



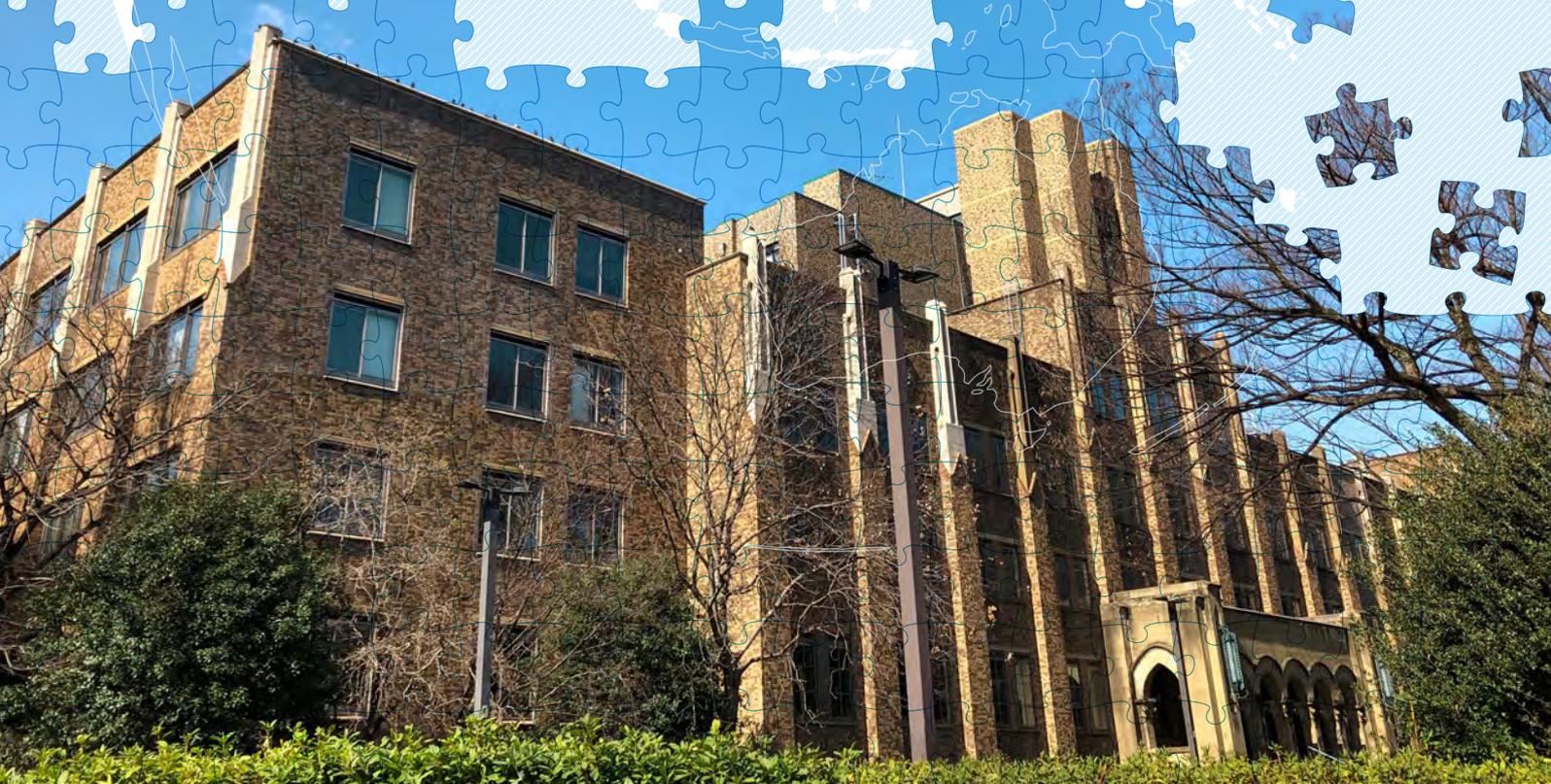
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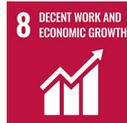
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Employment Uncertainty and Delayed Marriage in a Society Where Cohabitations Are Not Prevalent: Incorporating Premarital Partnership



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ABSTRACT

Objective: This study examines the influence of nonstandard employment and unemployment on delayed marriage among individuals in Japan by categorizing marriage formation into premarital partnerships entry and marriage entry from premarital partnerships stages.

Background: Employment uncertainty is linked to the postponement of union formation as well as to an increase in cohabitation in place of marriage. However, the postponement of marriage has also occurred in countries without being accompanied by an expansion in cohabitation, suggesting that employment uncertainty may hinder the former stages of union formation—premarital partnership—in these countries.

Method: Using nationally representative panel survey data from Japan covering the period of 2007–2021 and targeting young- and middle-aged individuals, binary logit models were employed to predict entry into premarital partnership and into marriage from such partnerships.

Results: The influence of nonstandard employment and unemployment varies between premarital partnership formation and marriage formation from premarital partnership. Nonstandard employment and unemployment are significantly associated with premarital formation for both men and women, which is not observed after controlling for income. The association of employment with marriage formation from partnership is more evident among men than among women.

Conclusion: The influence of employment uncertainty is apparent even in the formation of a premarital partnership. This study extends previous arguments on delayed union formation and employment uncertainty into the premarital partnership phases, which entail searching for and evaluating a potential marital partner.

INTRODUCTION

Employment uncertainty is argued to be a source of delay for union formation. Studies have shown that unemployment or nonstandard employment contracts are linked to the postponement of marriage in the United States and European countries (Ahn & Mira, 2001; Bolano & Vignoli, 2021; Bracher & Santow, 1998; de la Rica & Iza, 2005; Kalmijn, 2011; Kalmijn & Luijkx, 2005; Mills et al., 2005; Oppenheimer, 2003; Oppenheimer et al., 1997; van Wijk et al., 2021; Vignoli et al., 2016; Wolbers, 2007). The unemployed and those working in nonstandard employment are reluctant to enter into marriage, which requires a stable economic foundation to persevere over the long run (Oppenheimer, 1988) due to fewer financial resources (Becker, 1981) or more uncertain future prospects (Mills & Blossfeld, 2005, 2013; Oppenheimer, 1988). Coresidential unions may be an alternative to marital unions under increasing employment uncertainty (Perelli-Harris et al., 2010); those in unemployment and nonstandard employment tend to enter into and remain in coresidential unions rather than getting married (Bracher & Santow, 1998; Kalmijn, 2011; Oppenheimer, 2003; Oppenheimer et al., 1997; Sassler & Goldscheider, 2004; Vignoli et al., 2016), which leads to the postponement of marriage.

However, employment uncertainty is also related to delayed marital union formation even in countries that do not experience the expansion of coresidential unions. In East Asian countries, studies have revealed that both unemployment and nonstandard employment are linked to the postponement of marriage (Esteban-Pretel & Fujimoto, 2022; Kim, 2017; Matsuda & Sasaki, 2020; Mugiyama, 2017; Piotrowski et al., 2015, 2016; Tsuya, 2023; Yoon et al., 2022). Despite the increase in nonstandard employment and unemployment over the past several decades, cohabitational unions have not become prevalent in these regions (Raymo et al., 2015). Rather, studies have suggested that delayed marriage is due to the lack of a partner to marry. In Japan, for example, the percentage of never-married individuals without a steady partner is higher among those working in nonstandard employment and in unemployment than it is among

those in regular employment (Ghaznavi et al., 2020; Mogi et al., 2022). Men working in nonstandard employment are less engaged in partner-seeking activities (Ishida, 2013) and are less preferred as potential partners by women (Brinton et al., 2021). Women working in nonstandard employment have fewer opportunities to meet potential partners with higher earnings potentials than their regular employment counterparts (Matsuda & Sasaki, 2020). These findings suggest that the premarital partnership stage may be a hurdle to marriage formation in societies where cohabitation is not widely accepted as an alternative union option.

We study delayed marriage among people engaged in nonstandard employment and the unemployed in Japan, a society where cohabitation is not prevalent, by exploring the role of premarital partnerships as an intermediary step to marriage. Specifically, this study examines whether nonstandard employment and unemployment are related to the delay of premarital partnership formation, delay of marriage among those who already have a partner, or both. To address this research question, we utilize unique nationally representative panel survey data from Japan that contain information on respondents' partnership, marital and socioeconomic status. By disaggregating the process of marriage entry into premarital partnership formation and marriage formation from premarital partnership, we analyze the associations between these transitions and individuals' employment status.

This study contributes to the literature by expanding the previous arguments of delayed union formation to include premarital partnership stages. Both premarital relationships and coresidential relationships share the characteristic of searching for or evaluating potential marital partners (Blackwell & Lichter, 2004), which suggests that theories on uncertainty and union formation (Mills & Blossfeld, 2005, 2013; Oppenheimer, 1988) could also provide insights into premarital relationship stages. However, previous studies have solely focused on cohabitation as an intermediate union stage. By incorporating the earlier stage of union formation – premarital partnership formation – we argue that the influence of employment uncertainty is already evident

at the earlier stages prior to union formation, particularly in societies with a low cohabitation prevalence.

THEORETICAL BACKGROUND

Employment and union formation

Unstable employment conditions are argued to be associated with the postponement of marriage by lowering individuals' financial resources or increasing their sense of future uncertainty. The first strand of theories explains the relationship between employment status and a low likelihood of marriage in terms of financial resources. Specialization theory argues that marriage occurs if marrying increases the utility of both partners (Becker, 1981). Specialization within the household increases utility for household members. If one has a relative advantage in paid work, the level of utility within the household increases by entering into marriage with a partner who engages in domestic labor because one can then further specialize in paid work. Considering that the unemployed or those working in nonstandard employment have lower incomes than those who are not (DiPrete & McManus, 2000; Kalleberg et al., 2000), these theories suggest that the relationship between unstable employment conditions such as nonstandard employment or unemployment and delayed marriage is attributable to their associated fewer financial resources.

Future uncertainty as related to unstable employment conditions also delays the timing of marriage. Oppenheimer (1988) argues that in a society where traditional gender role expectations prevail, the rise in unemployment or nonstandard employment contracts threatens men's future earnings capacity, which leads to their postponement of marriage. Future uncertainty arising from their employment discourages them from deciding to marry and hinders their being preferred by potential marital partners (Mills & Blossfeld, 2005, 2013; Oppenheimer, 1988). Kohler et al. (2002) also argue that higher uncertainty additionally increases the

influences of social learning and social interaction regarding the optimal timing of childbearing, which further accelerate the incentive to delay family formation.

Uncertainty theories also suggest that as a consequence of increased uncertainty, individuals in unstable employment conditions prefer forming cohabitation unions over marital unions. Marital unions are formal institutional relationships with normative expectations of long-term commitment and a stable economic foundation, while cohabitational unions involve weaker normative expectations (Mills & Blossfeld, 2005, 2013; Nock, 1995; Oppenheimer, 1988). Thus, entry into cohabitation has been argued to be an alternative union formation for couples with greater levels of uncertainty (Perelli-Harris et al., 2010). A lack of financial resources and the future uncertainty associated with unstable employment conditions could be factors that make individuals reluctant to enter into cohabitation (Sassler, 2004), but this is less apparent than the reluctance to enter into marriage arising from these factors.

Empirical studies concur with the theoretical expectations. Studies have shown that unstable employment conditions, such as unemployment and part-time, fixed-term, or temporary employment, are associated with delayed entry into marriage in various countries (Ahn & Mira, 2001; Bolano & Vignoli, 2021; de la Rica & Iza, 2005; Esteban-Pretel & Fujimoto, 2022; Kalmijn & Luijkx, 2005; Kim, 2017; Mills et al., 2005; Mugiya, 2017; Piotrowski et al., 2015; Tsuya, 2023; Vignoli et al., 2016; Wolbers, 2007; Yoon et al., 2022). Several studies report the significant associations of employment with delayed marriage when controlling for current levels of income or earnings (Bracher & Santow, 1998; Clarkberg, 1999; Kalmijn, 2011; Oppenheimer, 2003; Oppenheimer et al., 1997; van Wijk et al., 2022), which suggests that the influence of employment is partly due to future uncertainty signals. A study argue that the influence of temporary employment on delayed marriage is not attributed to respondents' perceived insecurity (van Wijk et al., 2021), but other studies report that perceived insecurity is significantly associated with objective employment status and also with union formation (Bolano

& Vignoli, 2021). Compared to entry into marriage, the association between employment and entry into cohabitation is weaker than that between employment and entry into marriage (Bracher & Santow, 1998; Kalmijn, 2011; Oppenheimer, 2003; Sassler & Goldscheider, 2004; Schneider et al., 2019; Vignoli et al., 2016). In addition, studies report that nonstandard employment and unemployment among those in cohabitational unions are negatively associated with entry into marriage (Oppenheimer, 2003; Vignoli et al., 2016), which suggests that those in unstable employment conditions are more likely to remain in cohabitation.

The influence of employment or earnings on union formation differs by gender. While specialization theory suggests that women's stable employment or higher earnings discourage their entry into marriage because marriage would force them to forgo their economic gains in the labor market (Becker, 1981), others argue that it operates similarly to men's in gender-egalitarian societies (Goldscheider et al., 2015; Oppenheimer, 1988, 1997). Studies show that women's employment and earnings are positively related to marriage entry in younger generations that have experienced the convergence of gender-role expectations and in more gender-egalitarian societies (Fukuda, 2013; Kim, 2017; Ono, 2003; Sweeney, 2002). There is limited evidence on the gender differences regarding the relationship between employment and earnings and cohabitation entry, and the results are mixed. Some studies suggest that this relationship does not differ by sex (Bracher & Santow, 1998; Schneider et al., 2019), while other studies report a stronger relationship for women than for men (Clarkberg, 1999).

Premarital partnership as an intermediary step of marriage

Premarital partnerships, which are also referred to as intimate, romantic, or dating relationships, can be considered to be an initial step in union formation. Premarital partnerships and cohabitations overlap but are distinct concepts. While cohabitating couples can be regarded as having an intimate relationship, the absence of cohabitation does not necessarily indicate the

absence of a steady partnership (Castro-Martín et al., 2008; Duncan & Phillips, 2011; Haskey, 2005; Levin, 2004; Régnier-Loilier & Vignoli, 2018; Roseneil, 2006; Strohm et al., 2009). Individuals who desire to marry are inclined to assess prospective partners to ascertain their suitability as a future marital partner through the process of searching for and engaging in romantic relationships (Blackwell & Lichter, 2004; Oppenheimer, 1988). While some couples choose a noncoresidential nonmarital partnership as an alternative style of union (i.e., Living-Apart Together, or LAT), most of those engaged in such a partnership intend to live together or enter into marriage (Castro-Martín et al., 2008; Duncan & Phillips, 2011; Liefbroer et al., 2015). The likelihood of entry into marriage is significantly higher for those with a premarital partner than for those without such a partner (Yu & Kuo, 2016). These studies suggest that premarital partnership can be regarded as an intermediary stage for union formation.

In the process of searching for potential marital partners, unstable employment situations are also associated with entry into premarital partnership, as with entry into cohabitation or marriage. Studies have shown that unemployment and nonstandard employment are negatively associated with having a premarital partnership (Ghaznavi et al., 2020; Liefbroer et al., 2015; Mogi et al., 2022), suggesting that the relationship with employment appears even before the phases of cohabitation and marriage. Other studies suggest that unstable employment conditions and fewer financial resources associated with unstable employment impede premarital partnership formation, especially in the phase of seeking long-term relationships. Brinton et al. (2021) show through their interviews that women searching for marital partners prioritize their partner's future job stability. In addition, dating offers from lower-income people are more likely to be rejected, especially when the offer is made to a woman by a low-income man (Brinton et al., 2021; Hitsch et al., 2010; Yu & Hertog, 2018).

A comparison of entry into marriage and premarital partnership, as with the comparison of entry into marriage and cohabitation, reveals the pathways through which unstable

employment conditions influence union formation. When the premarital partnership formation stage serves as a searching stage for potential marital partners, nonstandard employment or unemployment is also related to entry into a premarital partnership. The stratification of the process of marriage into entry into premarital partnership and entry into marriage from premarital partnership provides important insights in societies where coresidential unions are not prevalent. The absence of cohabitation is not the same as the absence of a steady partner who is also a marriage prospect. Concurrent increases in employment uncertainty and marriage delays in these societies, as we will see, can be better understood by incorporating premarital partnership stages.

JAPANESE CONTEXT AND HYPOTHESES

The timing of marriage entry has been considerably delayed in recent decades in Japan. Men's mean age at first marriage increased from 28.5 years of age in 1995 to 31.1 in 2015, and for women it has increased from 26.3 to 29.4. Despite this trend, marriage remains highly valued, as evidenced by the fact that nearly 90% of never-married individuals express a desire to marry, a proportion that has changed little since the 1990s (National Institute of Population and Social Security Research, 2017). Additionally, a small percentage of people do not wish to marry throughout their life course (Raymo et al., 2021). The delayed marriage in Japan is also linked to a fertility decline combined with the low occurrence of childbearing outside of marriage (Iwasawa, 2008; Jones, 2007), resulting in very low levels of fertility (Goldstein et al., 2009).

In line with the postponement of marriage that has been occurring recently, young and middle-aged people's employment situations have worsened since the late 1990s. The unemployment rate increased from 2.1% in 1990 to 5.4% in 2002 and remained high until the mid-2010s (Statistics Bureau of Japan, 2023). The share of nonstandard employment has also increased. Workers in nonstandard employment have various socioeconomic disadvantages

compared to their standardly employed counterparts (Kambayashi & Kato, 2016), including lifetime employment, seniority-based wages and promotions, in-house on-the-job training, and extensive family benefits (Kalleberg, 2018). The share of nonregular workers rose from 2.7% in 1995 to 15.3% in 2015 for men and from 23.7% to 39.9% for women (Statistics Bureau of Japan, 2023). The increase in nonstandard employment reflects economic downturns and the rising demands to reduce workforce costs (Houseman & Osawa, 2003; Kalleberg, 2018).

Unemployment and nonstandard employment are associated with delayed entry into marriage, especially for men. Studies consistently show that the unemployment and nonstandard employment of males are associated with delayed marriage (Esteban-Pretel & Fujimoto, 2022; Mizuocchi, 2006; Mugiyama, 2017; Piotrowski et al., 2015; Tsuya, 2023). For women, those studies that include older cohorts in the sample report null or negative influences of unemployment and nonstandard employment on marriage entry (Lim, 2018; Mizuocchi, 2006). Those studies that analyze more recent cohorts, however, show that the relationship is positive, and that the relationship is weaker for women than for men (Esteban-Pretel & Fujimoto, 2022; Matsuda & Sasaki, 2020; Mugiyama, 2017; Piotrowski et al., 2015; Tsuya, 2023). Esteban-Pretel & Fujimoto (2022) report that the relationship between nonstandard employment and entry into marriage becomes nonsignificant after controlling for both men and women's income, which suggests that the relationship between unstable employment conditions and entry into marriage may arise from a lack of financial resources (Becker, 1981) rather than from future uncertainty (Mills & Blossfeld, 2005, 2013; Oppenheimer, 1988).

In contrast to the United States and European countries, where marriage is postponed, cohabitations are not widespread in Japan, which is inconsistent with the argument that coresidential unions increase as an alternative option in response to increasing employment uncertainty (Perelli-Harris et al., 2010). Many young people rarely leave their parents' home before marriage unless it is to pursue a college education or work, and those living away from

their parents frequently live alone rather than with others (Fukuda, 2009). While the percentage of those who experience cohabitation before marriage is increasing slightly, the duration of such arrangements is still fairly short (Raymo et al., 2009).

This does not mean that never-married people do not engage in any steady partnerships before marriage. Approximately 30% of never-married men and 40% of never-married women report that they currently have a steady partner (National Institute of Population and Social Security Research, 2017). Further, over 95% of newly married couples report having chosen their partner based on love rather than on arranged marriage. On average, these couples spend over four years in a premarital partnership before entering into marriage (National Institute of Population and Social Security Research, 2017). These reports suggest that the premarital partnership stage, even when most premarital couples do not cohabit, functions as an intermediary step of marriage entry representing the search and evaluation of potential marital partners in Japan.

When separating the process of marriage formation into premarital partnership and marriage from premarital partnership, we expect unstable employment conditions to be related to both stages. On the one hand, those in nonstandard employment and unemployment may postpone their marriage, even if they have a steady partner, due to their fewer financial resources (Becker, 1981) or their future uncertainty (Mills & Blossfeld, 2005; Oppenheimer, 1988). On the other hand, those with unstable or no employment may also delay their entry into premarital partnership formation. Because the premarital partnership serves as a stage of searching for potential marital partners in Japan, employment conditions are also an important criterion for assessing entry into partnership. Studies show that those in uncertain employment conditions are less likely to be preferred by potential partners engaged in the partner-search process (Brinton et al., 2021) and are less likely to engage in partner-search activities themselves (Ishida, 2013),

which leads to less frequent premarital partnership formation for those in nonstandard employment and unemployment.

Hypothesis 1a. Nonstandard employment and unemployment are associated with later entry into premarital partnerships.

Hypothesis 2a. Nonstandard employment and unemployment are associated with later entry into marriage from premarital partnerships.

We extend these hypotheses by introducing individual income as the measure of financial resources. Theories suggest that the delayed impact of nonstandard employment and unemployment mainly derives from lower financial resources (Becker, 1981), which suggests that the association between employment status and premarital partnership and marriage formation from premarital partnership would not be found after controlling for financial resources. Uncertainty theories suggest that the negative influence of nonstandard employment and unemployment also arises from future uncertainty (Mills & Blossfeld, 2005, 2013; Oppenheimer, 1988), which suggests that the relationship between employment and partnership/marriage entry remains net of financial resources. A meta-analysis study of the relationship between employment and fertility also indicates that the impact of uncertainty is overestimated without controlling for income (Alderotti et al., 2021). Following previous studies that use income as a measurement of financial resources (Esteban-Pretel & Fujimoto, 2022; Kalmijn, 2011; Oppenheimer, 2003; Oppenheimer et al., 1997; van Wijk et al., 2021), we test the hypotheses on the relationship between employment and partnership/marriage entry by controlling for income.

Hypothesis 1b. Nonstandard employment and unemployment are associated with later entry into premarital partnerships when controlling for income.

Hypothesis 2b. Nonstandard employment and unemployment are associated with later entry into marriage from premarital partnerships when controlling for income.

The influence of employment on marriage formation varies by gender. Gender-differentiated role expectations are more prevalent in Japan than in the United States and most European countries (Hofstede, 2001). After marriage, men are expected to play the role of breadwinners, while women are expected to take care of most household chores, childcare, and education for their children (Brinton, 1993). This results in a small share of housework for husbands in Japan, which is an outlier among high-income countries (Fuwa, 2004). Although some studies suggest that these differentiated gender-role expectations of marital partners are gradually shifting (Fukuda, 2013; Fukuda et al., 2020; National Institute of Population and Social Security Research, 2017), traditional gender-role attitudes have not significantly changed over recent years and cohorts (Piotrowski et al., 2019; Tsuya et al., 2012). Considering that the relationship between employment and marriage formation is contingent on gender equality in society (Goldscheider et al., 2015; Oppenheimer, 1988; Oppenheimer et al., 1997), we expect that the influence of nonstandard employment and unemployment on delayed entry into marriage is stronger among men than among women in Japan.

In contrast, the stage of premarital partnerships does not involve the same gender-role expectations as that of marriage. While some couples may form a household and play differential roles according to their sex, a majority of those in the premarital partnership stage in Japan, where cohabitation is rare (Raymo et al., 2009), do not divide labor any differently than that in marital partnership. Additionally, couples rarely have children out of wedlock (Hertog & Iwasawa, 2011), which also reduces the need for division of labor. Due to the lower demands for

a gender-differentiated division of labor in premarital relationships than in marriage, the influence of employment on partnership formation is expected to be found for both men and women. In summary, we only propose hypotheses regarding differences between men and women for marriage entry from premarital partnerships:

Hypothesis 3a. Nonstandard employment and unemployment are more strongly associated with later entry into marriage from premarital partnership for men than for women.

Hypothesis 3b. Nonstandard employment and unemployment are more strongly associated with later entry into marriage from premarital partnership for men than for women even after controlling for income.

METHODS

Data and sample

We used data from the Japanese Life-course Panel Survey (JLPS), conducted by the Institute of Social Science at the University of Tokyo in 15 waves, covering 2007 to 2021 (<https://csrda.iss.u-tokyo.ac.jp/socialresearch/>). The JLPS is a nationally representative longitudinal survey of young and middle-aged individuals in Japan. Initially, the survey respondents were 20 to 40 years old in 2007 (born between 1966 and 1986), and the sample was replenished in 2011 (wave 5) to compensate for attrition over time. Furthermore, a new sample was added in 2019, comprising individuals aged 20 to 31 (born between 1987 and 1998). The sample from the initial survey is reported to be representative of the national statistics (Ishida, 2013; Naka & Miwa, 2020). The data are suitable for our purpose, as they include information on marital and partnership status, employment status, and income, allowing us to examine the association of employment status with the transition of partnership and marital status.

The analytical sample, covering the period from 2007 to 2020, consists of the person-years of never-married men and women born between 1970 and 1994. We only used person-years for which there was a valid response in the following survey year, as the transition from wave t to $t + 1$ was used as the dependent variable. In instances where respondents returned to the panel after dropping out due to nonresponse, we used both the observations before their drop out and after their return, provided that they remained never-married. Because the survey did not collect retrospective information on the time-varying independent variables employed in this study, we cannot analyze the entire risk period beginning with when they become legally eligible to marry (i.e., 18 years of age). Hence, the results of the analysis can be generalized only to those who were never married in the period from 2007 to 2020.

The sample selection procedures are as follows. The number of observations of the original analytical sample comprised 7,613 person-year observations on 1,401 male respondents and 7,017 person-year observations on 1,418 female respondents. First, we excluded those who attended school in the survey year (414 person-year observations for men and 349 for women) because the participants rarely entered into marriage during the school year (Raymo, 2003). Then, those person-year observations with missing values for relationship status, employment status, income, or level of education were omitted, including 395 person-year observations for men and 321 for women. The resultant sample contains 6,804 person-year observations on 1,296 male respondents and 6,347 person-year observations on 1,340 female respondents.

Variables

Relationship status and its transitions. In the JLPS, those who were not currently married were asked about their heterosexual premarital unions with the questionnaire “Are you currently in a heterosexual relationship with anyone?” Respondents engaged in a romantic relationship with someone of the same sex were not included in this question, which is a limitation of this study.

We classified the responses “engaged” or “romantically involved with someone” as premarital partnerships and that of “no involvement” as representing nonpartnerships. By combining this category with marital status, we created three mutually exclusive categories: nonpartnership, premarital partnership, and marriage. We should note that 10% of these observations on premarital partnership involve cohabitation with partners, indicating that the categories of premarital partnership and cohabitation partly overlap. The small share of cohabitation hinders the ability to distinguish between noncoresidential and coresidential premarital partnerships in our analysis.

We subsequently constructed four types of transitions between waves t and $t + 1$ from the variable: (1) entry into marriage from either nonpartnership or premarital partnership (marriage formation), (2) entry into premarital partnership from nonpartnership (partnership formation), (3) entry into marriage from premarital partnership (marriage formation from partnership), and (4) entry into nonpartnership from premarital partnership (partnership dissolution). Although we do not advance hypotheses on partnership dissolution, we present the results to reject the possibility that the results regarding marriage formation among individuals with partnerships are not caused by negative or positive selection into the sample. It should be noted that even if respondents reported that they had a partner in waves t and $t + 1$, the partner may not be the same person because the JLPS does not differentiate whether the partner is the same as the partner reported in the previous year. Thus, premarital partnership formation and dissolution in our analysis represent a change in relationship status between consecutive waves.

Table 1 shows the transition matrix of partnership/marital status between consecutive survey waves. Most individuals report having a partner prior to marriage. The number of transitions from premarital partnership to marriage is almost ten times larger than the transition from nonpartnership to marriage (317 to 33 for men, and 446 to 40 for women). Due to its infrequency, we did not analyze the transition from nonpartnership to marriage. Among

individuals with premarital partnerships, one-fifth changed their status to married (21.1% for men and 19.4% for women), while another one-fifth changed their status to nonpartnership in the subsequent period (17.6% for men and 15.7% for women).

Table 1. *Transition Matrix of Partnership/marital Status by Gender*

Men		Wave t + 1			
Wave t	Nonpartnership	Premarital partnership	Married	Total	
Nonpartnership	4,864 91.7%	405 7.6%	33 0.6%	5,302 100.0%	
Premarital partnership	264 17.6%	921 61.3%	317 21.1%	1,502 100.0%	
Total	5,128 75.4%	1,326 19.5%	350 5.1%	6,804 100.0%	
Women		Wave t + 1			
Wave t	Nonpartnership	Premarital partnership	Married	Total	
Nonpartnership	3,462 85.5%	539 13.3%	49 1.2%	4,050 100.0%	
Premarital partnership	361 15.7%	1,490 64.9%	446 19.4%	2,297 100.0%	
Total	3,823 60.2%	2,029 32.0%	495 7.8%	6,347 100.0%	

Note. The number of person-years and row percentages are reported.

Employment status. Employment status was measured as a time-varying variable containing four categories: regular employment, nonstandard employment, self-employed (including family workers), and unemployment. Nonstandard employment consists of part-time workers, temporary workers, agency workers, and contract workers, following previous studies on nonstandard work in Japan (e.g., Houseman & Osawa, 2003; Kalleberg, 2018).

Unemployment included both unemployed and inactive individuals, as we were unable to distinguish between them due to the small sample size of the unemployed.

Logged individual income. Income was used as a measure of individuals' financial resources. The income variable consists of all sources of the respondent's own income because the JLPS does not differentiate between sources in the questionnaire. However, the individual

income of young workers who are not enrolled in school serves as a good proxy for their earned income. We transformed individual income as collected by categorical options into a continuous variable by utilizing the midpoint of each interval. The value of income was standardized to the 2020 Consumer Price Index (Statistics Bureau of Japan, 2023). Missing values were imputed as the most recent income of respondents within the past three years, which is in line with previous studies (Yu & Hara, 2020). We took the logarithm of income, as the effect of an increase in income is greater when income is low (Oppenheimer et al., 1997; van Wijk et al., 2021).

Control variables. Age and its squared term were used to control for the trend in the rate of relationship transitions to increase and then decrease with age. Birth cohort, as separated by five-year intervals, was included to account for changes in ideational values regarding marriage or partner formation. Educational background was also employed to control for any potential confounding factors between employment status and transitions because highly educated individuals are less likely to work in nonstandard jobs (Fong & Tsutsui, 2015) and are more likely to have a partner or to marry (Fukuda et al., 2020; Ghaznavi et al., 2020). Level of education was categorized into four groups: junior high and high school, vocational school, junior college, or university or above. Finally, residential areas were also included to control for differences in marriage and partnership intentions across local contexts (Yu & Hara, 2020; Yu & Kuo, 2016).

The descriptive statistics are presented in Table 2.

Table 2. Descriptive Statistics by Relationship Status and Gender

	Men			Women		
	Total	Individuals without partners	Individuals with partners	Total	Individuals without partners	Individuals with partners
Marriage formation	.051		.211	.078		.194
Partnership formation		.076			.133	
Partnership dissolution			.176			.157
Employment status						
Regular employment	.651	.618	.766	.609	.579	.663

Nonstandard employment	.199	.217	.134	.286	.300	.263
Self-employed	.068	.070	.061	.028	.029	.026
Unemployment	.082	.094	.039	.077	.093	.049
Logged income	3.236	3.167	3.478	3.118	3.060	3.222
	(0.978)	(1.032)	(0.708)	(0.850)	(0.907)	(0.728)
Age	32.874	33.342	31.224	31.378	32.280	29.788
	(6.057)	(6.022)	(5.892)	(6.148)	(6.288)	(5.547)
Birth cohort						
1970–1974	.260	.270	.226	.185	.213	.137
1975–1979	.262	.272	.226	.228	.250	.188
1980–1984	.295	.285	.333	.319	.282	.384
1985–1989	.132	.126	.154	.193	.184	.209
1990–1994	.050	.048	.060	.075	.071	.083
Educational level						
Junior high/high school	.416	.413	.427	.332	.315	.361
Vocational school	.163	.170	.137	.170	.177	.159
Junior college	.030	.034	.015	.185	.186	.182
University or above	.391	.383	.421	.313	.322	.297
Residential area						
Metropolitan area	.420	.412	.448	.355	.349	.367
Large city	.188	.190	.180	.250	.248	.253
Small city	.323	.327	.310	.309	.309	.309
Town/village	.069	.070	.063	.086	.094	.071
<i>N</i> of person-years	6,804	5,302	1,502	6,347	4,050	2,297

Notes: Means or proportions are reported. Standard deviations are in parentheses.

Statistical Methods

We estimated binary logit models to predict the transitions for males and females separately. In Model 1, we incorporated employment status and other control variables as explanatory variables. In Model 2, we included logged income to determine whether the influence of employment status persists after controlling for logged income.

In all models, we reported average marginal effects (AMEs) rather than the log-odds ratio because the interpretation of the results is more intuitive (Long & Freese, 2014; Mood, 2010). The statistical tests were conducted using individual-clustered robust standard errors, as the same individuals may be entered into the sample in multiple periods. Additionally, we employed the seemingly unrelated estimation technique proposed by Mize et al. (2019), which determines whether the difference in AMEs between men and women is statistically significant. The technique obtains the Z-statistics of the difference in AMEs by estimating cross-model

covariances, allowing for the formal testing of differences in AMEs between the estimates derived from separate samples.

RESULTS

Descriptive results

Table 3 shows the partnership/marital status transition rates by employment status and gender. For both men and women, those working in nonstandard employment and the unemployed are less likely to enter into marriage than their regularly employed counterparts. A total of 6.9% of never-married men with regular employment marry per year, while those figures for nonstandard employment and unemployment are 1.8% and 0.4%; among women, 9.0% of regularly employed workers marry per year, while only 6.2% of those in nonstandard employment and 5.1% of the unemployed do.

The association of nonstandard employment and unemployment with transitions varies by partnership and marriage formation. Those working in nonstandard employment and the unemployed are less likely to enter premarital partnerships regardless of sex. A total of 8.9% of men with regular employment who do not have a partner obtain a premarital partner, which corresponds to 6.1% of those working in nonstandard employment and 3.0% of the unemployed. This is also true for women, where 15.0% of regularly employed females, 11.9% of those with nonstandard employment, and 7.2% of the unemployed enter into premarital partnerships.

The associations between marriage formation from partnership and employment status are more evident for men. Men working in nonstandard employment and in unemployment are less likely to enter into marriage. Meanwhile, 24.1% of regular employees with premarital partnerships get married, which corresponds to 10.9% of those in nonstandard employment and 1.7% of the unemployed. For women, the gap between those in regular employment and those in

nonstandard employment is smaller, with values registering at 20.8% of those in regular employment, 16.1% of those in nonstandard employment, and 20.5% of the employed.

Table 3. *Partnership/Marital Status Transition Rates by Employment Status and Gender*

Men	Marriage formation	Partnership formation	Marriage formation from partnership	Partnership dissolution
Regular employment	.069	.089	.241	.165
<i>N</i> of person-years	4429	3279	1150	1150
Nonstandard employment	.018	.061	.109	.234
<i>N</i> of person-years	1354	1153	201	201
Self-employment	.043	.078	.185	.174
<i>N</i> of person-years	463	371	92	92
Unemployment	.004	.030	.017	.186
<i>N</i> of person-years	558	499	59	59
Women	Marriage formation	Partnership formation	Marriage formation from partnership	Partnership dissolution
Regular employment	.090	.150	.208	.151
<i>N</i> of person-years	3866	2344	1522	1522
Nonstandard employment	.062	.119	.161	.163
<i>N</i> of person-years	1816	1213	603	603
Self-employment	.051	.136	.150	.217
<i>N</i> of person-years	178	118	60	60
Unemployment	.051	.072	.205	.179
<i>N</i> of person-years	487	375	112	112

Note. Yearly transition rates are reported.

Results for logit models

Table 4 reports the AMEs that were estimated from logit models predicting marriage/partnership transitions. The results for marriage formation confirm the previous studies that show that nonstandard employment and unemployment are associated with delayed marriage formation (Esteban-Pretel & Fujimoto, 2022; Mugiyama, 2017; Piotrowski et al., 2015; Tsuya, 2023): Nonstandard employment and unemployment are negatively associated with marriage formation for both men and women (see Model 1). The column labelled *diff.* presents the differences in AMEs between men and women and tests whether those differences are statistically significant.

The results show that the negative influence of nonstandard employment and unemployment is significantly larger for men than for women. Because of the positive relationship between income and marriage formation, controlling for the level of income reduces the association between employment status and marriage transition (see Model 2). For men, nonstandard employment and unemployment are still significantly associated with marriage formation. For women, nonstandard employment remains significantly associated with marriage formation, but unemployment becomes nonsignificant. The differences in AMEs of employment status become nonsignificant after controlling for income.

Table 4. AMEs from Logit Models Predicting Marital/Relationship Status Transition by Gender

	Model 1			Model 2		
	Men	Women	Diff.	Men	Women	Diff.
Marriage formation						
Employment status (ref: regular employment)						
Nonstandard employment	-.049*** (.005)	-.028*** (.007)	-.021* (.009)	-.031*** (.007)	-.020* (.008)	-.012 (.011)
Self-employment	-.017 (.012)	-.036* (.018)	.019 (.022)	-.000 (.013)	-.028 (.019)	.027 (.023)
Unemployment	-.063*** (.005)	-.035** (.012)	-.028* (.013)	-.041*** (.012)	-.009 (.021)	-.032 (.024)
Logged income				.041*** (.007)	.015* (.007)	.026** (.010)
<i>N</i> of person-years	6804	6347		6804	6347	
LR χ^2	109.858	92.344		143.639	98.058	
	Model 1			Model 2		
	Men	Women	Diff.	Men	Women	Diff.
Partnership formation						
Employment status (ref: regular employment)						
Nonstandard employment	-.029** (.009)	-.033* (.013)	.004 (.016)	-.017 (.010)	-.006 (.014)	-.010 (.018)
Self-employment	-.007 (.018)	-.000 (.037)	-.007 (.041)	.004 (.019)	.027 (.039)	-.023 (.043)
Unemployment	-.058*** (.010)	-.075*** (.019)	.017 (.021)	-.027 (.020)	-.000 (.034)	-.026 (.040)
Logged income				.019** (.007)	.045*** (.012)	-.025 (.014)
<i>N</i> of person-years	5302	4050		5302	4050	
LR χ^2	91.492	79.110		100.335	93.827	

	Men	Women	Diff.	Men	Women	Diff.
Marriage formation from partnership						
Employment status (ref: regular employment)						
Nonstandard employment	-.113*** (.028)	-.044* (.018)	-.069* (.033)	-.071* (.034)	-.041* (.020)	-.031 (.039)
Self-employment	-.027 (.044)	-.062 (.046)	.035 (.064)	.009 (.046)	-.058 (.047)	.067 (.066)
Unemployment	-.215*** (.023)	.010 (.050)	-.225*** (.055)	-.175*** (.047)	.021 (.054)	-.196** (.072)
Logged income				.098*** (.027)	.007 (.016)	.091** (.031)
<i>N</i> of person-years	1502	2297		1502	2297	
LR χ^2	70.095	65.374		82.842	66.170	
	Model 1			Model 2		
	Men	Women	Diff.	Men	Women	Diff.
Partnership dissolution						
Employment status (ref: regular employment)						
Nonstandard employment	.059 (.035)	.009 (.019)	.050 (.040)	.060 (.037)	.029 (.021)	.031 (.042)
Self-employment	-.003 (.042)	.052 (.057)	-.054 (.071)	-.002 (.043)	.076 (.063)	-.077 (.076)
Unemployment	.006 (.059)	.027 (.039)	-.021 (.071)	.010 (.068)	.093 (.052)	-.084 (.086)
Logged income				.002 (.021)	.038* (.015)	-.036 (.025)
<i>N</i> of person-years	1502	2297		1502	2297	
LR χ^2	11.789	15.482		11.802	22.677	

Notes. *** $p < .001$, ** $p < .01$, * $p < .05$ (two-tailed tests). Individual-clustered robust standard errors are in parentheses. Age, age-squared, cohort, residential areas, and education are controlled in both Model 1 and Model 2. The Diff. columns represent the differences in AMEs between men and women and the standard errors. The results for logit coefficients and other control variables are shown in Table A1 in Online Appendix.

Nonstandard employment and unemployment are associated with premarital partnership formation for both men and women, but the association becomes nonsignificant after controlling for income. Model 1 shows that nonstandard employment is linked to a 2.9 pp lower rate of entry into premarital partnership and unemployment to a 5.8 pp lower rate than regular employment for men, which corresponds to 3.3 pp and 7.5 pp for women, respectively. There were no significant differences in AMEs between men and women. These results are consistent with Hypothesis 1a. Model 2 shows that income is also positively associated with partnership

formation for both men and women. Controlling for income reduces the AMEs of the different employment such that they become nonsignificant, suggesting that the influence of employment status mainly derives from their lower income compared to that of regular employment. These results are not in line with Hypothesis 1b, which expects that the association between employment status and partnership formation remains even after controlling for income.

Nonstandard employment and unemployment also relate to marriage formation from partnership. For men, both nonstandard employment and unemployment are negatively associated with marriage formation from partnership (see Model 1); nonstandard employment is linked to an 11.3 pp lower rate of entry into marriage than regular employment, and that value is 21.5 pp for unemployment. Regarding women, while nonstandard employment is associated with a 4.4 pp lower transition rate than regular employment, unemployment is not significantly associated with entry into marriage from a partnership. Income is significantly associated with faster entry into marriage from partnership only among men (see Model 2). Even after controlling for income, men's nonstandard employment and unemployment and women's nonstandard employment remain significantly related. The results support Hypotheses 2a and 2b in all aspects except that regarding women's unemployment; the nonstandard employment of both women and men and men's unemployment are associated with delayed marriage formation from partnership regardless of whether income is controlled.

The strength of the association between employment and marriage formation from partnership is greater for men than for women. In Model 1, the AMEs of men's nonstandard employment and unemployment are larger than those of women's, and the differences are statistically significant (see diff. columns). These results are partly consistent with Hypothesis 3a, which expects that the influence of unemployment and nonstandard employment is stronger for men than for women. After controlling for income in Model 2, while the difference in AMEs for nonstandard employment between men and women becomes nonsignificant, the difference

for unemployment remains significant. Thus, Hypothesis 3b is only supported for the influence of unemployment.

The results for partnership dissolution do not suggest that the negative influence of nonstandard employment and unemployment on marriage formation is caused by selection into the partnership sample. We suspected that individuals in nonstandard employment or unemployment might be less likely to terminate their partnership, which mechanically reduces the rate of entry into marriage from partnership. However, employment status was not significantly associated with partnership dissolutions for both men and women. This suggests that, without reducing partnership dissolution, the negative influence of employment status on marriage formation comes from delaying the decision to marry.

CONCLUSION

Existing studies have contended that employment uncertainty increases entry into and in the maintaining of coresidential unions, which results in delayed marriage. However, delayed marriage among those in unstable employment conditions has also been observed in societies where cohabitation is not prevalent. By incorporating the premarital partnership phases into the process of marriage, we examine the relationship of nonstandard employment and unemployment with the two distinct processes of premarital partnership formation and marriage formation from premarital partnership in Japan, where delayed marriage and employment uncertainty have been seen to concurrently increase without expanding the occurrence of coresidential unions.

We found that nonstandard employment and unemployment are associated with delayed premarital partnership formation for both men and women. This suggests that the roots of delayed marriage among individuals with unstable employment can be traced back to delayed premarital partnership. That is, the cause of delayed marriage would be misjudged if it were

solely attributed to couples' delayed decision to marry. When controlling for income, the relationship between nonstandard employment and unemployment and delayed partnership formation was not significant. This implies that it is the scarcity of financial resources, rather than future instability, that exerts a more significant effect on entry into premarital partnerships.

In contrast to premarital partnership formation, the association between employment and delayed entry into marriage from premarital partnership was found to be stronger for men than for women. The negative influences of nonstandard employment and unemployment were significantly larger for men. After controlling for income, men's unemployment remained more strongly associated with marriage formation than women's unemployment. Additionally, income was more strongly associated with the transition to marriage for men than for women. These results align with the expectation that women's stable employment and higher financial resources may not promote marriage entry in societies with traditional gender-role expectations. Despite having a partner, women with stable employment or higher income may be more reluctant to get married or be perceived as unsuitable marital partners to a greater degree due to the expectation of having to devote more time toward housework and childcare responsibilities after marriage (c.f. Brinton et al., 2021).

The differential impact of employment on premarital partnership and marriage formation highlights the stratification of the marriage process. Our results suggest that the premarital phase, including cohabitation, serves as an opportunity to search for or evaluate potential marital partners (Blackwell & Lichter, 2004; Oppenheimer, 1988). Even in societies where cohabitation is not prevalent, people still seek partners in anticipation of future union formation. Incorporating the transition to/from premarital partnership allows us to better study the detailed processes of union formation. Furthermore, the characteristic of infrequent entry into partnerships of those individuals engaged in nonstandard employment or unemployment may aid in comprehending the negative impact on their subjective well-being (Kalleberg, 2018; Wang &

Raymo, 2021), considering that adults' partnerships are positively linked to subjective well-being even when they do not cohabit with their partners (Soons et al., 2009).

We admit that our study may have several limitations. First, although we segregated entry into marriage by incorporating premarital partnerships, we were unable to differentiate between cohabiting and noncohabiting premarital partnerships due to the small sample sizes for cohabitation. Second, it is currently unknown whether the delayed impact of employment uncertainty on entry into premarital partnership is exclusive to Japan or whether it can also be observed in other countries. Third, our analysis may have underestimated the role of financial resources other than income, as wealth is another crucial measure to marriage formation (Schneider, 2011). Fourth and finally, unobserved attributes may have confounded with both employment and marriage/partnership transition, making it difficult to interpret the results as a causal relationship.

Despite its limitations, our study contributes to the literature by incorporating the phases of premarital partnership into the marriage process. Our findings demonstrate that unstable employment conditions are related to both later marriage formation and later premarital partnership formation in Japan. Further research is needed to extend our results to societies with different levels of cohabitation prevalence and distinct institutional or cultural contexts.

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APPENDIX

Table A1. *Logit Coefficients from Logit Models Predicting Marital/Partnership Status Transition by Gender*

	Model 1		Model 2	
	Men	Women	Men	Women
Marriage formation				
Employment status (ref: regular employment)				
Nonstandard employment	-1.376*** (0.222)	-0.415*** (0.114)	-0.855*** (0.238)	-0.293* (0.127)
Self-employed	-0.306 (0.250)	-0.554 (0.349)	-0.008 (0.252)	-0.435 (0.354)
Unemployment	-2.912*** (0.719)	-0.540* (0.234)	-1.345 (0.751)	-0.123 (0.300)
Logged income			0.868*** (0.143)	0.213* (0.099)
Age	0.341** (0.115)	0.842*** (0.116)	0.253* (0.115)	0.816*** (0.116)
Age, squared	-0.006*** (0.002)	-0.014*** (0.002)	-0.005** (0.002)	-0.014*** (0.002)
Cohort (ref: 1970–1974)				
1975–1979	-0.015 (0.190)	-0.119 (0.199)	-0.016 (0.191)	-0.118 (0.199)
1980–1984	0.014 (0.204)	0.058 (0.205)	0.010 (0.204)	0.064 (0.205)
1985–1989	0.214 (0.241)	-0.171 (0.230)	0.146 (0.244)	-0.178 (0.230)
1990–1994	0.421 (0.275)	-0.174 (0.267)	0.427 (0.274)	-0.176 (0.266)
Educational background (ref: junior high/senior high)				
Vocational school	0.032 (0.184)	-0.186 (0.158)	0.037 (0.188)	-0.195 (0.159)
Junior college	0.323 (0.280)	-0.057 (0.148)	0.230 (0.279)	-0.071 (0.149)
University or higher	0.317* (0.134)	-0.052 (0.123)	0.146 (0.134)	-0.091 (0.127)

Residential area (ref: town/village)				
Metropolitan area	0.112 (0.238)	0.216 (0.203)	-0.010 (0.245)	0.159 (0.204)
Large city	0.190 (0.253)	0.253 (0.210)	0.107 (0.258)	0.231 (0.210)
Small city	-0.022 (0.244)	0.220 (0.203)	-0.064 (0.249)	0.198 (0.203)
Constant	-7.600*** (1.914)	-14.525*** (1.754)	-8.994*** (1.942)	-14.758*** (1.752)
<i>N</i> of person-years	6804	6347	6804	6347
LR χ^2	109.858	92.344	143.639	98.058

	Model 1		Model 2	
	Men	Women	Men	Women

Partnership formation

Employment status (ref: regular employment)

Nonstandard employment	-0.431** (0.154)	-0.294* (0.121)	-0.250 (0.164)	-0.053 (0.133)
Self-employed	-0.091 (0.246)	-0.002 (0.302)	0.051 (0.249)	0.227 (0.306)
Unemployment	-1.122*** (0.297)	-0.795** (0.257)	-0.443 (0.377)	-0.003 (0.309)
Logged income			0.279** (0.105)	0.405*** (0.104)
Age	0.016 (0.105)	0.066 (0.102)	-0.012 (0.106)	0.016 (0.101)
Age, squared	-0.002 (0.002)	-0.002 (0.002)	-0.001 (0.002)	-0.002 (0.002)
Cohort (ref: 1970–1974)				
1975–1979	-0.294 (0.191)	-0.052 (0.219)	-0.286 (0.192)	-0.060 (0.217)
1980–1984	-0.511* (0.210)	-0.136 (0.239)	-0.502* (0.211)	-0.142 (0.238)
1985–1989	-0.850*** (0.258)	-0.161 (0.259)	-0.862*** (0.258)	-0.200 (0.258)
1990–1994	-0.474 (0.283)	-0.377 (0.288)	-0.466 (0.285)	-0.392 (0.287)

Educational background (ref: junior high/senior high)				
Vocational school	-0.250 (0.210)	-0.137 (0.177)	-0.258 (0.210)	-0.157 (0.175)
Junior college	-0.415 (0.311)	-0.099 (0.182)	-0.445 (0.311)	-0.129 (0.182)
University or higher	0.025 (0.141)	-0.088 (0.146)	-0.036 (0.142)	-0.172 (0.149)
Metropolitan area	0.337 (0.239)	0.462* (0.226)	0.304 (0.240)	0.360 (0.230)
Residential area (ref: town/village)				
Large city	-0.013 (0.265)	0.509* (0.236)	-0.041 (0.267)	0.472* (0.238)
Small city	0.233 (0.244)	0.433 (0.229)	0.212 (0.244)	0.391 (0.232)
Constant	-0.899 (1.804)	-1.566 (1.591)	-1.340 (1.827)	-1.968 (1.588)
<i>N</i> of person-years	5302	4050	5302	4050
LR χ^2	91.492	79.110	100.335	93.827

	Model 1		Model 2	
	Men	Women	Men	Women

Marriage formation from partnership

Employment status (ref: regular employment)				
Nonstandard employment	-0.816*** (0.247)	-0.300* (0.130)	-0.501 (0.263)	-0.278* (0.141)
Self-employed	-0.163 (0.277)	-0.441 (0.373)	0.054 (0.274)	-0.414 (0.378)
Unemployment	-2.805** (1.065)	0.059 (0.307)	-1.827 (1.042)	0.129 (0.321)
Logged income			0.633*** (0.179)	0.044 (0.104)
Age	0.566*** (0.134)	0.998*** (0.141)	0.507*** (0.135)	0.993*** (0.142)
Age, squared	-0.008*** (0.002)	-0.016*** (0.002)	-0.007*** (0.002)	-0.016*** (0.002)
Cohort (ref: 1970–1974)				

1975–1979	0.410 (0.246)	-0.007 (0.252)	0.431 (0.248)	-0.007 (0.252)
1980–1984	0.490 (0.268)	0.128 (0.258)	0.484 (0.263)	0.130 (0.258)
1985–1989	0.882** (0.301)	0.223 (0.270)	0.842** (0.303)	0.224 (0.270)
1990–1994	1.156*** (0.345)	0.152 (0.321)	1.096** (0.344)	0.150 (0.321)
Educational background (ref: junior high/senior high)				
Vocational school	0.111 (0.226)	-0.066 (0.178)	0.125 (0.227)	-0.070 (0.178)
Junior college	1.195** (0.438)	-0.057 (0.172)	1.182** (0.443)	-0.061 (0.172)
University or higher	0.399* (0.158)	0.076 (0.146)	0.276 (0.159)	0.068 (0.148)
Residential area (ref: town/village)				
Metropolitan area	-0.170 (0.289)	-0.083 (0.245)	-0.269 (0.293)	-0.094 (0.248)
Large city	0.015 (0.307)	-0.032 (0.253)	-0.040 (0.310)	-0.034 (0.254)
Small city	-0.262 (0.299)	0.058 (0.244)	-0.292 (0.302)	0.056 (0.244)
Constant	-11.201*** (2.143)	-16.688*** (2.138)	-12.282*** (2.153)	-16.746*** (2.139)
<i>N</i> of person-years	1502	2297	1502	2297
LR χ^2	70.095	65.374	82.842	66.170
	Model 1		Model 2	
	Men	Women	Men	Women

Partnership dissolution

Employment status (ref: regular employment)

Nonstandard employment	0.377 (0.209)	0.072 (0.147)	0.385 (0.219)	0.223 (0.155)
Self-employed	-0.019 (0.309)	0.358 (0.360)	-0.012 (0.313)	0.521 (0.373)
Unemployment	0.043 (0.414)	0.199 (0.268)	0.072 (0.471)	0.622* (0.299)

Logged income			0.015 (0.145)	0.290** (0.112)
Age	-0.099 (0.130)	-0.058 (0.109)	-0.100 (0.131)	-0.092 (0.108)
Age, squared	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.002 (0.002)
Cohort (ref: 1970–1974)				
1975–1979	-0.156 (0.259)	0.448 (0.269)	-0.154 (0.259)	0.450 (0.272)
1980–1984	-0.412 (0.312)	0.120 (0.294)	-0.410 (0.312)	0.131 (0.298)
1985–1989	-0.509 (0.362)	0.250 (0.315)	-0.509 (0.362)	0.257 (0.317)
1990–1994	-0.683 (0.439)	0.108 (0.365)	-0.684 (0.440)	0.096 (0.367)
Educational background (ref: junior high/senior high)				
Vocational school	-0.220 (0.256)	0.229 (0.190)	-0.221 (0.256)	0.210 (0.192)
Junior college	0.519 (0.519)	0.085 (0.196)	0.518 (0.519)	0.065 (0.195)
University or higher	-0.153 (0.189)	-0.144 (0.182)	-0.156 (0.193)	-0.200 (0.184)
Residential area (ref: town/village)				
Metropolitan area	0.107 (0.332)	0.285 (0.303)	0.106 (0.333)	0.205 (0.306)
Large city	-0.027 (0.362)	0.412 (0.310)	-0.027 (0.362)	0.392 (0.310)
Small city	0.057 (0.329)	0.370 (0.307)	0.057 (0.329)	0.353 (0.307)
Constant	0.525 (2.182)	-1.511 (1.756)	0.493 (2.178)	-1.864 (1.757)
<hr/>				
<i>N</i> of person-years	1502	2297	1502	2297
LR χ^2	11.789	15.482	11.802	22.677

Notes. *** $p < .001$, ** $p < .01$, * $p < .05$ (two-tailed tests). Individual-clustered robust standard errors in parentheses.