Title: Factors influence entering into marriage status in early adulthood: Family and individual factors

Wen-Hsu Lin

Institute of Sociology, Academia Sinica

Chin-Chun Yi

Institute of Sociology, Academia Sinica

Abstract

Although delayed timing of first marriage is observed around the world, some individuals still get married at their early adulthood. This also happened in Taiwan. While previous studies show that both family and individual factors have important impacts on marriage, these studies have relied on western sample. In addition, these factors may change because of social change. Consequently, reexamining these factors by using contemporary and non-western sample becomes important. This study employed a panel data (Taiwan Youth Project) to investigate how family (e.g., family SES) and individual factors (e.g., substance use) influence individual's marriage status at their early adulthood. The results reveal that individuals who are from high or middle SES family are less likely than their low SES counterparts to be in marriage during early adulthood. Furthermore, individuals who use substance or hold fulltime job during late adolescent are more likely to enter into marriage at early adulthood. Interestingly, depressed individuals are less likely to be in married status than others. Limitation and future suggestion are discussed.

Introduction

Changes in union formation in contemporary society have incited great discussion about the future of marriage. Although changes in marriage have profoundly influenced individuals and society, the focus of family scholars has been on the causes of these changes (Seltzer et al., 2005). The most noticeable change in marriage is the delay in the age at first marriage. For example, the median age of the first marriage in the U.S. has increased to 26.7 years for men and 25.1 years for women (Johnson & Dye, 2005), increases of 4 and 5 years, respectively, compared to 1960. The figures in Taiwan are even higher. The median? age of first marriage for men and women in 2012 was 31.5 and 29.2, respectively (Directorate-General of Budget, Accounting and Statistics, Executive Yuan, ROC, 2013). Consequently, scholars have paid special attention to the explanation of this change, delayed marriage. With the backdrop of the trend toward delayed first marriage in mind, some young adults still get married at an earlier age than the majority. Previous studies have shown that people who get married at an early age encounter many negative consequences, such as lower educational attainment (Hoffman, Foster, & Furstenberg, 1993) and a high probability of family dissolution (Bumpass, Martin, & Sweet, 1991; Booth & Edwards, 1985). Consequently, it is important to focus on why some people get married early, when premarital sex is increasingly normal and most of their peers delay family formation. Moreover, disentangling the causes of early marriage may help to create a suitable program that can decrease the negative impact of early marriage on individuals.

While previous studies may have pointed to important precursors of early union formation, these precursors may not be static across time. In addition, the process leading to early marriage may change over time. More importantly, previous studies often relied on Western samples; hence, whether the processes are applicable to non-Western societies is an

empirical question. Consequently, it is important to examine causes of early marriage from previous studies in contemporary and culturally different samples. Using a sample of contemporary young adults from a set of panel data, the Taiwan Youth Project (TYP), this study focuses on the influences of both external and internal factors of individuals and family factors on early marriage status.

Family factors and their influence on offspring's marriage

When explaining the transition to marriage status or first marriage, previous studies have found that family social economic background (e.g., parental income and educational level) co-varied with the timing of offspring's first marriage. For example, studies from the U.S. showed that parental financial resources delayed their children's union formation (Axinn & Thornton, 1992; Uecker & Stoke, 2008). Similarly, studies from other countries also revealed that children from lower SES families were more likely to get married earlier than their counterparts from higher SES families, whether family SES is measured by father's education level (De Jong Gierveld, Liefbroer, & Beekink, 1991) or children's evaluation (Wiik, 2009). A possible explanation of this mechanism may be: (a) advantaged families provided children (especially daughters) with alternative living arrangements (Waite & Spitze, 1981), (b) individuals from advantaged families may desire a higher living standard, which takes time to reach (South, 2001), and (c) children from higher SES families may have less desire to leave such a home environment (Avery, Goldscheider, & Speare, 1992). Although many studies found significant effects of family SES on the timing of children's first marriage, one study did not find significant effects of parental education and father' occupation on offsprings' timing of first marriage (Sassler & Goldscheider, 2004). Hence, the inconsistent findings deserve further attention.

Moreover, whether the aforementioned results can be duplicated in Taiwan, a non-Western country, is unknown. Our expectation is that the influence of family should be repeated because Chinese culture is more collectivistic and familism.

The influence of individual factors on marriage

Some scholars have argued that as the society becomes more developed, its culture also gears toward individualism (Hofsde, 2001). As such, the timing of marriage is also strongly influenced by individual attributes. Among many important individual factors, we focus on depression, substance use, and work and educational status. For adolescent and young adults, depression is a serious problem that influences both individuals' lives and future outcomes. For example, depression has been related to low education attainment, such as school dropout or failure (Kessler et al., 1995) and a higher rate of delinquency (Beyers & Loeber, 2003).One of the possible negative consequence of depression is that negative interpersonal relationship. Studies have also indicated that depressive individuals do not easily interact with others. These individuals are more likely to create a negative environment (Coyne, 1976) and have a less supportive social network (Billings, Cronkite, & Moos, 1983) than "healthy" people. Consequently, we may also expect to see that depression may delay the timing of marriage because depressive individuals are hard to get along with. In addition, people with depression may be socially stigmatized, which may also delay the timing of their marriage.

Substance use has been argued to increase the probability of early marriage (Chassin, Presson, Sherman, & Edwards, 1992). One possible reason may be an important personality dimension, self-control (Gottfredson and Hirschi, 1990). People with this personality trait are more likely to be impulsive and fail to consider long-term consequences. As such, there is a firm

empirical relationship between low self-control and various delinquency and criminal behaviors (Pratt & Cullen, 2000). As the above review shows, early marriage is related to a number of negative outcomes; hence, substance users may be more likely to get into marriage early than non-users because of a failure to consider long-term consequences. In addition to this personality trait, it is also possible that substance use leads to early marriage because of impaired judgment. For example, studies have indicated that substance users are more likely to engage in risky sexual behavior (Curtain, Patrick, Lang, Cacioppo, & Birbaumer, 2001; MacDonald, Zanna, & Fong, 1986). And risky sexual behavior is often led to unplanned pregnancy, which is often related to union formation. Hence, we may expect that substance use is related to early marriage due to failure to consider long-term consequences, regardless the mechanism is direct or indirect

Finally, young adults' work or educational status is also important. For example, Oppenheimer (1988) implicitly argued that males who possess stable jobs are in a good position to get married because their life prospects are relatively certain, which puts them in a good position for marriage. In addition, the expected life course pattern in many societies, including Taiwan, is education→work→family formation. Hence, a stable full-time job is related to early marriage. In contrast, studies have shown that prolonged education may deter union formation because education delays life stage transitions (Gilck, Ruf, White, & Goldscheider, 2006). For example, studies have shown that female job force participation and pursuing higher education is negatively related to the timing of first marriage both in Western countries (Forste & Tienda, 1992) and in Asia (Chen & Chen, 2007; Raymo, 2003). As such, fulltime job status is related to early marriage, but education may be related to delayed marriage.

The present study

As outlined, our focus is to examine how family and individual factors influence early marriage status among a group of young Taiwanese adults. Following previous studies and theoretical arguments, we propose these five hypotheses:

H1: Young adults, who are from a higher SES family, are less likely to get married at an early age.

H2: Young adults, who use substances, are more likely to get married at an early age.

H3: Young adults, who experience depressive symptoms, are less likely to get married at an early age.

H4: Young adults, who obtain a fulltime job, are more likely to get married at an early age.

H5: Young adults, who are still in secondary school, are less likely to get married at an early age.

Method

Data and sample

Data for the present study were drawn from the Taiwan Youth Project (TYP), conducted by the Institute of Sociology, Academic Sinica, Taiwan. The TYP is a two-stage longitudinal research project that began in 2000 and included two student cohorts, (1) 2,696 first-year junior high school students (J1) and (2) 2,890 third-year junior high school students (J3). The first stage was completed in June in 2009. Next, the second stage was launched, which focused on transition into adulthood. The second stage combined both cohorts with more than 3,000 original subjects remained in the study (n = 3,129). The average age of the subjects is about 25.

The TYP used a two-stage stratified and clustered sampling design. For the first stage, the TYP team employed two steps. The first step was to select the first-level strata: two counties (Taipei County and Yi-Lan County) and one city (Taipei) from northern Taiwan. The second step was to determine the strata for further sampling. Consequently, the research team divided the city of Taipei and Taipei County into three strata each, and divided Yi-Lan County into two strata, based on different levels of urbanization. After the strata were determined, the clustering sampling method was employed. To select representative student samples, the project followed three principles. First, the number of students supplied by each second-level stratum was based on the proportion of students registered in each stratum relative to the entire student body in that county or city. Second, the research team divided the number of students by the average size of the stratum to determine the number of classes for selection. Finally, on the basis of two classes from each school, the team determined the number of schools to choose for the sample. As a result of these calculations and determinations, 40 schools were selected: 16 from Taipei City, 15 from Taipei County, and 9 from Yi-Lan County. After the random selection of these schools and two classes for each selected school, all students in each selected class were recruited.

Because the focus of this study is the marriage status at the wave 1 of the second stage, we used wave 1 of stage two as the main body and merged it with the previous information: from wave 3 and wave 1 of stage 1 for J1 and J3 cohorts, respectively, at the last year of junior high school to wave 9 and wave 7 of stage 1 for J1 and J3, respectively, at the last year of university. All information about the variables used in the subsequent analyses emerged from the students' self-report surveys.

Variables

Early marriage status (wave 1 of stage 2)

At wave 1 of stage 2, subjects report their marital status, whether they are currently married or not (1= yes). The total of married individuals is 217 (7%), including divorced and remarried (n = 15). Because our focus is why these young adults marry at an early age, we included both divorced and remarried individuals. Although one may argue that getting married at age 25 is not early, two figures may justify the "early marriage" connotation. First, these subjects only occupied 7% of the entire sample; hence, they marry relative early. Second, as reported in a previous section, the median age of the first marriage in Taiwan is 30.1 and 29.2 for men and women, respectively.

Family SES (wave 1 of stage 1)

We used subjects' reports at the last year of their junior high school to create the family SES, following a previous study conducted in Taiwan (Wu, 2011). First, we divided job prestige into no job (no job, part-time job, or retired), low (blue-collar fulltime job), middle (low level white-collar fulltime job), and high (upper white-collar job), and dichotomized educational level into some college or above, and finished high school or below. We then grouped those, whose parents held a bachelor's degree and/or whose parents' job prestige is at a high level together as belonging to a high SES family. Those, whose parents held a high school diploma or lower and whose parents' job prestige is at the middle level, were categorized as belonging to a middle SES family. Students whose parents held a high school diploma, but whose parents' job prestige is at the low level or no job, were counted as belonging to a low SES family.

Substance use (wave 1 to wave 7 of stage 1)

At each wave, except one wave (freshmen year for both cohorts), subjects were asked whether they had smoked cigarettes, drank alcohol, and used illicit drugs. Next, we combined these three

dichotomized variables to create substance use status (1 = used one of these three substance) at each wave. Note, the definition of substance use was slightly changed to fit the age standard. That is, for the university age, smoking and drinking are legal. We define substance use as heavy smoker (one pack a day or more), heavy drinker (drinking alcohol more than three times a week), or illicit drug user. In the consequent analysis, we created a latent substance use variable measured by six dichotomized substance use status variables.

Depression (wave 1 to wave 7 of stage 1)

We employed six items from Symptom Checklist-90-Revised (SCL-90-R; Derogatis, 1983) to measure depression for each wave. This short version scale consists of six items asking students to report whether they have experienced depressive symptoms and how serious the experience was in the past week (no; yes, but not serious; yes, a little bit serious; yes, serious; yes, very serious). These symptoms include headaches, loneliness, depressed mood, and weakness in some parts of the body. Summation of these items was utilized to create a depression score. Higher scores indicated greater depression. In the consequent analysis, we created a latent depression variable measured by six depression variables at each wave.

Current status (wave 7 of stage 1)

When subjects were at their senior year, if in school, we asked them to report their current status as—have a fulltime job, do nothing or waiting for military service, in technological university, or in regular university.

Control variable

In the consequent analysis, we included two important variables as the control. First, we control for subjects' gender (1 = male) because the study has shown women marry early (). Second, we

control for cohort (1 = older cohort), as mentioned. Finally, we also included subject's attitude toward romantic relationships (see Table 1 for the descriptive and distribution of all variables).

Insert Table1 about here

Analytic Strategies

Structural equation modeling (SEM) was used to evaluate the hypotheses and conducted by using Mplus 6.0 (Muthén & Muthén, 2010). SEM was used to examine the research questions presented here. This type of analysis is commonly utilized to identify causal relationships and to test theoretical models among manifest (observed) variables (Kline, 2005; Raykov & Marcoulides, 2000). Mplus calculates a χ^2 test to gauge the fit of a model to its data. However, because the χ^2 test is sensitive to sample size, scholars have suggested investigators report multiple fit indices and specify the "critical value" for each (Brown, 2006; Hoyle & Panter, 1995). Along with χ^2, the comparative fit index (CFI) (CFI $\geq$ .95 as good fit) and root mean square error of approximation (RMSEA) measures (RMSEA $\leq$ .05) were used to evaluate the goodness of fit. With regard to missing data, we used direct ML (maximum likelihood) method for subsequent analyses. This method provided a corrected standard error (Allison, 2002).

Results

First, we included only family SES, gender, and cohort into our model (Table 1, model 1). The results indicated all three variables were significantly related to early marriage status. As expected, female and older subjects (Cohort 2) are more likely to marry in their middle twenties when most of their counterparts remain single. The results from this model also indicated subjects from high SES family, comparing to low SES family, are less likely to marry at this

stage of life. This result is consistent with previous studies from the western countries (Axinn & Thornton, 1992; Uecker & Stoke, 2008).

Next, we added the two individual factors into Model 1. This model indicated an acceptable fit ($\chi^2(115) = 589.98$; CFI = .96; RMSEA = .037). In this model, we turn our attention to the influence from the two latent variables on the status of early marriage. As can be seen, substance use is positively related to marriage status; that is, individuals who use substances are more likely to enter into marriage status during this stage of life ($\beta = .534$). This result echoed previous studies (Collins & Ellickson, 2004). In contrast to this positive effect of substance use on marriage status, depression exerts a negative impact on marriage status. These young adults, who have a higher level of depression during the adolescent years, are less likely marry at early adulthood ($\beta = -.04$). This is also consistent with our expectations and theoretical argument that depressed individuals are not easy to get alone. Besides these two major findings, family SES continually has negative impacts on marriage status. Similarly, gender and cohort also remain potent predictors of marriage status in early adulthood.

Insert Table 2 about here

Finally, we added another individual variable—status at the senior year of college. The model (Model 3, Table 2) fitted the data acceptably ($\chi^2(151) = 799.65$; CFI = .95; RMSEA = .037). Two of the three dummy variables (regular university as reference group) exerted significant, positive effects on marriage status. Specifically, young Taiwanese adults, who hold a fulltime job at the time, are more likely to enter into marriage status in early adulthood ($\beta = .21$). Similarly, those who indicate they do nothing or waiting for military service are also more likely to get married earlier than their college-bound peers ($\beta = .14$). In contrast, going to a technological university showed no significant effect on marriage status. Hence, individuals who

attain technological university have a similar probability of entering marriage status as their counterparts in a regular university. Besides these results, two additional result paths are worth mentioning. First, depression becomes only marginally significant, indicating the added variables mediate some of the direct relationship between depression and marriage status. Based on Baron and Kenny's (1985) rules, this mediating mechanism is through a fulltime job status. That is, depressed individuals are less likely to hold a fulltime job (β = - .04), which is positively related to marriage. Second, substance use exerts significant effects on both fulltime job status (β = .719) and do-nothing status (β = .224). Family SES and control variables all remain significant as in the previous model.

Discussion and Conclusions

Although the median age of first marriage is climbing in many countries, including Taiwan, some individuals still marry at an early stage in their life. The purpose of this study was to examine whether factors derived from previous studies can be used to explain these married, young Taiwanese adults. Our results generally support our hypotheses and are consistent with previous studies (Axinn & Thornton, 1992; Collins & Ellickson, 2004; Uecker & Stoke, 2008). First, our hypothesis that family SES deters early marriage is supported and consistent with previous studies (Axinn & Thornton, 1992). Unfortunately, we have no further information to determine whether this deterrence effect is due to one of the three possible paths we outlined in the beginning. Second, we hypothesized substance use leads to early marriage, which is the case in the present study. Third, depression also deters early marriage. A subsidiary analysis (not shown here) supports our argument that depressed individuals are not easily to get along. That is, depressed adolescents have less opportunity to fall into romantic relationships. Fourth, holding a fulltime job increases the probability of entering marriage status in early adulthood. The

general pattern is individuals, who obtain a fulltime job at about 22 years of age, are more likely to marry, which is consistent with Oppenheimer's theory (1988). This result is also the general life pattern the general Taiwanese culture expects. Similarly, idleness during early adulthood (age of 22) is also more likely to enter into marriage status. In contrast, stay in the educational system has no effects on entering marriage status in early adulthood.

Two mediating effects emerged from our analyses. First, substance use has a positive effect, but depression has a negative effect on fulltime job status, which, in turn, increases the probability of marriage. The effect of depression on fulltime job situation is expected, since previous studies have shown depressed individuals often have a low rate of job success. The positive relationship between substance use and fulltime job is somewhat counterintuitive, given that life course theories argue a fulltime job is a turning point that can divert criminal careers toward a conventional career (Sampson & Laub, 1993). According to low self-control theory, the characteristics of a fulltime job (e.g., being on time, tenacity) are not consistent with the characteristics of low self-control; hence, the positive relationship is unexpected. One possible explanation is many fulltime jobs may have many social events, where drinking and smoking are fairly common. Hence, substance use, as measured here, may be positively related to fulltime job status. However, this is only our speculation and requires further investigation. Second, consistent with low self-control theory, substance use is also more likely to be the idleness status rather than go to a university. While both doing nothing and holding a fulltime job encourage marriage, we should not co-mingle these two qualitatively different statues. The former may follow a normal path that fits social expectations; whereas, the latter may be a deviant path, such as unexpected pregnancy. Hence, the true mechanisms that may unscramble these two deserve further attention.

Although this study provides an invaluable first step towards understanding the causes for early marriage, some limitations exist. First, our model is only static; other more dynamic models (e.g., discrete-time survival analysis) may provide even greater insights into this same phenomenon. Second, other important causes are not included here, such as the experience of cohabitation. Finally, all measurements are from subjects' self-reporting; hence, the results may skew from the same method effects. Another measurement type rather than self-reporting may rectify this pitfall.

Reference

陳信木、陳雅琪。(民 96 年 4 月)。教育對於婚姻的影響：教育程度別女性初婚年齡分布模式。文章發表於 2007 年台灣人口學會研討會：台灣人口新情勢與對策：國民健康與社會安全。台灣，台北。

Allison, P. D. (2002). *Missing data.* Sage University Paper Series on Quantitative Applications in the Social Sciences, 07-136. Thousand Oaks, CA: Sage.

Axinn, W. G., & Thornton, A. (1992). The influence of parental resources on the timing of the transition to marriage. *Social Science Research, 21,* 261-285.

Avery, R., Goldscheider, F., & Speare, A. J. (1992). Feathered nest/gilded cage: Parental income and leaving home in the transition to adulthood. *Demography, 29,* 375-388.

Beyers, J. M., & Loeber, R. (2003). Untangling developmental relations between depressed mood and delinquency in male adolescents. *Journal of Abnormal Child Psychology, 31,* 247-266.

Billings, A. G., Cronkite, R., & Moos, R. (1983). Social-environmental factors in unipolar depression: Comparisons of depressed patients and nondepressed controls. *Journal of Abnormal Psychology, 93,*119-133.

Booth, A., & Edwards, J. N. (1985). Age at marriage and marital instability. *Journal of Marriage and Family, 47,* 67-75.

Brown, T. A. (2006). *Confirmatory Factor Analysis: For Applied Research.* New York, NY: The Guilford Press.

Bumpass, L., Martin, T. C., & Sweet, J. A. (1991). The impact of family background and early marital factors on marital disruption. *Journal of Family Issues, 12,* 22-42.

Chssin, L., Presson, C. ., Sherman, S. J., & Edward, D. A. (1992). The natural history of cigarette smoking and young adult social roles. *Journal of health and Social Behavior, 33,* 328-347.

Collins, R., & Ellickson, P. (2004). Substance use and early marriage. *Journal of Marriage and Family, 66,* 244-257.

Coyne, J. C. (1976). Toward an interactional description of depression. *Psychiatry,* 39, 28-40.

Curtain, J. J., Patrick, C. J., Lang, A. R., Cacioppo, J. T., & Birbaumer, N. (2001). Alcohol affects emotion through cognition. *Psychological Science, 12,* 527-531.

De Jong Gierveld, J., Liefbroer, A. C., & Beekink, E. (1991). The effect of parental resources on patterns of leaving home among young adults in the Netherlands. *European Sociological Review, 7,* 55-71.

Directorate-General of Budget, Accounting and Statistic, Executive Yuan, R.O.C. (2012). *Social Indicator.*

Forste, R., & Marta, Tienda. (1992). Race and ethnic variation in the schooling consequences if female adolescent sexual activity. *Social Science Quarterly*, *73,* 12-30.

Glick, J. E., Ruf, S. D., Wgite, M. J., & Goldscheider, F. (2006). Educational engagement and early family formation: Differences by ethnicity and generation. *Social Forces, 84,* 1391-1415.

Gottfredson, M. R., & Hirschi, T. (1990). *A General Theory of Crime*. Stanford, California: Stanford University Press.

Hoffman, S. D., Foster, E. M., & Furstenberg, F. F. Jr. (1993). Reevaluating the costs of teenage childbearing. *Demography, 30,* 1-13.

Hofstede, G. (2001). *Culture's Consequences* (2nd ed.).Thousand Oaks: Sage Publications.

Hoyle, R. H., & Panter, A. T. (1995). Writing about structural equation models.In R. H. Hoyle (Ed.), *Structural equation modeling: concepts, issues, and applications* (pp. 159-176). Thousand Oaks, CA: Sage Publications.

Johnson, T., & Dye, J. (2005). *Indicators of marriage and fertility in the United States from the American Community Survey: 2000 to 2003.* Retrieved November 20, 2013, from http://www.census.gov/population/www/socdemo/fertility /mar-fert-sliders.html.

Kessler, R. C., Foster, C. L., Sanunders, W. B., et al. (1995). Social consequences of psychiatric disorders, I: Educational attainment. *American Journal of Psychiatry, 152,* 1026-1032.

Kline, R. B. (2005). *Principles and practices of structural equation modeling.* New York, NY: Guilford Press.

MacDonald, T. K., Zanna, M. P., & Fong, G. T. (1996). Why common sense goes out the window: Effects of alcohol on intentions to use condoms. *Personality and Sociology Psychology Bulletin, 22,* 763-775.

Muthén, L. K., & Muthén, B. O. (2010). *Mplus: Statistical analysis with latent variables user's guide.* Los Angeles, CA: Muthén & Muthén.

Oppenheimer, V. K. (1988). A theory of marriage timing. *American Journal of Sociology, 94,* 563-591.

Pratt, T. C., & Cullen, F. T. (2000). The empirical status of Gottfredson and Hirschi's general theory of crime: A meta-analysis. *Criminology, 38,* 931-964.

Raykov, T., & Marcoulides, G. A. (2000). *A first course in structural equation modeling.* Mahwah, NJ: Lawrence Erlbaum.

Raymo, J. M. (2003). Educational attainment and the transition to first marriage among Japanese Women. *Demography, 40,* 83-103.

Sassler, S., & Goldscheider, F. (2004). Revisiting Jane Austen's theory of marriage timing: Changes in union formation among American men in the late 20th century. *Journal of Family Issue, 25,* 139-166.

Seltzer, J. A., Bachrach, C. A., Bianchi, S. M., Bledsoe, C. H., Casper, L. M., Chase-Lansdale, P. L., et al. (2005). Explaining family change and variation: Challengers for family demographers. *Journal of Marriage and Family, 67,* 908-925.

South, S. J. (2001). The variable effects of family background on the timing of first marriage: United States, 1969-1993. *Social Science Research, 30,* 606-626.

Uecker, J. E., & Stokes, C. E. (2008). Early marriage in the United States. *Journal of Marriage and Family, 70,* 835-846.

Waite, L. J., & Spitze, G. D. (1981). Young women's transition to marriage. *Demography, 18,* 681-694.

Wiik, K. A. (2009). 'You'd better wait!' – Social-economic background and timing of first marriage versus first cohabitation. *European Sociological Review, 25,* 139-153.

Wu, M.-Y. (2011, Novenber). *Style of upbringing and educational attainment: Comparing middle class family and working class family.* Paper presented at the 4th Conference of Taiwan Youth Project, Taipei, Taiwan.

Table 1 The descriptive statistics of all variables[ab]

Depression	Minimum	Maximum	Mean	SD
W1 depression	0	24	4.06	3.77
W2 depression	0	19	1.82	2.54
W3 depression	0	16	1,93	2.52
W4 depression	0	22	3.80	3.61
W6 depression	0	22	4.07	3.82

W7 depression	0	24	3.93	3.88
W1 depression (stage 2)	0	24	3.14	3.60
Substance use				
W1 substance use	No: 2,733(87.3%); Yes: 361(11.5%)			
W2 substance use	No: 2,652(84.8%); Yes: 250(8.0%)			
W3 substance use	No: 2,373(75.8%); Yes: 372(11.9%)			
W4 substance use	No: 1,941(62.0%); Yes: 575(18.4%)			
W6 substance use	No: 2,173(69.4%); Yes: 363(11.6%)			
W7 substance use	No: 2,176(69.5%); Yes: 544(17.4%)			
Status				
Fulltime job	471(15.1%)			
Do nothing	197(6.3%)			
In technological university	824(26.3%)			
In regular university	1,220(39.9%)			
Marriage status				
Yes	217 (6.9%)			
No	2,910 (93.0%)			
Cohort				
J1 cohort	1,592(50.9%)			
J3 cohort	1,537(49.1%)			
Gender				
Male	1,622(51.8%)			
Female	1,430(45.7%)			
Family SES				
Low SES	992 (31.7%)			
Middle SES	801 (25.6%)			
High SES	1,188 (38.0%)			

[a]For categorical variables we present only frequency distribution.
[b]The distribution may not be 100% because of missingness.

Table 2 Path coefficients for SEM model predicting marriage status

	Model 1[1]		Model 2[2]		Model 3[3]	
	b(SE)	EXP	b(SE)	EXP	b(SE)	EXP
Middle SES family	-.33 (.09)**	.72	-.32(.09)**	.73	-.24(.09)**	.79

High SES family	-.59(.09)**	.55	-.52(.09)**	.59	-.35(.09)**	.70
Male	-.30(.07)**	.74	-.63(.09)**	.53	-.58(.10)**	.56
J3 cohort	.46(.07)**	1.58	.48(.08)**	1.61	.43(.08)**	1.53
Substance use			.53(.07)**	1.70	.35(.09)**	1.42
Depression			-.04(.01)*	.96	-.03(.02)†	.97
Fulltime job					.21(.05)**	1.23
Doing nothing					.14(.07)*	1.15
Going technological university					-	-

†p<.1; *p < .05; **p < .01
[1] n = 2,976
[2]n = 2,978
[3]n = 2,978