family, health, education, and attitudes in 2007 from a nationally representative household sample of adults aged 20 to 40 years (n=4800).   This paper uses the first wave of JLPS which utilized a stratified sampling of 20 to 34 year olds and 35 to 40 year olds who resided in Japan in November 2006 (Institute of Social Science 2011a, 2011b). A recruitment letter and a self-administered questionnaire were sent to the respondent in January 2007 and were later collected by a field worker.   The response rates were 34.5% for the 20-34 year old sample, and 40.4% for the 35-40 year old sample (Institute of Social Science 2011a, 2011b).   Despite the relatively low response rate of 31% (for total sample), JLPS data are generally representative of the national population by age, gender, marital status, types of residential area, occupation, work hours, and education (Miwa 2008).

Methods

Marriage Selection

Marriage selection hypothesis argues that healthier individuals are more likely to find a marriage partner because their favorable health characteristics make them a good candidate for marriage (Fu and Goldman 1996; Lillard and Panis 1996). Since this study is based on the cross-sectional data, I include a measure of past health status, a proxy for pre-marriage health status, using the question that asked respondents whether they have experienced illness or injury that required a long-term rest. It is important to note, however, that results may still be overestimated since we do not have an exact measure of health prior to marriage.

Measuring Health

I use the following three measures to capture different aspects of health status.

Self-Rated Health: I use self-rated health as a measure of the general health condition for both men and women. Self-rated health is a robust indicator of general health status that predicts morbidity and mortality (Ferraro and Yu 1995; Idler and Benyamini 1997). To measure the general health status, the questionnaire asked "Would you say that in general your health is excellent, very good, good, fair, or poor?". Following other studies (e.g. Frisbie, Cho, and Hummer, 2001; Lynch, 2003), the response categories were dichotomized into good health (i.e. excellent, very good, and good) and poor health (fair and poor). Studies have shown that a dichotomous response for self-rated health yields similar results to ordinal logistic regression in its relationship with socioeconomic status (Manor, Matthews, and Power, 2000) and depression (Schnittker 2005), and find no gender bias in reporting (Manor, Matthews, and Power, 2000). A series of binary logistic regressions are used to assess the associations between marriage, gender, and health.

Mental Health Inventory-5: To measure mental health issues that are considered to be more prevalent for women than men, the 5–item mental health inventory, or MHI-5 (Yamazaki, Fukuhara, and Green 2005), is used to measure depressive and anxiety disorders. MHI-5 uses 5 question items describing the emotions felt during the past 30 days. The items were taken from the 36-item Medical Outcome Study (MOS) Short Form Health Survey questionnaire in order to facilitate the administration of the survey (Ware and Sherbourne 1992, Rumpf et. al. 2001, Yamazaki, Fukuhara, and Green 2005). The respondents were asked to indicate how often they experienced the following emotions in the past month, ranging from "All of the time" to "Not at all": 1) have been a very nervous person; 2) felt calm and peaceful; 3) felt downhearted and blue; 4) have been a happy person; and 5) felt so down that nothing could cheer you up. A sum score ranges from 5 to 30 which was transformed so that the new scale ranges 0 to 100 and high scores indicate good mental health. Since the histogram in Figure 3 shows that the distribution of MHI-5 approximates a normal curve, OLS regression analysis is used to assess the extent of relationship between marriage, gender, and mental health.

Sobriety: I use sobriety as an indicator of good mental health particularly for men. Extensive evidence shows that heavy drinking is associated with mental health issues (Kessler et al. 1997, Jane-Llopis and Matytsina 2006). Individuals with negative mood often consume alcohol to cope with the effect of stress and relieve tension, and the association is particularly strong for men (Nolen-Hoeksema and Harrell 2002; Nolen-Hoeksema and Hilt 2006; Armeli et al. 2000; Cooper et al. 1992). The JLPS includes a question on alcohol consumption – frequency of drinking. Respondents were asked to indicate their frequency of drinking from the following categories: 1) cannot drink alcohol, 2) quit drinking, 3) only on special occasions, 4) 2-3 times per month, 5) 1-2 days per week, 6) 3-4 days per week, 7) 5-6 times per week, and 8) every day. Those who drink more than 5 times a week are considered a frequent drinker with high distress, while those who drink less than 5 times a week are considered sober. Figure 4 shows the distribution of drinking frequency. Binary logistic regression is used to assess the effect of marriage on sobriety for men and women.

Independent Variables

The following independent variables will be included in the model to predict self-rated health, mental health, and drinking. I operationalize marital status as three dummy variables representing currently-married, never-married (a reference category), and separated, widowed, or divorced. As a measure of economic resources, I use the annual household income per family member. Respondents were asked to indicate the annual household income from 13 categories ranging from zero to more than 22.5 million yen (equivalent of 220,000 U.S. dollars). I divided the household income by the number of persons living in the household. When the household income was missing, I replaced it with the sum of self and spousal incomes. A lack of supportive network was used to measure the absence of social integration and support that may explain the health benefit of marriage (Umberson et al. 1996). Those who answered that they have nobody to rely on when it comes to either work, study, personal relationships, or financial emergency were coded as 1. I also use the amount of smoking to measure the degree of healthy behaviors which may explain the link between marriage and better health (Umberson 1992). Smoking more than 10 cigarettes per day is considered to be an unhealthy behavior. For work hours, I create the following 5 categories: 1) zero hour including those without employment and out of labor force, 2) 1 to 35 hours per week, 3) 36 to 49 hours, 4) 50 to 59 hours, and 5) 60+ hours.

I also include other important variables that are likely to influence health, i.e. age (House, Kessler, and Herzog 1990), educational attainment, and employment status (Mirowsky, Ross and Reynolds 2000). For education, three categories were created: 1) high school or less, vocational school or two-year college which often provides professional skills for women, and 3) college or above. In addition, the presence of dependents under age 18 will be included to

control for the characteristics of households: being married without young children in the home is considered to be most beneficial to one's health in the U.S. (Schoenborn 2004; Umberson and Williams 1999).

Furthermore, I include the co-residence with parents as an important control for the link between marriage, social support, and health in Japan. Unlike the U.S. and some of the European countries, it is common and accepted for single young adults, especially daughters, to reside with their parents in Japan. According to Raymo (2003), approximately three-quarters of single women in Japan live with their parents, because the co-residence with parents often involves higher disposable income and less household tasks. Mothers are likely to take care of the health of their single children by preparing meals and conducting household chores. By living with their own family, single individuals are likely to be integrated to their family network with social support. Therefore co-residence with a parent(s) is also included to properly assess the mediating effect of social support between marriage and health. Those who co-reside with his/her parent(s) is coded as 1.

4. RESULTS

Table 1 shows the percentage distributions and means of independent variables stratified by gender and marital status. The table indicates that those who are divorced or widowed are more likely to report worse self-rated and mental health, and are more likely to be frequent drinkers. Currently-married respondents, on the other hand, are slightly more likely to report better health.

Table 2 and 3 show the effect of marital status on three measures of health, net of economic resources, social support, health behaviors and other socio-demographic variables. Table 2 includes all sample in order to examine the gender difference in the effect of marriage on health. Models 1 include all variables without the interaction term between gender and marital status. Models 2 include the interaction term to assess whether the effect of marriage differs by gender. Table 3 divides the sample into men and women to further explore the relationship between marriage and health by gender.

Overall, the analysis which uses self-rated health as a dependent variable finds that the health benefit of marriage is greater for women than for men (Model 2 in Table 2). The interaction term between gender and marriage indicates that being female and currently married significantly increases the odds of reporting good health. The separate analyses for men and women in Table 3 further indicate gender differences in how marriage affects general health. For men, marital status is largely independent of men's self-rated health. More specifically, married men's health advantage is weak and disappears when unemployment and work hours

are controlled (results not shown). In contrast, married women's health advantage is strong and independent of other covariates. This finding contradicts earlier literature that claimed the negative health influence of marriage for American women.

The analysis on the 5-item Mental Health Inventory finds that both men and women benefit from marriage. The interaction term between gender and marriage shows that there is no gender difference in the positive effect of marriage on MHI-5 (Model 2 in Table 2). The analyses in Table 3, however, show that work is positively associated with men's mental well-being, but not with women's. Furthermore, being out of labor force is positively related to women's mental health, suggesting that a full-time housewife is less likely to be affected by the harmful effect of employment.

The analysis on sobriety finds that compared to currently-married and never-married individuals, divorced/widowed individuals are more likely to be frequent drinkers (Model 1 in Table 2). Separate analysis by gender, however, indicates that the association between marriage and drinking differs greatly by gender. Although the relationships are not significant, results in Table 3 show that married women are less likely to drink than their never-married counterparts while married men are more likely to drink than the never-married men. For both men and women, employment is associated with frequent drinking, suggesting the cultural context of drinking in the Japanese work environment. As shown in Table 1, women are much less likely to drink than men to begin with, but their exposure to men's work culture (through employment) seems to increase the odds of frequent drinking.

To test whether combining multiple roles influences health for men and women, I introduced different sets of role combinations to full models and plotted predicted values by gender, marital status, the presence of a child, and employment (Figures 5,6, and 7). Predicted probabilities and scores are calculated with other covariates – past health status, age, education, co-residence with parent(s), presence of a child, employment, income, social support, and smoking – set at means.

Figure 5 shows that compared to single women, married women, on average, have higher probabilities of reporting good health. However, adding employment to marriage and to motherhood does not appear to improve women's health. For men, marriage in general does not affect men's self-rated health. In contrast to women, the combination of marriage and a lack of employment seems to reduce men's health. The confidence intervals for these individuals are, however, quite large since few married men are unemployed or out of labor force. Taken together, multiple roles do not seem to improve women's health when full-time employment is combined with marriage or child rearing. Men's health, however, appears to improve by combining multiple roles, although the statistical significance is small.

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Predicted mental health scores in Figure 6 show that marriage generally increases women's mental well-being. Combining marriage and employment, however, decreases the mental health score of married women with child(ren), suggesting the negative psychological consequence of role combination for women. In contrast, men's employment is associated with better mental health regardless of marital status and the presence of a child. Although the 95% confidence interval is wide for married men without employment, the predicted scores suggest that there is no mental health "penalty" in being employed for married men.

Figure 7 plots predicted probabilities of sobriety by gender, marital status, and employment status. Among the never-married and currently-married individuals, employment lowers the propensity of sobriety for both men and women. In particular, married men with employment are more likely to drink than the never-married men with employment, net of other covariates. It is possible that married men are more likely to hold a position in the workplace that requires involvement in after work hours drinking.

In contrast to the joint effect of employment and marriage on drinking, employment is related to a higher propensity of sobriety for widowed and divorced men and women. This is due to the fact that divorced and widowed individuals are on average much more likely to drink than their single and currently-married counterparts. Unemployment may be a source of stress when combined with separation from a spouse. In general, the results do not seem to support the role conflict hypothesis for women, since employment reduces the likelihood of sobriety regardless of gender and whether the respondents are never-married or currently-married.

5. DISCUSSION AND CONCLUSIONS

The results of this paper generally suggest that classical gender-role theories may have over-emphasized the negative aspect of marriage for women's health. While combining marriage and work does worsen women's health, marriage itself was found to be associated with better health for women. In a society where most women are expected to terminate their career upon marriage and childbearing, being a housewife may protect women from stressful work environments and provide for a self-identity that supports their mental health. Classical gender theories may need to incorporate the idea that women can be flexible in the face of rigid gender norms and may re-structure their lives in order to meet gender expectations. By doing so, women may trade in their work-family balance for better health. The analyses on mental health, in particular, illustrated this complex relationship. Although the mental health benefit of marriage was similar in magnitude for men and women, it was revealed that structural mechanisms (mainly work hours) and role meanings are quite

different by gender.

Furthermore, American literature on marriage and health may have over-emphasized the exclusive nature of marriage in influencing health-related factors, especially for men. Japanese men's lives tend to be embedded in work which often times provides social support and an influence on health behaviors. The analyses on self-rated health highlighted the relatively separate spheres of men and women's lives in which marriage for men did not impact their health nor structural mechanisms that supposedly mediate the positive effect of marriage on health. Instead of treating marriage as a powerful social construct that independently alters health-related behaviors, future studies may need to explore the conditions under which marriage influences health for men and women. The effect of marriage on health is likely to depend upon cultural contexts and upon how men and women are embedded in other important social relationships.

Research on the gendered outcomes of mental distress may also need to take into account the cultural contingency of male- and female- types of distress. The results on drinking shed some light on how men's strong identification with work may affect their frequent drinking. Again, more attention to different gender, family, and work experience is needed in choosing the appropriate measure.

The limitations of this study provide opportunities for future studies. The cross-sectional design of the current dataset makes it difficult to rule out the possibility that individuals with better physical and mental health are more likely to enter into and stay in marriage. Although this study controls for past health status, the results are likely to overestimate the effects of marriage on health. Data which include health status prior to marriage in a panel design would be better suited to examine the causality of marriage on health.

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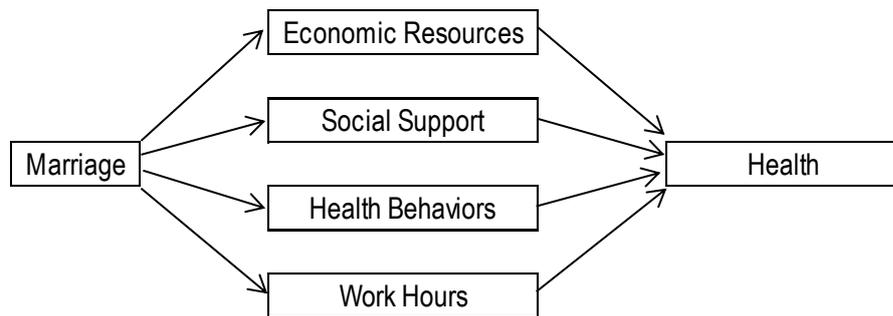Figure1. Conceptual Model of Marriage and Health in Japan
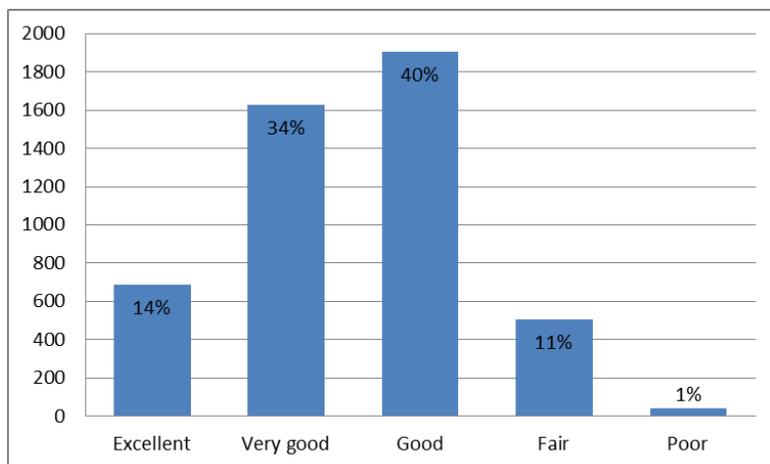

Figure 2. Distribution of Self-Rated Health: JLPS 2007

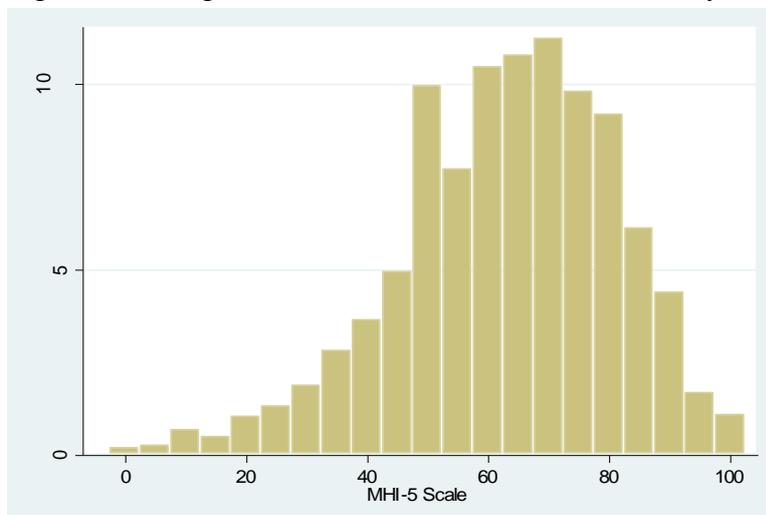Figure 3. Histogram of 5-Item Mental Health Inventory: JLPS 2007

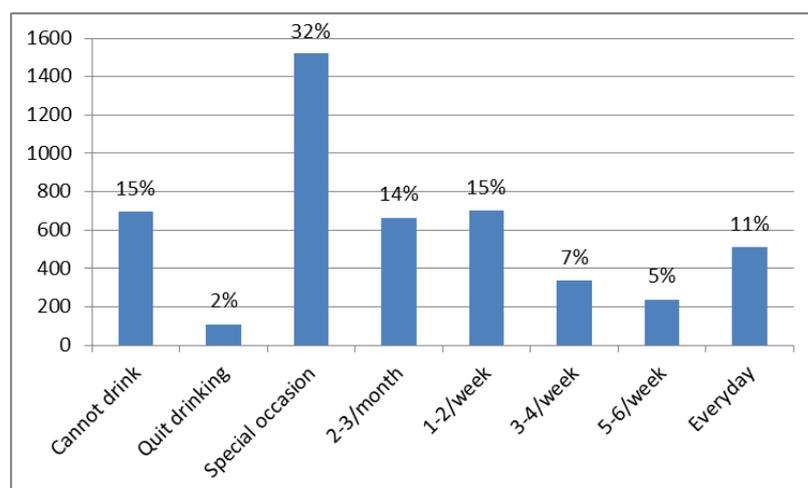Figure 4. Distribution of Drinking Frequency: JLPS 2007

Chart axis values: 0, 200, 400, 600, 800, 1000, 1200, 1400, 1600

Bar labels and percentages:
- Cannot drink: 15%
- Quit drinking: 2%
- Special occasion: 32%
- 2-3/month: 14%
- 1-2/week: 15%
- 3-4/week: 7%
- 5-6/week: 5%
- Everyday: 11%

Table 1. Percent Distributions and Means of Respondent Characteristics by Gender and Marital Status: JLPS 2007

	Total Sample (N=4,775)		Female			Male		
			Never-married	Currently-married	Divorced/ Widowed	Never-married	Currently-married	Divorced/ Widowed
Variable	N	%	(n=1,109)	(n=1,222)	(n=104)	(n=1,273)	(n=1,033)	(n=59)
Mean Age (s.d.)	31 (6)		27	34	34	28	34	34
With One or More Children	1955	40	0	84	66	0	81	57
Co-Residence with Own Parent(s)	2135	45	80	7	50	75	13	53
Education								
High school or less	1452	30	20	36	40	28	37	49
Vocational school, 2-year college	1548	33	41	46	45	20	21	24
College or above	1762	37	39	18	14	52	42	27
Employment								
Unemployed	208	4	4	7	6	5	1	7
Employed	2332	76	78	56	92	74	98	92
Out of Labor Force	922	19	18	37	3	21	1	2
Household Income (in mil. JP yen)	5.31 (3.97)		4.72	5.80	3.67	4.80	6.12	5.21
No Social Support	2000	42	41	39	48	46	39	47
11 or More Cigarettes per Day	1015	21	7	9	30	29	40	53
Average Work Hours per Week	36 (23)		36	18	36	39	53	48
Past Illness/Injury	1007	21	18	23	20	20	22	37
Self-Rated Health (5=excellent, 1=poor)	3.5 (.9)		3.5	3.6	3.4	3.5	3.5	3.3
5-Item Mental Health Inventory	63 (18)		61	65	59	62	66	58
Drink 5+ Times a Week	751	16	6	12	18	12	33	47

Note: 1 million Japanese yen is approximately 10,782 U.S. dollars

Table 2. Marriage, Gender, and Three Measures of Health: All Sample (JLPS 2007)

	Good Self-Rated Health (1=Excellent/VeryGood/Good Health, 0=Fair/Poor)		Better Mental Health (Range:1-100)		Sobriety (1=Drink less than 5 days/wk, 0=Drink 5+ days/wk)	
	Model1	Model2	Model1	Model2	Model1	Model2
	Odds Ratio p	Odds Ratio p	Reg. Coef. p	Reg. Coef. p	Odds Ratio p	Odds Ratio p
Female	1.20 †	0.98	-0.93 †	-1.11	2.90 ***	2.02 ***
Marital Status						
Never-Married	Ref	Ref	Ref	Ref	Ref	Ref
Currently-Married	1.45 *	1.16	4.15 ***	4.09 **	0.90	0.77
Widowed/Divorced	0.92	0.98	-0.93	-3.01	0.46 ***	0.37 **
Past Health	0.39 ***	0.39 ***	-4.02 ***	-3.99 ***	0.99	0.99
Age	0.98 *	0.98 *	-0.09	-0.09	0.94 ***	0.93 ***
Education						
High school or less	Ref	Ref	Ref	Ref	Ref	Ref
Vocational school, 2-year college	0.90	0.90	0.57	0.57	1.27 *	1.28 *
College or above	1.14	1.17	2.09 **	2.08 **	1.65 ***	1.68 ***
Coresidence with Own Parent(s)	1.25 †	1.27 †	-0.04	-0.01	1.38 **	1.40 **
Child under Age 18	1.50 *	1.49 *	0.48	0.47	0.69 *	0.69 *
Interactions						
Female * Married		1.74 **		0.18		1.76 **
Female * Widowed/Divorced		0.96		3.39		1.81
Hhld Income per Family Member						
.8 million JP yen or less	Ref	Ref	Ref	Ref	Ref	Ref
.8-1.4 million JP yen	1.13	1.12	0.48	0.49	0.78 †	0.78 †
1.4-2.2 million JP yen	0.98	0.97	1.38	1.41 †	0.77 †	0.77 †
Mare than 2.2 million JP yen	1.30 *	1.28 †	2.96 ***	3.01 ***	0.69 **	0.68 **
Icome missing	0.83	0.82	-1.85	-1.84	0.96	0.94
No Social Support	0.62 ***	0.62 ***	-3.79 ***	-3.79 ***	1.07	1.06
11 or More Cigarettes per Day	0.65 ***	0.66 ***				
Employment						
Out of labor force	Ref	Ref	Ref	Ref	Ref	Ref
Unemployed	0.77	0.83	-4.13 **	-4.13 **	0.94	1.00
Employed	1.31 †	1.52 *	-1.63 †	-1.63 †	0.60 **	0.68 *
AIC	3190	3187	39679	39682	3674	3670
N	4672	4672	4615	4615	4687	4687

† p<.1,   * p<.05,   ** p<.01,   *** p<.001 (two-tailed test)

Table 3. Marital Status and Health: Separate Analyses by Gender (JLPS 2007)

	SRH		Mental Health		Sobriety	
	Female	Male	Female	Male	Female	Male
	OR p	OR p	Coef p	Coef p	OR p	OR p
Marital Status						
Never-Married	Ref	Ref	Ref	Ref	Ref	Ref
Currently-Married	2.07*	1.15	3.75 *	3.83 *	1.64	0.72
Widowed/Divorced	1.01	0.95	0.79	-3.13	0.78	0.36 **
Past Health Status	0.36***	0.42***	-4.14 ***	-3.87 ***	0.98	0.98
Age	0.97*	0.98	-0.06	-0.10	0.94 ***	0.94 ***
Education						
High school or less	Ref	Ref	Ref	Ref	Ref	Ref
Vocational school, 2-year college	1.12	0.71	1.23	-0.34	1.23	1.36 *
College or above	1.66*	0.90	2.73 *	1.44	1.85 **	1.65 ***
Coresidence with Own Parent(s)	1.41†	1.08	-0.19	-0.20	1.43 †	1.39 *
Child under Age 18	1.80*	1.26	-0.30	1.08	0.56 *	0.74
Hhld Income per Family Member						
.8 million JP yen or less	Ref	Ref	Ref	Ref	Ref	Ref
.8-1.4 million JP yen	1.22	1.06	1.48	-0.46	0.80	0.76
1.4-2.2 million JP yen	0.94	1.05	1.54	1.46	0.87	0.72 †
Mare than 2.2 million JP yen	1.19	1.33	3.77 **	2.58 *	0.75	0.65 *
Missing	0.62	1.08	-2.00	-1.55	2.33 †	0.63 †
No Social Support	0.60***	0.60***	-4.49 ***	-3.27 ***	1.16	1.01
11+ Cigarettes per Day	0.51**	0.75*				
Ave. Work Hours per Week						
Out of labor force	Ref	Ref	Ref	4.14	Ref	Ref
Unemployed	1.02	1.15	-3.18 †	Ref	1.10	0.65
1-35 hours	1.18	3.12**	-2.05 †	6.40 **	0.73	0.51
36-49 hours	1.60	2.84***	-2.30 *	6.68 **	0.69	0.46
50-59 hours	1.43	3.10***	-2.45	6.22 **	0.52 *	0.46
60+ hours	1.01	1.60†	-9.17 ***	1.39	0.94	0.42 †
Missing	1.09	3.15**	-4.58 *	3.90	0.64	0.53
AIC	1503	1692	20198	19463	1444	2255
N	2382	2304	2343	2272	2377	2310

† p<.1, * p<.05, ** p<.01, *** p<.001 (two-tailed test)

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Figure 5. Predicted Probabilities and 95% CI of Self-Rated Health by Gender, Marital Status, Child, and Employment: JLPS 2007
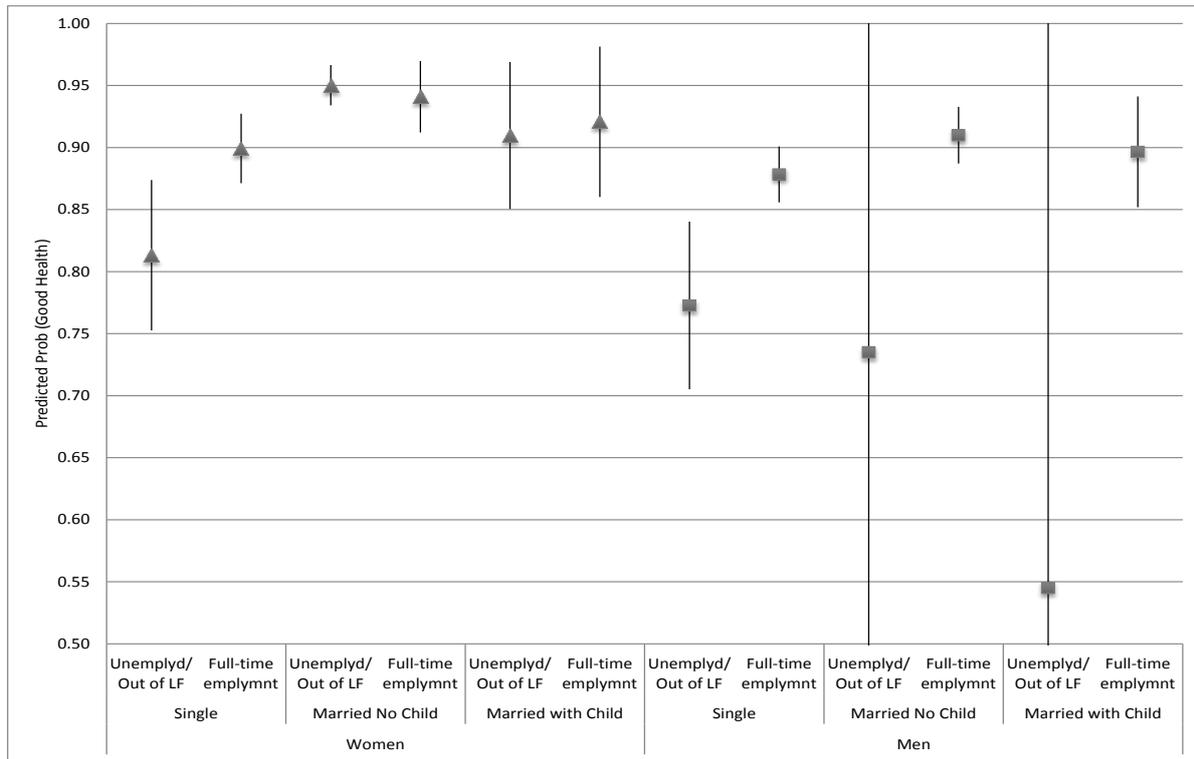

Figure 6. Predicted Mental Health Scores and 95% CI by Gender, Marital Status, Child, and Employment: JLPS 2007
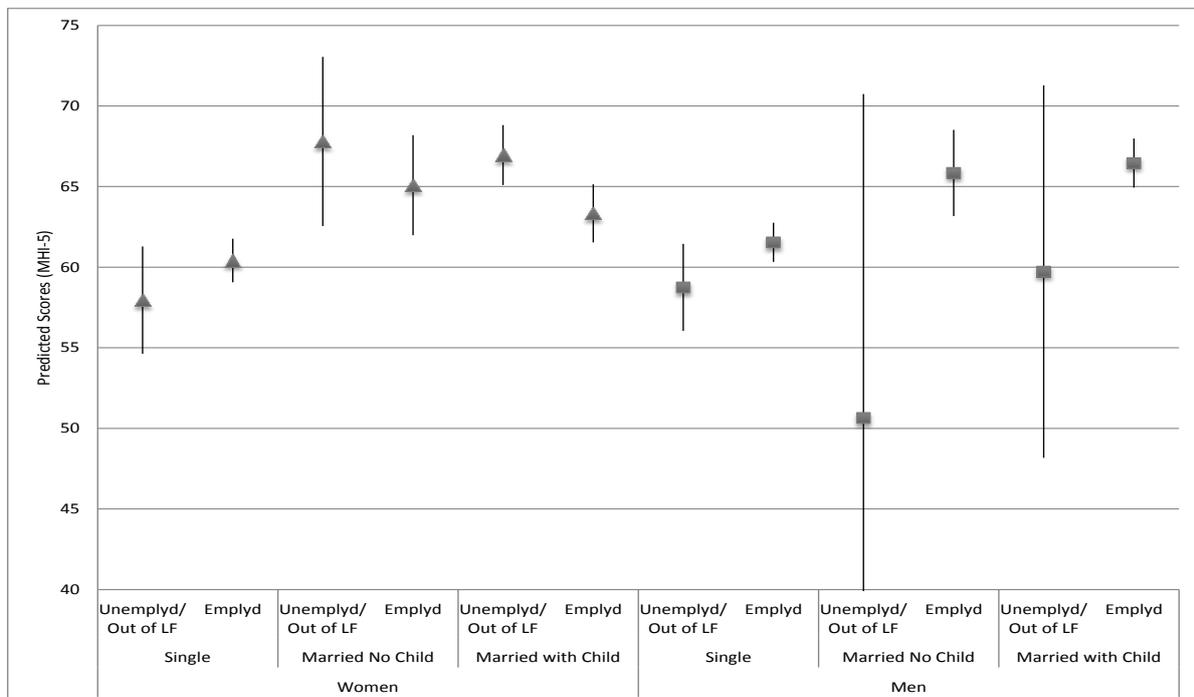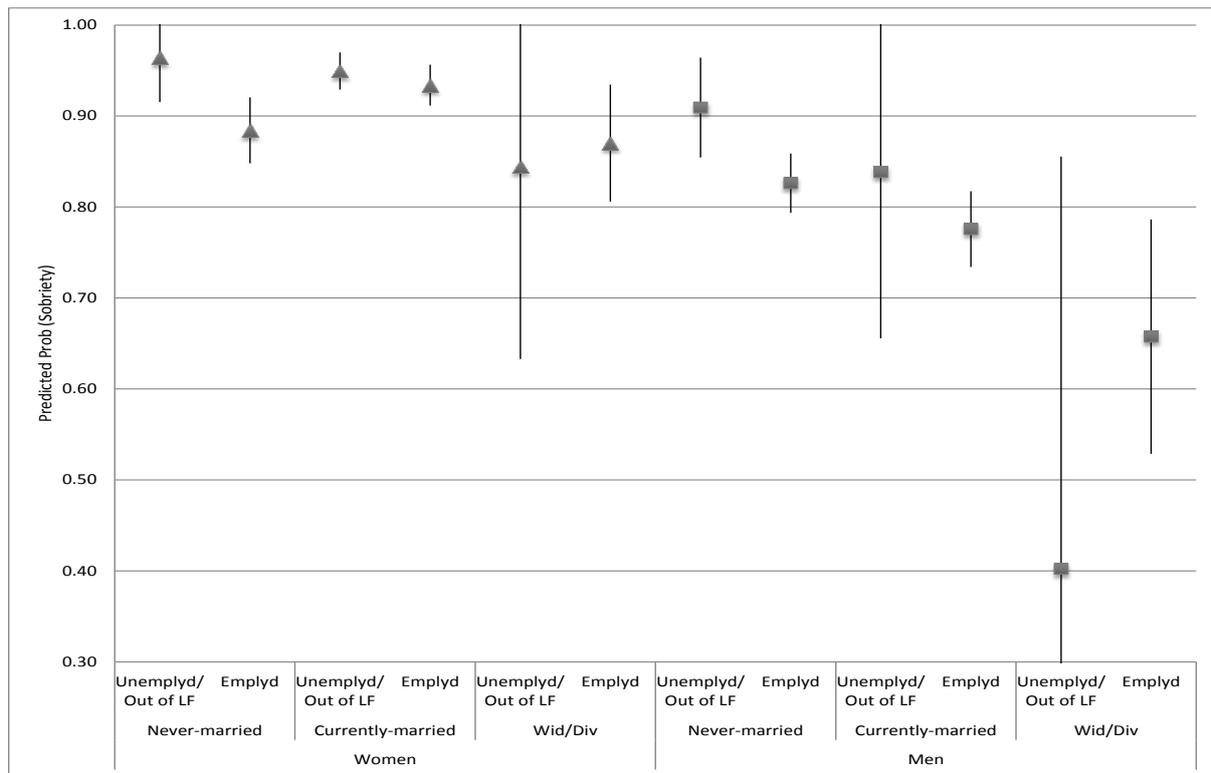
Figure 7 Predicted Probabilities and 95% CI of Sobriety by Gender, Marital Status, and Employment: JLPS 2007

東京大学社会科学研究所パネル調査プロジェクトについて

　労働市場の構造変動、急激な少子高齢化、グローバル化の進展などにともない、日本社会における就業、結婚、家族、教育、意識、ライフスタイルのあり方は大きく変化を遂げようとしている。これからの日本社会がどのような方向に進むのかを考える上で、現在生じている変化がどのような原因によるものなのか、あるいはどこが変化してどこが変化していないのかを明確にすることはきわめて重要である。

　本プロジェクトは、こうした問題をパネル調査の手法を用いることによって、実証的に解明することを研究課題とするものである。このため社会科学研究所では、若年パネル調査、壮年パネル調査、高卒パネル調査の３つのパネル調査を実施している。
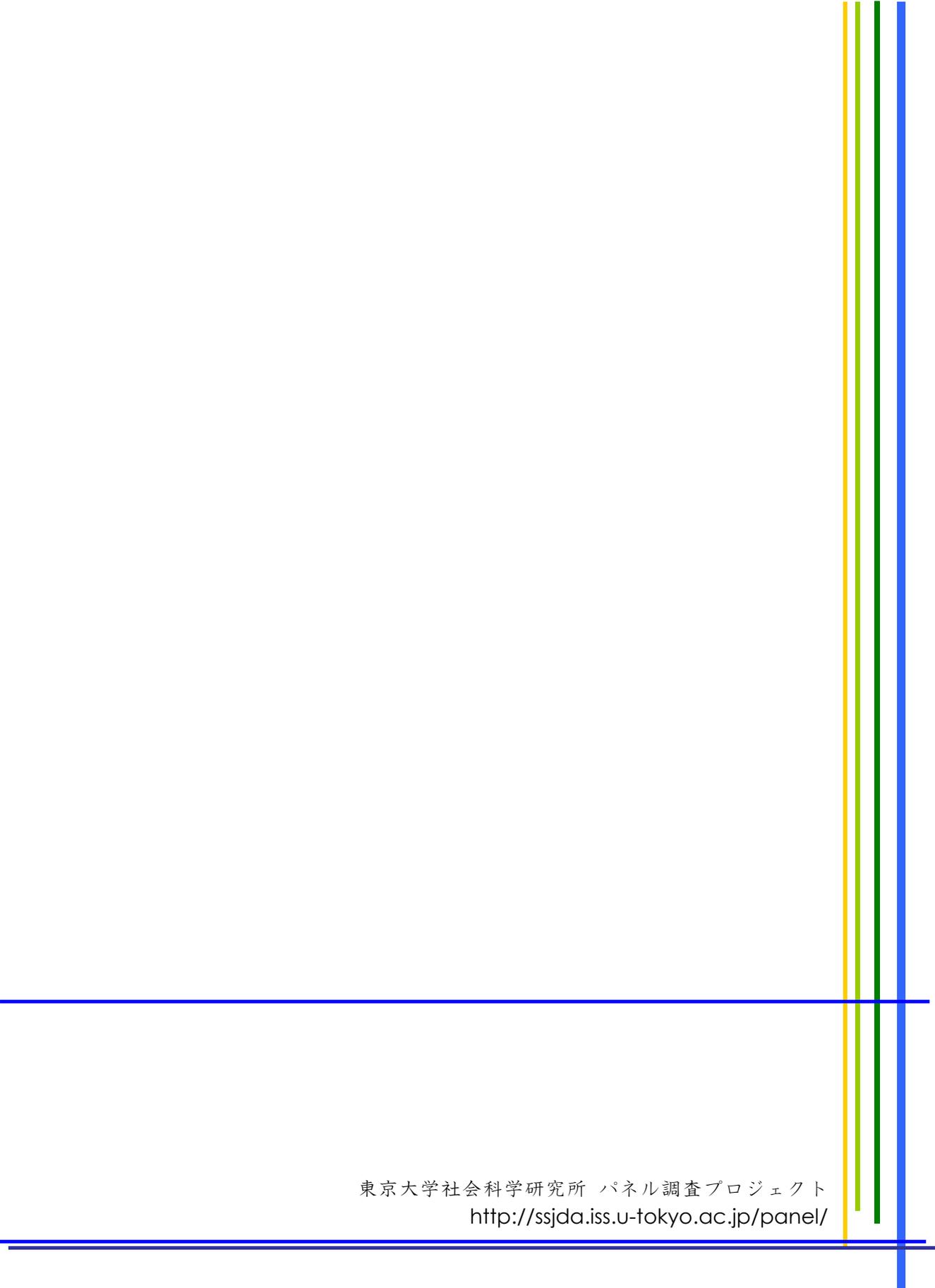
東京大学社会科学研究所パネル調査プロジェクト
ディスカッションペーパーシリーズについて

　東京大学社会科学研究所パネル調査プロジェクトディスカッションペーパーシリーズは、東京大学社会科学研究所におけるパネル調査プロジェクト関連の研究成果を、速報性を重視し暫定的にまとめたものである。