



CENTER FOR ADVANCED RESEARCH IN FINANCE
GRADUATE SCHOOL OF ECONOMICS, THE UNIVERSITY OF TOKYO

C A R F W o r k i n g P a p e r

CARF-F-617

Dating Assortativity in Japan: Evidence from a Retrospective Survey

Asako Chiba
The University of Tokyo

Kazuya Haganuma
The University of Tokyo

Taisuke Nakata
The University of Tokyo

January 25, 2026

CARF is presently supported by Nomura Holdings, Inc., Mitsubishi UFJ Financial Group, Inc., Sumitomo Mitsui Banking Corporation., Mizuho Financial Group, Inc., Sumitomo Mitsui Trust Bank, Limited, The University of Tokyo Edge Capital Partners Co., Ltd., Brevan Howard Asset Management LLP, Ernst & Young ShinNihon LLC, JAPAN POST INSURANCE Co.,Ltd., SUMITOMO LIFE INSURANCE COMPANY and All Nippon Asset Management Co., Ltd.. This financial support enables us to issue CARF Working Papers.

CARF Working Papers can be downloaded without charge from:
<https://www.carf.e.u-tokyo.ac.jp/research/>

Working Papers are a series of manuscripts in their draft form. They are not intended for circulation or distribution except as indicated by the author. For that reason Working Papers may not be reproduced or distributed without the written consent of the author.

Dating Assortativity in Japan: Evidence from a Retrospective Survey^{*}

Asako Chiba[†]

Kazuya Haganuma[‡]

Taisuke Nakata[§]

January 25, 2026

Abstract

We conduct a series of retrospective surveys to understand the evolution of dating assortativity in Japan. In the surveys, we ask about age, income, and employment type of our respondents and their dating partners. We find that the age assortativity has increased over the past ten years or so among age groups 25-29 and 30-34. The income assortativity has been stable, but we find some evidence for an increasing trend for the employment-type assortativity among regular employees.

Keywords— Assortative Mating, COVID-19, Dating, Marriage, Pandemic

JEL— C81; I10; J11; J12

^{*}Taisuke Nakata is supported by JSPS Grant-in-Aid for Scientific Research (KAKENHI), Project Number 22H04927, the Research Institute of Science and Technology for Society at the Japan Science and Technology Agency, and COVID-19 AI and Simulation Project (Cabinet Secretariat). The authors declare no conflicts of interest.

[†]University of Tokyo; Email: asakochiba@g.ecc.u-tokyo.ac.jp

[‡]University of Tokyo; Email: k.haganuma.off@gmail.com

[§]University of Tokyo; Email: taisuke.nakata@e.u-tokyo.ac.jp

1 Introduction

Assortativity in marriage affects our society in various ways. Assortative marriage along the dimension of education, income, or occupation can exacerbate household income inequality. Assortative marriage along the dimension of cultural and social backgrounds can create and amplify cultural and social divides within a society, potentially leading to political divides as well. Cultural, economic, and social divides may lead people to prefer sorting themselves into their own groups, which amplify those divides even further.

In this paper, we aim to contribute to our understanding of assortativity in marriage by analyzing assortativity in dating. Dating precedes marriage. Thus, understanding assortativity in dating helps us better understand assortativity in marriage. Specifically, we conducted a retrospective survey in Japan, asking the respondents about the age, income, and employment type of themselves and their partners in their past relationships. From our survey, we compute the proportions of the respondents whose partners belonged to the same age group, had the same employment status, and fell within the same income bracket as the respondents over the past 10 years or so. We then examine whether there is any long-run trend in assortativity and whether the pandemic had any impact on the long-run trends.

We find that the age assortativity has increased over the past ten years for age groups 25-29 and 30-34. The income assortativity has been stable, whereas we find some evidence that the employment-type assortativity has increased among regular employees. Although the pandemic affected the trend in the number of relationship formation, as shown in [Chiba et al. \(2025\)](#), we find that it did not affect the trends (or lack thereof) in dating assortativity measures.

Our study contributes to the extensive literature on assortativity. Studies have revealed that people in many countries are coming to co-habit or marry those who share common attributes with themselves in terms of age ([Utomo, 2014](#); [McKenzie, 2021](#); [Ausubel et al., 2022](#); [Trimarchi, 2022](#); [Hu and Qian, 2019](#); [Dribe and Nystedt, 2017](#)), education ([Blossfeld, 2009](#); [Uchikoshi and Raymo, 2021](#); [Fukuda et al., 2021](#); [Eika et al., 2019](#); [Torche, 2010](#); [Mare and Schwartz, 2006](#); [Greenwood et al., 2015](#); [Boertien and Permanyer, 2017](#)), and occupation ([Schwartz et al., 2021](#); [Kalmijn, 2011](#); [Smits et al., 1999](#); [Hout, 1982](#); [Verbakel, 2008](#)). Most papers focus on assortativity in marriage because data on married couples are available from official statistics. We differ from these papers because we collect new data on dating and analyze assortativity in dating.

Although limited in number, researchers have focused on assortativity in dating by taking advantage of the growing use of online dating tools such as dating apps and online dating services. They found that the matchings show strong assortativity along key attributes such as age, education, race/ethnicity, political orientation, and perceived desirability ([Hitsch et al., 2010](#); [Lin and Lundquist, 2013](#); [Bruch and Newman, 2018](#); [Huber and Malhotra, 2017](#); [Lewis, 2013](#)). We differ from these papers in that we cover relationship formations in various contexts, such as school life, business, and other social networks, without limiting our attention to relationships formed via online dating tools.

The rest of the paper is structured as follows. Section 2 describes our survey. Section 3 describes our methodology. Section 4 discusses the results, and Section 5 concludes.

2 Survey

We conducted ten surveys from September 13 in 2023 to September 14 in 2023, in collaboration with Cross Marketing Inc., an online market research company based in Japan.¹² Each of the ten surveys corresponds to a year of interest from 2014 to 2023. In each survey, we collected respondents who are (i) aged between 25 and 45 at the time of the survey (September 2023) and (ii) unmarried persons with a partner as of January in the year of interest. We received 1,000 responses in each survey, totaling 10,000 responses.³ The distributions of gender and age were matched to those in the Population Census.

In each survey, we asked the respondents a set of questions regarding their relationship in the year of interest. We first asked the following information regarding the relationship: when the relationship started, when it ended, and how it ended (married/separated/ still in the relationship currently). We then asked them about the attributes of both respondents and their partners at the time the relationship began, including their age, income, and employment type.

Table 1 presents the summary statistics on the socio-economic characteristics of our respondents for each year of interest. As described in the previous section, the respondents' gender distributions closely resemble those of the residents in Japan by construction. The employment-type distribution in 2023 is close to that from the official statistics. Among those who are aged between 25 and 45, 61.6 percent, 29.5 percent, and 8.9 percent are regular employees, non-regular employees, and not employed/student, respectively, in our survey as of 2023. In contrast, among those who are aged between 25 and 44, 60.8 percent, 26.3 percent, and 12.9 percent are regular employees, non-regular employees, and not employed/students, respectively, according to the Employment Status Survey in 2023. These data suggest that our respondents represent Japanese residents aged between 25 and 45 reasonably well.

¹They register their attributions and e-mail addresses with the company so that they can receive survey invitations. The respondents who completed the survey received a reward.

²This survey was approved by the University of Tokyo's Ethics Review Committee (Application No.23-261)

³We asked two questions to assess the quality of the answers: the year the Great East Japan Earthquake occurred (Answer: 2011) and the name of the Japanese Prime Minister in 2017 (Answer: Shinzo Abe). Among 10,000 respondents, 7,452 correctly answered both of these two questions. Although this subsample is assumed to have clearer memories than the others, its gender balance shows a higher weight on males. Therefore, instead of this subsample, we focus on all samples in the main analysis. We also conducted the analysis using the subsample as shown in Appendix D. The key takeaways of the paper are robust.

Table 1: Summary statistics for each year of interest

Panel (A): 2014-2018

Year of Interest	2014	2015	2016	2017	2018
Gender					
Male	509 (50.9%)	509 (50.9%)	509 (50.9%)	509 (50.9%)	509 (50.9%)
Female	491 (49.1%)	491 (49.1%)	491 (49.1%)	491 (49.1%)	491 (49.1%)
Age					
Average	26.9	27.8	28.8	29.8	30.8
Year when dating started					
Average	2011.6	2012.4	2013.3	2014.1	2015.0
Income					
< ¥4 mil.	754 (75.4%)	742 (74.2%)	732 (73.2%)	687 (68.7%)	655 (65.5%)
¥4 mil.~¥8 mil.	220 (22.0%)	232 (23.2%)	234 (23.4%)	276 (27.6%)	313 (31.3%)
≥ ¥8 mil.	26 (2.6%)	26 (2.6%)	34 (3.4%)	37 (3.7%)	32 (3.2%)
Employment type					
Regular	462 (46.2%)	466 (46.6%)	504 (50.4%)	549 (54.9%)	552 (55.2%)
Non-regular	233 (23.3%)	254 (25.4%)	236 (23.6%)	254 (25.4%)	263 (26.3%)
Not employed	29 (2.9%)	27 (2.7%)	36 (3.6%)	26 (2.6%)	31 (3.1%)
Student	276 (27.6%)	253 (25.3%)	224 (22.4%)	171 (17.1%)	154 (15.4%)
Total	1000 (100%)	1000 (100%)	1000 (100%)	1000 (100%)	1000 (100%)

Panel (B): 2019-2024

Year of Interest	2019	2020	2021	2022	2023
Gender					
Male	509 (50.9%)	509 (50.9%)	509 (50.9%)	509 (50.9%)	509 (50.9%)
Female	491 (49.1%)	491 (49.1%)	491 (49.1%)	491 (49.1%)	491 (49.1%)
Age					
Average	31.7	32.8	33.8	34.8	35.8
Year when dating started					
Average	2015.7	2016.6	2017.0	2017.6	2017.9
Income					
< ¥4 mil.	636 (63.6%)	664 (66.4%)	622 (62.2%)	640 (64.0%)	639 (63.9%)
¥4 mil.~¥8 mil.	324 (32.4%)	291 (29.1%)	342 (34.2%)	305 (30.5%)	300 (30.0%)
≥ ¥8 mil.	40 (4.0%)	45 (4.5%)	36 (3.6%)	55 (5.5%)	61 (6.1%)
Employment type					
Regular	583 (58.3%)	601 (60.1%)	609 (60.9%)	615 (61.5%)	616 (61.6%)
Non-regular	258 (25.8%)	262 (26.2%)	267 (26.7%)	268 (26.8%)	295 (29.5%)
Not employed	22 (2.2%)	34 (3.4%)	35 (3.5%)	38 (3.8%)	32 (3.2%)
Student	137 (13.7%)	103 (10.3%)	89 (8.9%)	79 (7.9%)	57 (5.7%)
Total	1000 (100%)	1000 (100%)	1000 (100%)	1000 (100%)	1000 (100%)

Because we sampled individuals aged 25-45 at the time of the survey and asked them about their past relationship at a particular year in the past, the average age increases by about one year with the year of interest. Those aged 25-45 in 2023 were aged 16-36 in 2014. To control for the age composition effect, we focus on age-group specific measures of assortativity in our analysis.

Reflecting the increasing trend in age over time, the income shares and employment-type shares evolve over time. In particular, for income, as the average age increases, the share of those

who earn less than 4 million yen declines over time, whereas the share of those who earn more than 8 million yen increases over time. For employment type, the share of regular workers increases over time, whereas the share of not employed/student declines over time. In our main analysis of income and employment-type assortativity, we will focus on age-specific measures to control for these trends arising from our particular survey structure. Even when we focus on narrow age-groups, income and employment-type shares might have changed over time. In interpreting the evolution of assortativity measures, we will consult with official statistics to see whether the time trend in our assortativity measures is driven by time variation in income and employment-type shares in the population.

3 Methodology

We analyze dating assortativity regarding three attributes: age, income, and employment type. For each of the three attributes, we define the following sub-groups: For age, the subgroups are 20-24; 25-29; 30-34. For income, the subgroups are ¥0-4 million; ¥4-8 million; ¥8+ million per year. For employment type, the subgroups are regular; non-regular; not employed/students.

Let X_t^i be the number of respondents who began dating with a new partner in year t and who are in the group i . Let $X_t^i(j)$ be the subset of X_t^i whose new dating partner was in the group j . We define an assortativity measure a_t^i for group i for year when the dating relationship began (t) as follows:

$$a_t^i = \frac{X_t^i(i)}{X_t^i} \quad (1)$$

That is, X_t^i is the fraction of couples in which the partner belongs to the same group as the respondent. For instance, the dating assortativity measure for age 20-24 in 2015 is denoted as follows:

$$a_{2015}^{\text{age:20-24}} = \frac{X_t^{\text{age:20-24}}(\text{age:20-24})}{X_t^{\text{age:20-24}}} \quad (2)$$

We select the sample period to ensure that two conditions are met. The first condition is that the sample period contains a sufficiently large number of reports. As described in Figure 11 in Section B, we have more than 300 dating formations from 2010 to 2022 but much less in 2009 and 2023. Thus, we restrict our attention to 2010-2022.

The second condition is that all ages within each age group are represented in a given year. For example, because our respondents are aged from 25 to 45 in 2023, they are aged from 24 to 44 in 2022. Thus, the age group 20-24 in 2022 would not include people aged from 20 to 23. We have to go back to 2018 to have all ages represented in the age group 20-24. This second condition dictates that our sample has to be 2009-2018 for the age group 20-24, 2009-2023 for the age group 25-29, and 2012-2023 for the age group 30-34. Taken together, these two conditions imply that the

sample period is from 2010 to 2018 for the age group 20-24, from 2010 to 2022 and 25-29, and from 2012 to 2022 for the age group 30-34.⁴

We estimate a time trend for each assortativity measure based on the following equation:

$$X_t^i = \beta_0 + \beta_1 t + u_t \quad (3)$$

Our focus is on the statistical and quantitative significance of β_1 . In interpreting the results, we also consult with the demographic trend implied by official statistics. Even when there is no change in underlying preference for people to date a partner in the same group, we would observe a higher probability of someone in that group dating with a partner in the same group if the population share of a group increased (or decreased) over time.

4 Results

4.1 Age

Figure 1 shows the evolution of age assortativity measures defined in the previous section. Each panel plots the assortativity measure for each age group in the solid line against the year when the relationships began. The dotted line shows the estimated trend based on equation (3). The estimated value of β_1 is shown inside the panel, with statistical significance indicated by the number of asterisks. According to the figure, assortativity measures for all age groups increased over time. The increasing trend is statistically significant for age groups 25-29 and 30-34, whereas it is not for age group 20-24.

According to Figure 2, which shows shares of single individuals in each age group among the pool of single individuals aged between 20 and 49, the increase in age assortativity shown in Figure 1 is unlikely to be driven by demographic shifts.⁵ The shares of all three age groups 20-24 are almost flat, though they are trending down in a statistically significant way for age group 25-29 and 30-34.

Taken together, our survey suggests that those aged between 25 and 34 became more likely to choose a partner whose age is close to their own.

⁴According to these two conditions, the sample period for the age group 35-39 is from 2017 to 2022, which means that we only have six observations for estimating the time-trend. Thus, we exclude the age group 35-39 from our main analysis and focus on age groups 20-24, 25-29, and 30-34.

⁵We estimated the number of single people of each age group by multiplying the population from the population estimation and the unmarried rate from the Census.

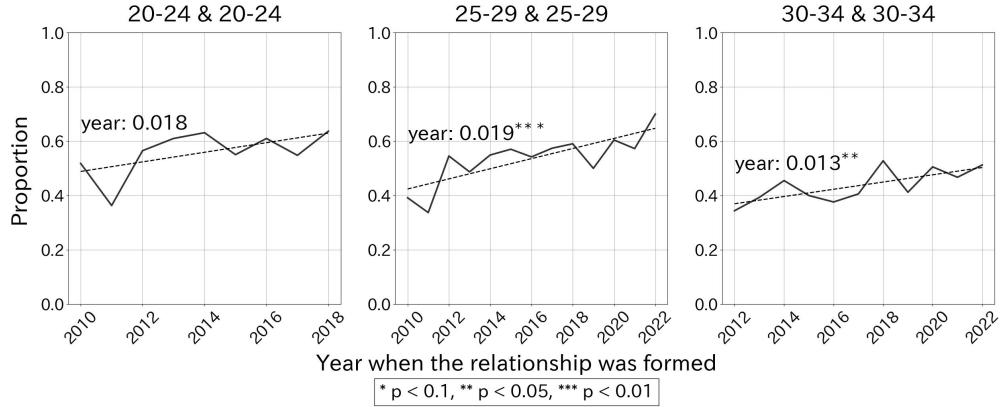


Figure 1: Dating Assortativity in Age

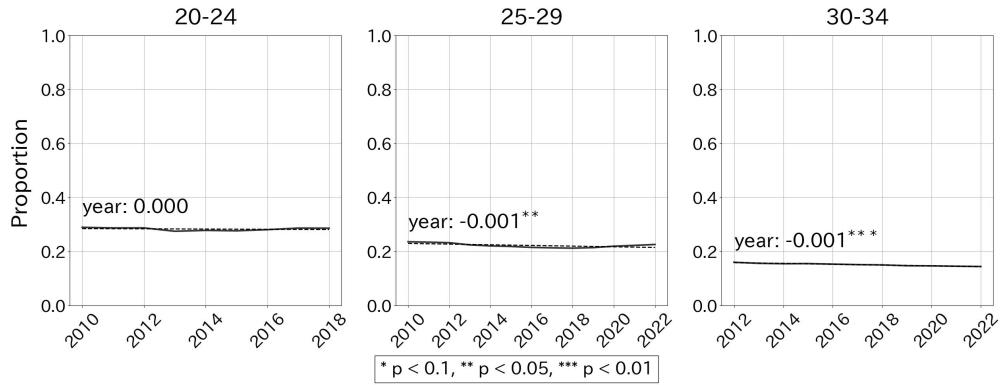


Figure 2: Age-Group Share among the Pool of Single Individuals

Source: Population Estimates (Statistics Bureau of Japan); Population Statistics in Japan (National Institute of Population and Social Security Research).

Note: This figure plots the proportion of single individuals in the age group among the pool of single individuals aged from 20 to 49. We approximate the number of single persons in each age group by multiplying the total population in that age group—obtained from Population Estimates—by the proportion of unmarried individuals in the same age group—obtained from Population Statistics.

4.2 Income

Figures 3, 4, and 5 show the income assortativity measures for age group 20-24, 25-29, and 30-34, respectively. Most assortativity measures does not have a statistically significant trend except for those aged 25-29 who earn more than ¥8 million. For this groups, the assortativity measure increase over time.

Figure 6 shows the share of each income group among single people based on the Comprehensive Survey of Living Conditions. According to the figure, the increase in income assortativity for age 25-29 who earn more than ¥8 million is unlikely to be driven by demographic shifts. The aggregate share of those who earn more than ¥8 million is trending up in a statistically significant way. However, their pace is quantitatively minimal relative to the pace of increase in the assortativity measure for those who more than ¥8 million. The aggregate share of those who earn less

than ¥4 million has been decreasing, and the aggregate share of those who earn between ¥4 and 8 million has been increasing, both in a statistically significant way but at a slow pace.

To summarize, our survey data suggest that those in the age group 25-29 who earn more than ¥8 million are becoming more likely to choose a partner whose income class is close to their own.

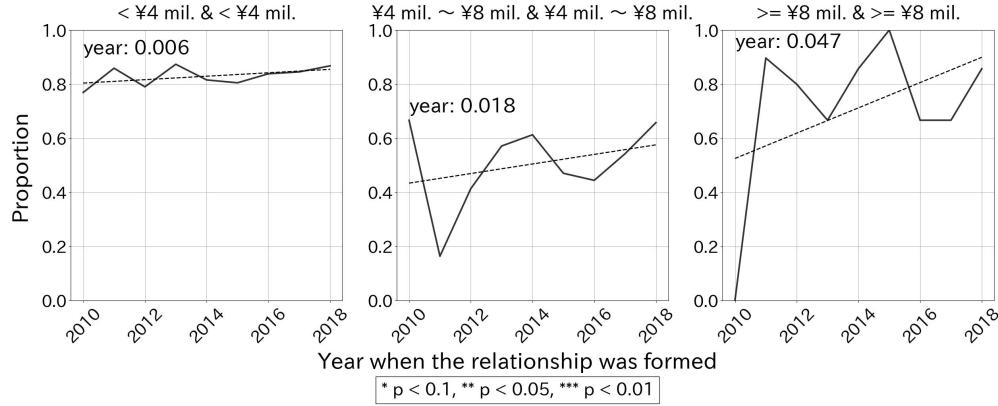


Figure 3: Dating Assortativity in Income: 20-24

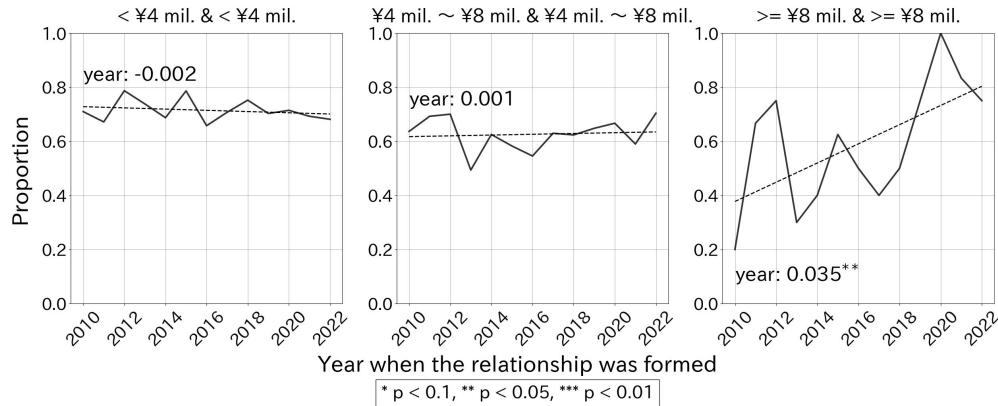


Figure 4: Dating Assortativity in Income: 25-29

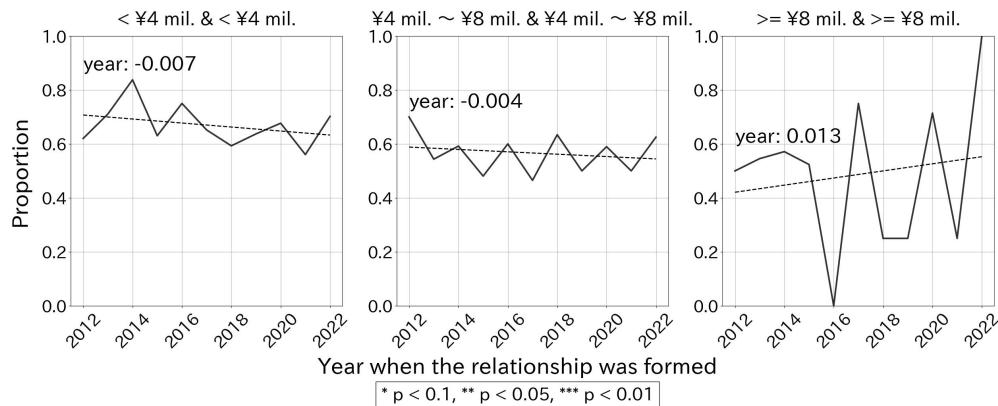


Figure 5: Dating Assortativity in Income: 30-34

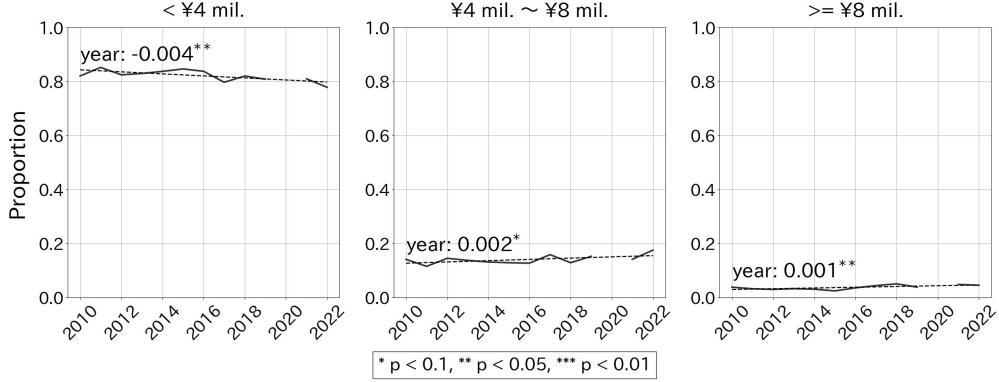


Figure 6: Income-Group Share among Single Households

Source: Comprehensive Survey of Living Conditions (Ministry of Health, Labour and Welfare)

Note: This figure plots the proportion of single households in each of the three income brackets among the pool of all single households. We obtain the number of single households in each income bracket from the Comprehensive Survey of Living Conditions. We do not have data for 2020 because the survey was not conducted due to the COVID-19 crisis.

4.3 Employment Type

Figures 7, 8, and 9 show the employment-type assortativity measures for age group 20-24, 25-29, and 30-34, respectively. As in the case with income, most assortativity measures do not exhibit statistically significant trends. However, the assortativity measures for regular employees in age groups 25-29 and 30-34 increased in a statistically significant way. Also, the assortativity measure for non-employed persons in age groups 25-29 increased in a statistically significant way.

Figure 10 shows shares of each employment-type group among the single people from age 20 to age 49. These shares are computed from the Labor Force Survey. The figure suggests that the increase in employment-type assortativity for age 25-29 and age 30-34 who are regularly employed is partly driven by demographic shifts. The aggregate share of regular employees has been increasing in a statistically significant way. The pace of the increase (0.006) is somewhat slower than that of the assortativity measures for regular employees for age group 25-29 (0.02) and 30-34 (0.009). The aggregate shares of non-regular employees and those who are not employed have both been decreasing in a statistically significant way, but at a slow pace.

To summarize, our survey data provide some evidence that regular employees who are aged from 25 to 34 became more likely to choose regular employees as their partner and that non-employed persons in age group 25-29 became more likely to choose a non-employed partner.

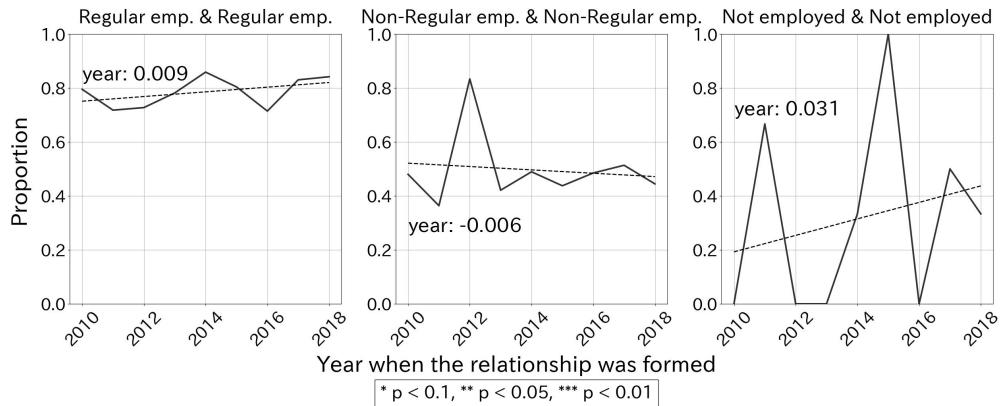


Figure 7: Dating Assortativity in Employment Type: 20-24

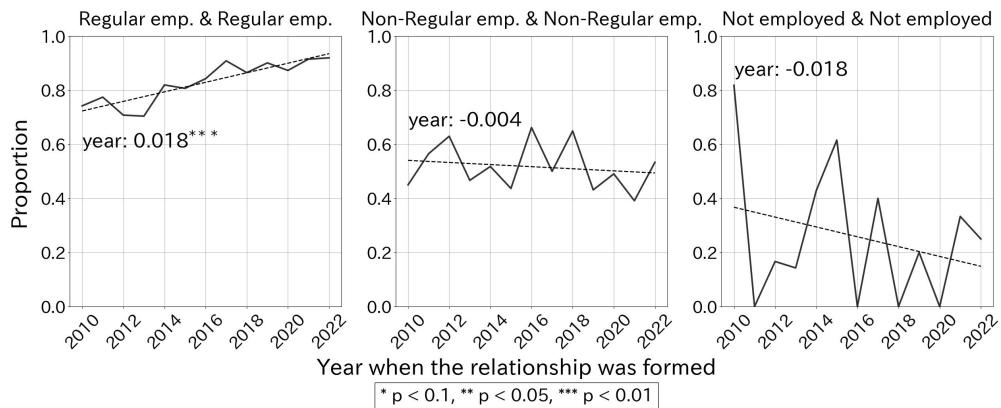


Figure 8: Dating Assortativity in Employment Type: 25-29

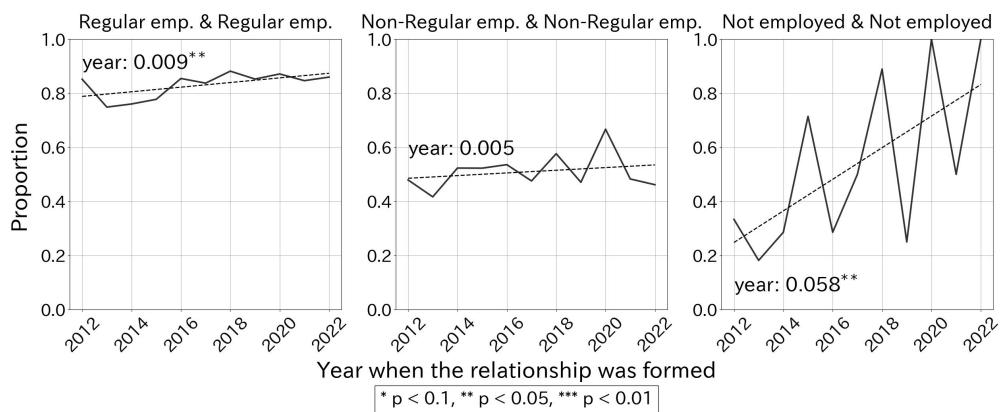


Figure 9: Dating Assortativity in Employment Type: 30-34

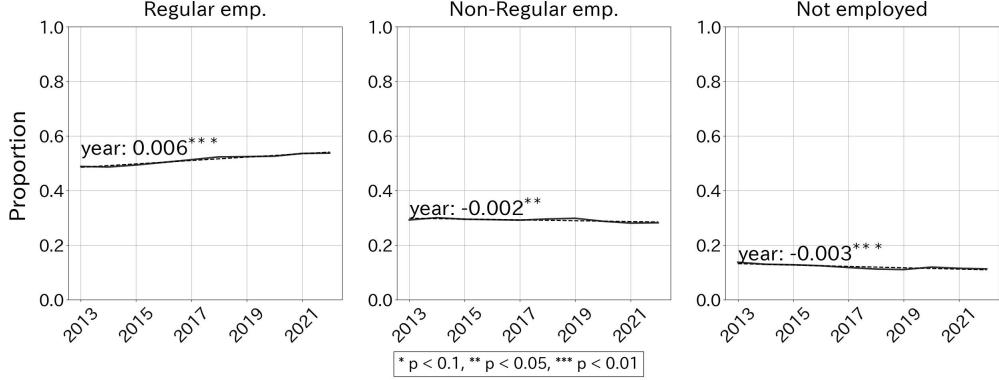


Figure 10: Share of Employment Types among Single Individuals

Source: Labour Force Survey (Statistics Bureau of Japan)

Note: This figure plots the proportion of employment type among the pool of single individuals—those classified as "never married" and "widowed or divorced" in the Survey—aged from 20 to 49. We define non-regular employment as employees except for regular employees, and define not employed as unemployed and non-labour excluding students. This figure starts from 2013. Before 2013, we cannot compute this proportion because the Survey adopted a different classification system.

4.4 Discussion

We focus on the evolution of dating assortativity in this paper. However, we could also compute measures of dating disassortativity—the probability that a single person chooses a dating partner with a different attribute. See Appendix C for the evolution of our disassortativity measures for various combinations of groups along age, income, and employment-type.

Our baseline analysis focuses on the trends over time, including both before and after the pandemic. According to Chiba et al. (2025), the number of relationship formations dropped sharply during the COVID-19 pandemic. The pandemic might have also affected the evolution of assortativity in the dating market. To examine whether the pandemic had any impact on the evolution of dating assortativity, we estimate the following equation with a set of dummy variables each year after the pandemic as additional explanatory variables:

$$X_y^i = \beta_0 + \beta_1 y + \sum_{y \in \{2020, 2021, 2022\}} \beta_y covid_y + u_t \quad (4)$$

The results are shown in the Appendix E. According to the Appendix, we observe no significant deviations in age assortativity for most age groups for income groups, and for employment types. That is, the pandemic had only a limited impact on dating assortativity.

Our survey is subject to two limitations. First, our survey may suffer from recall bias because it is retrospective. We asked survey participants to recall their relationship histories going back ten years. Memories of such a distant past might not be accurate. Second, the results may be affected by the cohort effect because our survey targets those who are aged between 25 and 45 as of 2023. Thus, our findings may be cohort-specific.

5 Conclusion

In this paper, we conducted a retrospective survey in Japan, asking the respondents about the age, income, and employment type of themselves and their partners in their past relationships. We then computed the proportions of the respondents whose partners belonged to the same age group, had the same employment status, and fell within the same income bracket as the respondents. We found that the age assortativity has increased over the past ten years for age groups 25-29 and 30-34. The income assortativity has been stable, whereas there is some evidence that the employment-type assortativity has increased among regular employees. Finally, we found that the COVID-19 pandemic did not affect the trend in dating assortativity in a statistically significant way.

References

Ausubel, J., S. Kramer, A. F. Shi, and C. Hackett (2022). Measuring age differences among different-sex couples: Across religions and 130 countries, men are older than their female partners. *Population Studies* 76(3), 465–476.

Blossfeld, H.-P. (2009). Educational assortative marriage in comparative perspective. *Annual review of sociology* 35(1), 513–530.

Boertien, D. and I. Permanyer (2017). Educational assortative mating as a determinant of changing household income inequality: A 22-country study. (Working Paper 719).

Bruch, E. E. and M. E. J. Newman (2018). Aspirational pursuit of mates in online dating markets. *Science Advances* 4(8), eaap9815.

Chiba, A., N. Maezono, and T. Nakata (2025). Dating and marriage during the covid-19 pandemic: Evidence from japan. *Mimeo*.

Dribe, M. and P. Nystedt (2017). Age homogamy, gender, and earnings: Sweden 1990–2009. *Social Forces* 96(1), 239–264.

Eika, L., M. Mogstad, and B. Zafar (2019). Educational assortative mating and household income inequality. *Journal of Political Economy* 127(6), 2795–2835.

Fukuda, S., S. Yoda, and R. Mogi (2021). Educational assortative mating in japan: Evidence from the 1980–2010 Census. *Journal of Population Studies* 57, 1–20.

Greenwood, J., N. Guner, G. Kocharkov, and C. Santos (2015). Marry your like: Assortative mating and income inequality. *American Economic Review* 105(5), 406–409.

Hitsch, G. J., A. Hortaçsu, and D. Ariely (2010). Matching and sorting in online dating. *American Economic Review* 100(1), 130–163.

Hout, M. (1982). The association between husbands' and wives' occupations in two-earner families. *American Journal of Sociology* 88(2), 397–409.

Hu, Y. and Y. Qian (2019). Educational and age assortative mating in china. *Demographic Research* 41, 53–82.

Huber, G. A. and N. Malhotra (2017). Political homophily in social relationships: Evidence from online dating behavior. *Journal of Politics* 79(1), 269–283.

Kalmijn, M. (2011). The influence of men's income and employment on marriage and cohabitation: Testing oppenheimer's theory in europe. *European Journal of Population= Revue Europeenne de Demographie* 27(3), 269.

Lewis, K. (2013). The limits of racial prejudice. *Proceedings of the National Academy of Sciences* 110(47), 18814–18819.

Lin, K.-H. and J. Lundquist (2013). Mate selection in cyberspace: The intersection of race, gender, and education. *American Journal of Sociology* 119(1), 183–215.

Mare, R. D. and C. Schwartz (2006). Educational homogamy in the united states: Trends over time. *Demography* 43(4), 619–637.

McKenzie, L. (2021). Age-dissimilar couple relationships: 25 years in review. *Journal of Family Theory & Review* 13(4), 496–514.

Schwartz, C. R., Y. Wang, and R. D. Mare (2021). Opportunity and change in occupational assortative mating. *Social science research* 99, 102600.

Smits, J., W. Ultee, and J. Lammers (1999). Occupational homogamy in eight countries of the european union, 1975–89. *Acta Sociologica* 42(1), 55–68.

Torche, F. (2010). Educational assortative mating and economic inequality: A comparative analysis of three latin american countries. *Demography* 47(2), 481–502.

Trimarchi, A. (2022). Gender-egalitarian attitudes and assortative mating by age and education. *European Journal of Population* 38(3), 429–456.

Uchikoshi, F. and J. M. Raymo (2021). *Educational assortative mating in Japan: Insights into social change and stratification*. Springer Nature.

Utomo, A. J. (2014). Marrying up? trends in age and education gaps among married couples in indonesia. *Journal of Family Issues* 35(12), 1683–1706.

Verbakel, E. (2008). The association between husbands' and wives' labor market positions and between their occupations. *European Sociological Review* 24(5), 573–588.

Appendix

A Questionnaire

Introduction

This survey is an academic research project conducted by the Laboratory of Taisuke Nakata, Graduate School of Economics, The University of Tokyo, and commissioned to Cross Marketing Inc.

The purpose of this survey is to understand people's dating history and marriage. It includes questions about when you dated, as well as about the occupation and income of both yourself and your partner (spouse).

All responses will be statistically processed and anonymized so that no individual can be identified. Summary data or raw data may be made public, but never in a way that allows personal identification. Your data will never be used for any purpose other than this research. Please answer each question as you think.

Estimated time to complete: 10 minutes.

Participation is voluntary. You may stop at any time by closing your browser. In that case, no incentive points will be awarded.

If you agree with the above and wish to participate, please select "Next." If you do not wish to participate, you may end the survey here (no incentive points will be given).

Screening Survey

Respondent criteria

- Men and women aged 25-45 who are registered panel members.
- Sampling will match national representative ratios for age and gender.
- If basic demographic data (age, gender, prefecture/municipality) can be provided by the survey company, related questions may be omitted.

Questions

S1. Please indicate your gender. (Single Answer)

- Male
- Female

S2. Please indicate your age. (Pre-coded Data)

S3. Please indicate the prefecture where you currently live. (Pre-coded Data)

S4. For each year YYYY = 2014–2023, as of January of YYYY, were you married? (Yes / No)

S5. For each year YYYY = 2014–2023, as of January of YYYY, did you have a dating partner? (Yes / No)

Main Survey

Respondent criteria

- Respondents who answered S4 = No and S5 = Yes.

Questions

The following questions refer to your dating situation as of January of the selected year.

Q1. Around what year and month did you start dating this person? (Numeric: year and month)

Q2. How did you meet this person? Please choose the one that best applies. (Single Answer)

- Neighborhood acquaintance or childhood friend
- School life
- Workplace (including part-time jobs)
- Shared hobbies or clubs
- Group gatherings (such as matchmaking parties)
- Individual introduction by relatives or close friends
- Individual introduction by someone other than relatives/close friends (e.g., arranged meeting)
- Online/SNS encounter not through individual introduction
- Other (free response)

Q3. What was your own occupation/employment status when the relationship began? (Single Answer)

- Student
- Not employed
- Permanent employee (no fixed-term contract)
- Fixed-term contract (contract employee, entrusted employee)
- Part-time or temporary worker
- Temporary staff dispatched from an agency
- Self-employed or freelance (e.g., restaurant, retail/wholesale, farming, medical practice, writer), or family business worker (e.g., family member engaged in restaurant, retail/wholesale, farming)
- Other (free response)

Q4. What was your annual income when the relationship began? If you had no income, select "Under 2 million yen." (Single Answer)

- Under 2 million yen
- 2–4 million yen
- 4–6 million yen
- 6–8 million yen
- 8–10 million yen
- 10 million yen or more

Q5. How old was your partner when the relationship began? (Numeric)

Q6. What was your partner's occupation/employment status when the relationship began? (Single Answer)
(Same options as Q3)

Q7. What was your partner's annual income when the relationship began? If they had no income, select "Under 4 million yen." (Single Answer)

- Under 4 million yen
- 4–8 million yen
- 8–12 million yen

Q8. Which of the following best describes your current relationship with this partner? (Single Answer)

- Married and still married
- Married but later divorced
- Not married but still dating
- Not married and later broke up

Q9. If Q8 = Married and still married or Married but later divorced:

Around what year and month did you register your marriage? (Numeric: year and month)

Q10. Was the timing of your marriage registration as originally planned? (Single Answer)

- As planned
- Earlier than planned
- Later than planned

Q11. If Q10 = Earlier than planned or Later than planned:

Why was your marriage registration earlier or later than planned? For each of the following, indicate whether it applies (select from: Applies (unrelated to COVID-19) / Applies (related to COVID-19) / Does not apply):

- Opposition to marriage from relatives/friends
- Concerns about your own or partner's health
- Concerns about your own economic situation
- Concerns about your partner's economic situation
- Greetings to relatives / introductions to friends occurred earlier or later
- Finding or moving into a residence occurred earlier or later
- Need to adjust the wedding ceremony schedule
- Other (free response)

Q12. If Q8 = Not married and later broke up:

Around what year and month did you break up? (Numeric: year and month)

Q13. What was the main reason for breaking up? (Choose one)

- Spent less time together
- Either you or your partner developed feelings for someone else
- Domestic violence or moral harassment
- Differences in values (e.g., attitudes toward money, work, marriage)
- Relationship conflict or dissatisfaction with partner

- Other (free response)

Q14. What is your highest level of education completed? (Single Answer)

- Junior high school or elementary school
- High school
- Junior college (including technical colleges)
- University
- Graduate school

Q15. In what year did the Great East Japan Earthquake occur? (Numeric)

Q16. Who was Japan's Prime Minister in 2017? (Open-ended)

B Sample distribution

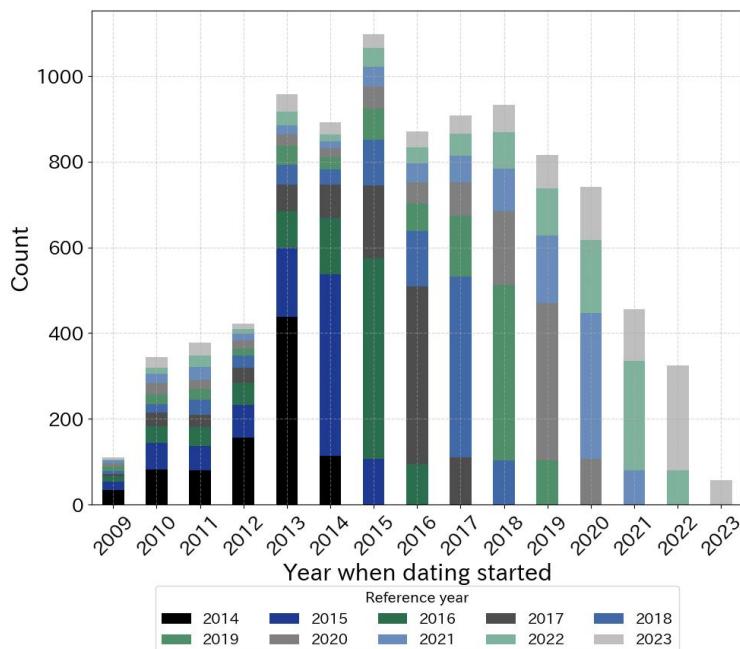


Figure 11: Sample distribution regarding the year when the dating started

C Disassortativity Measures

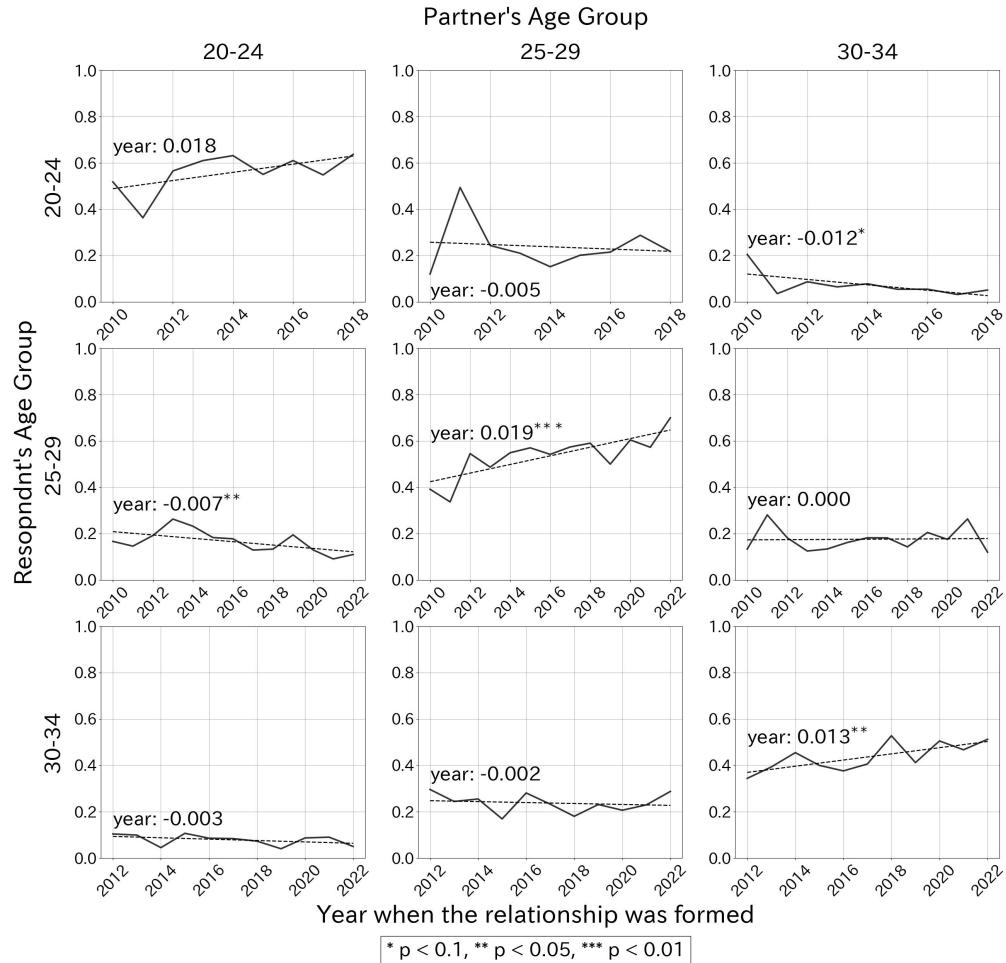


Figure 12: Various Combinations of Age Groups

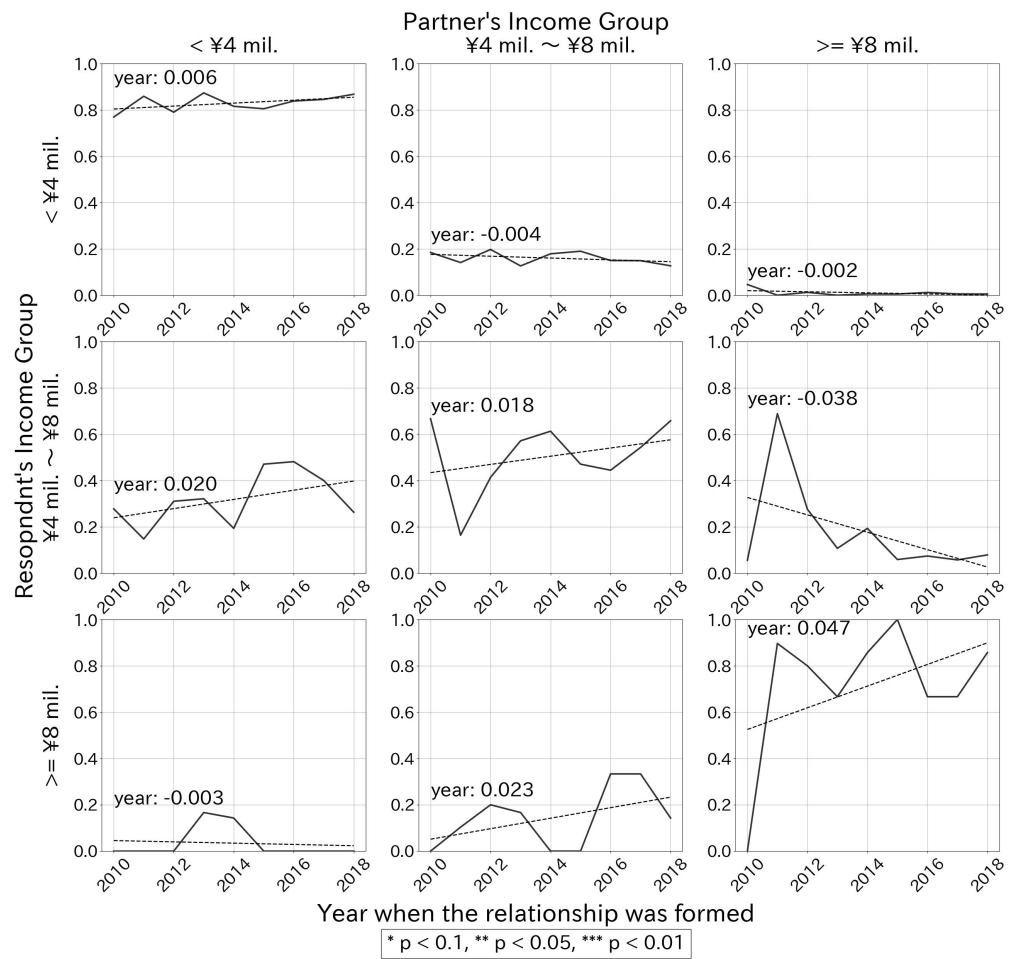


Figure 13: Various Combinations of Income: Age Group 20-24

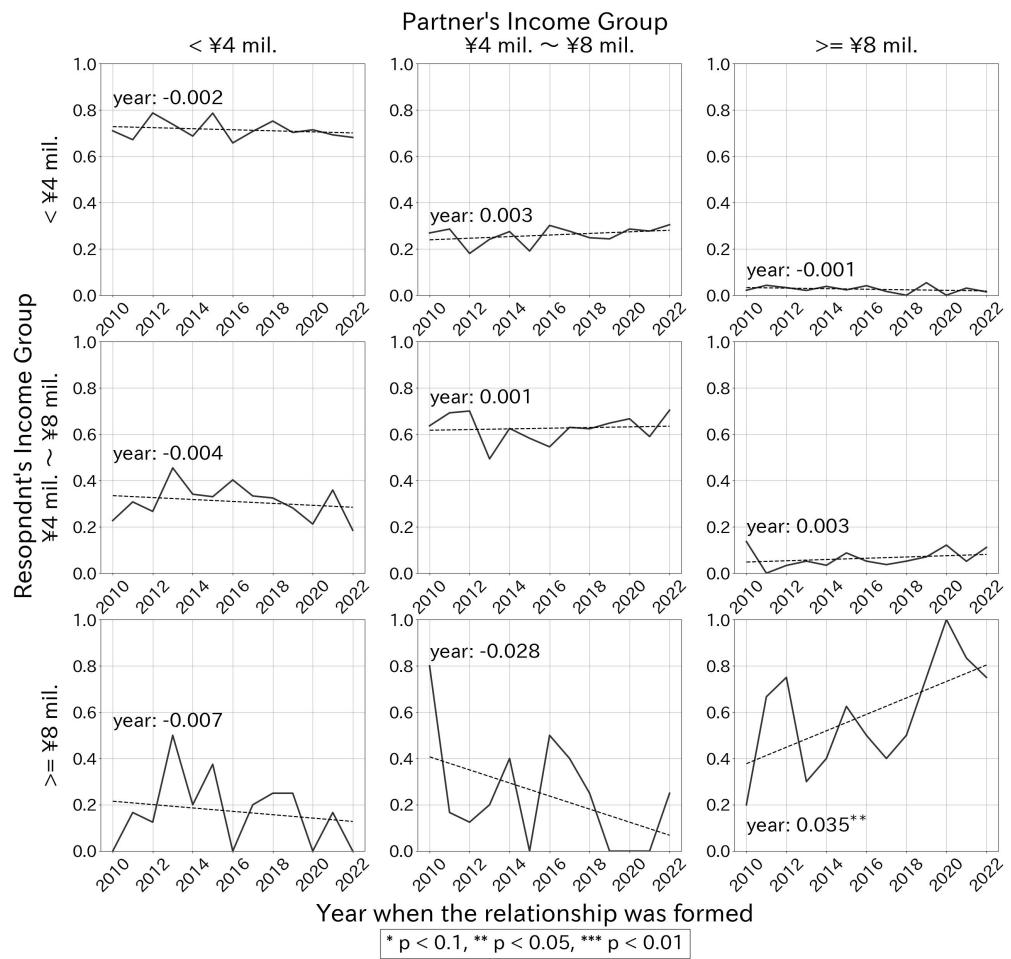


Figure 14: Various Combinations of Income: Age Group 25-29

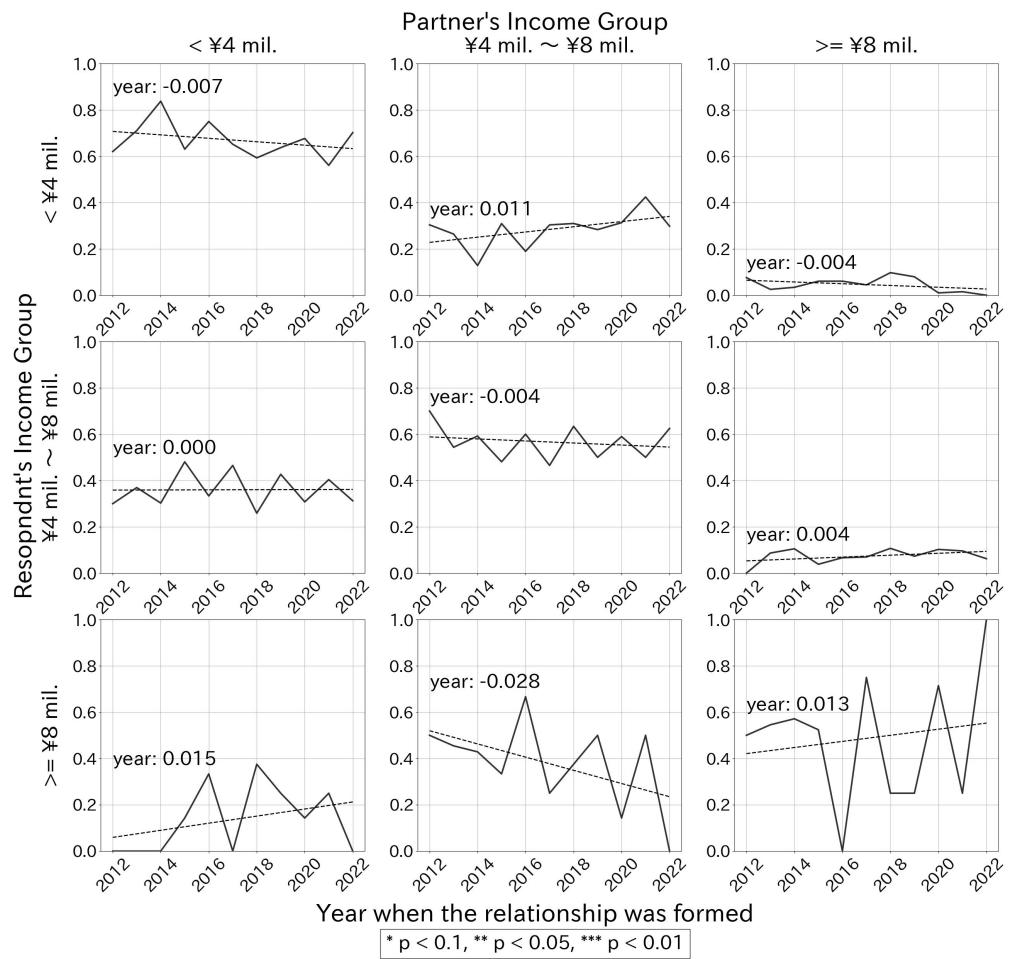


Figure 15: Various Combinations of Income: Age Group 30-34

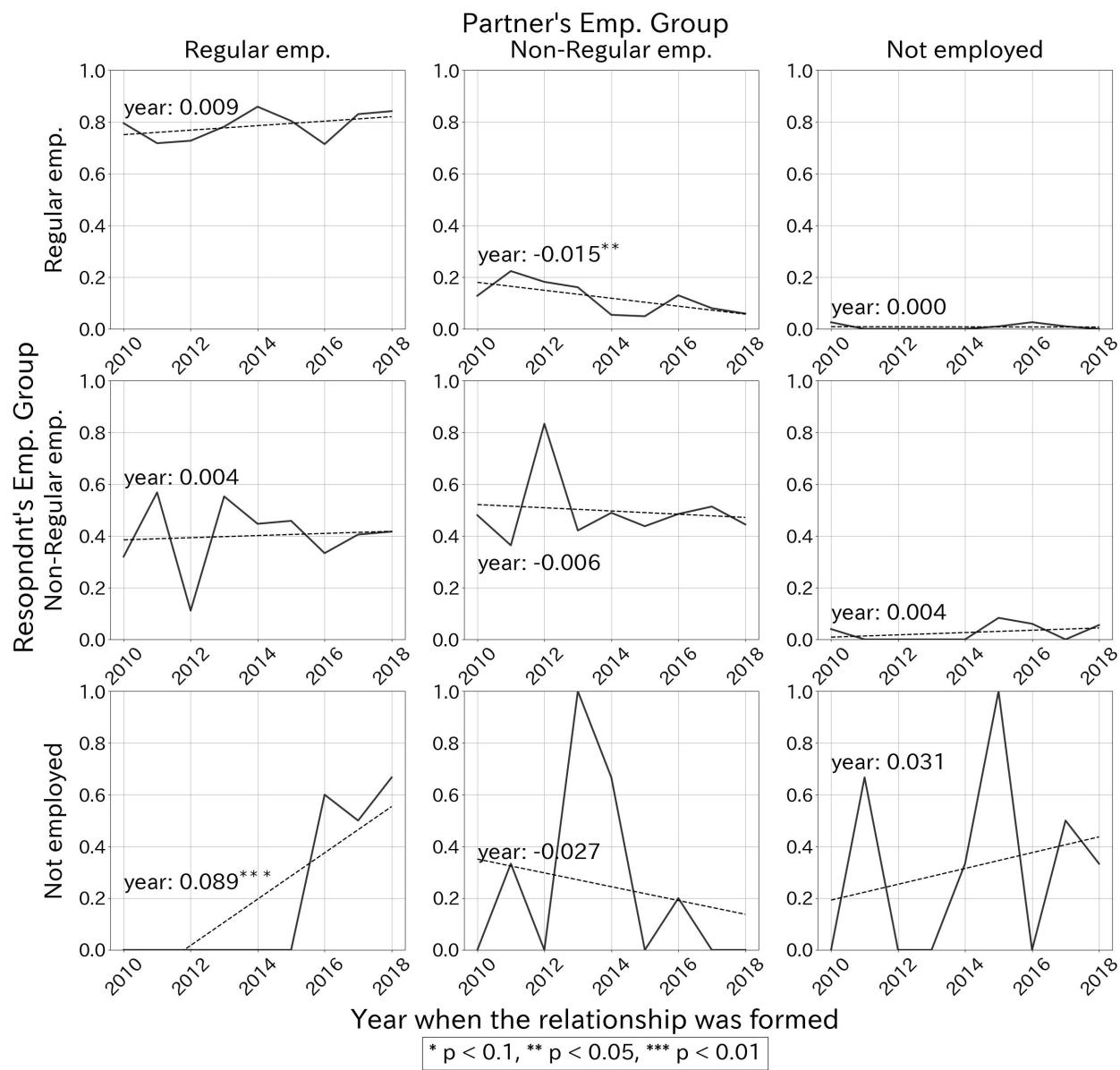


Figure 16: Various Combinations of Employment-type: Age Group 20-24

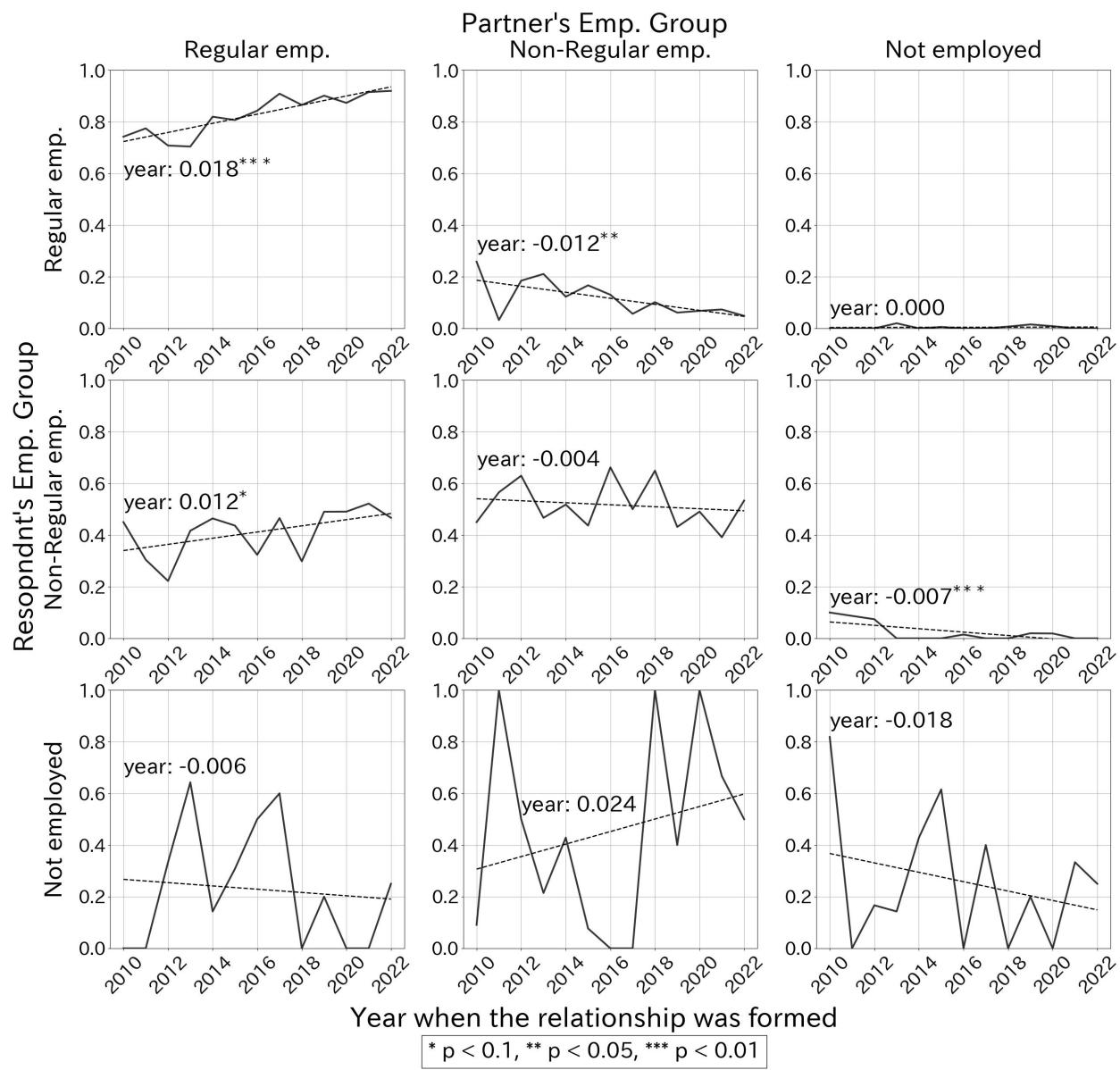


Figure 17: Various Combinations of Employment-type: Age Group 25-29

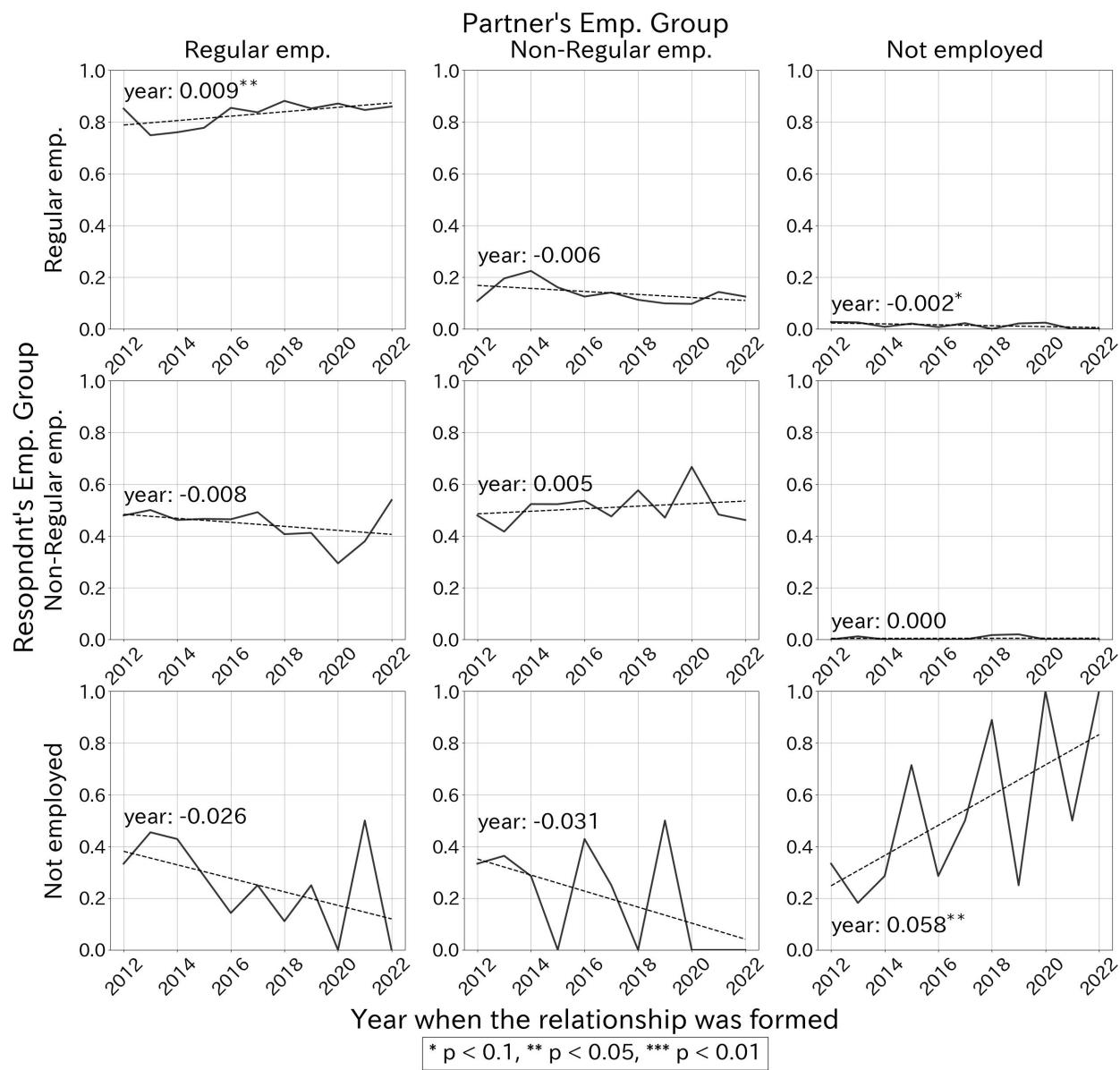


Figure 18: Various Combinations of Employment-type: Age Group 30-34

D An Alternative Sample

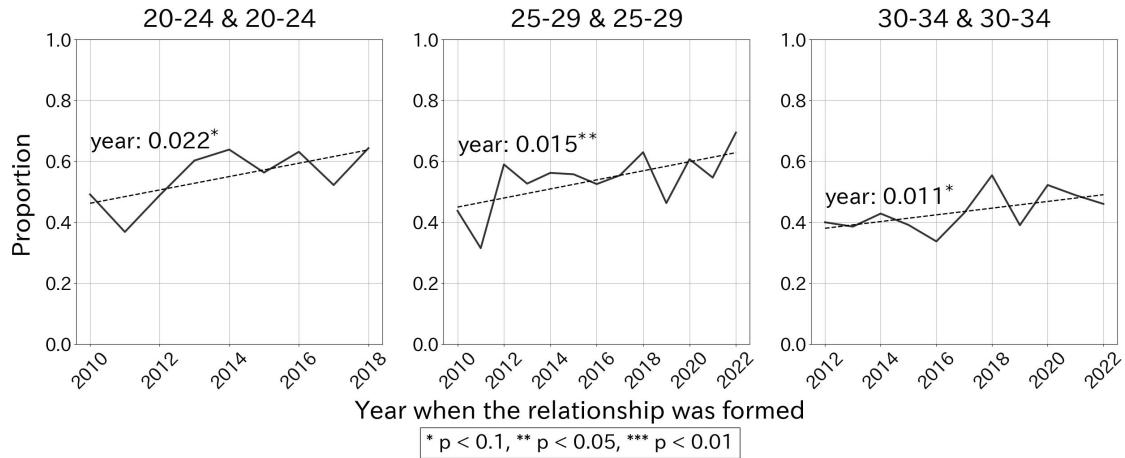


Figure 19: Age Assortativity

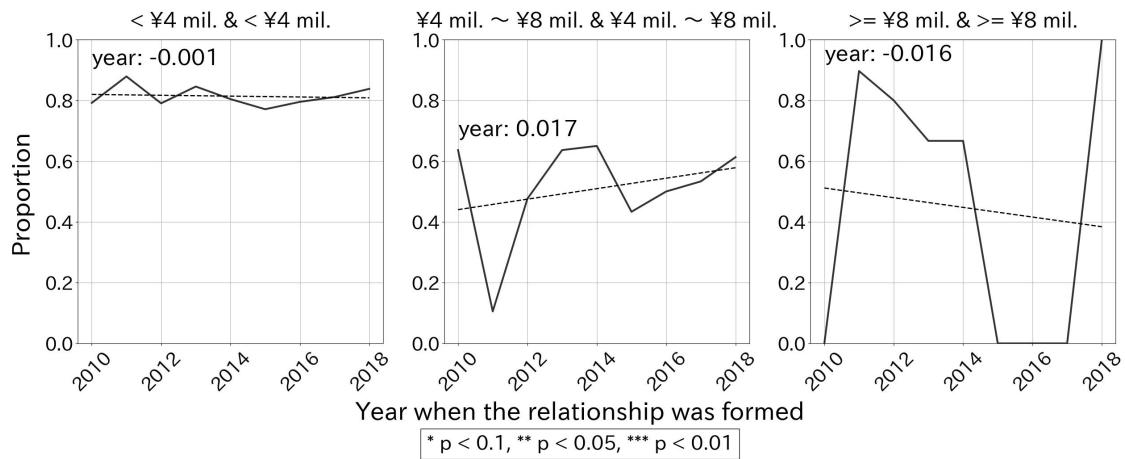


Figure 20: Income Assortativity: Age Group 20-24

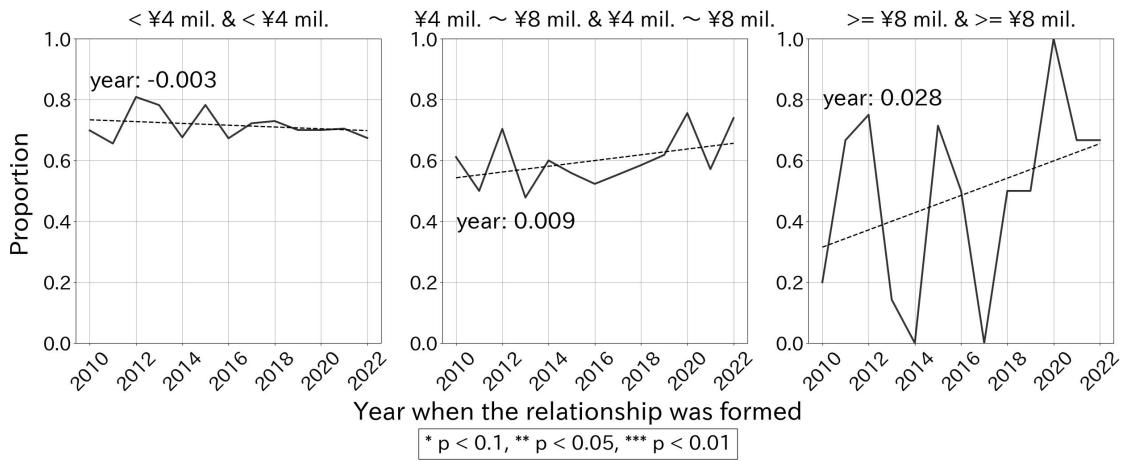


Figure 21: Income Assortativity: Age Group 25-29

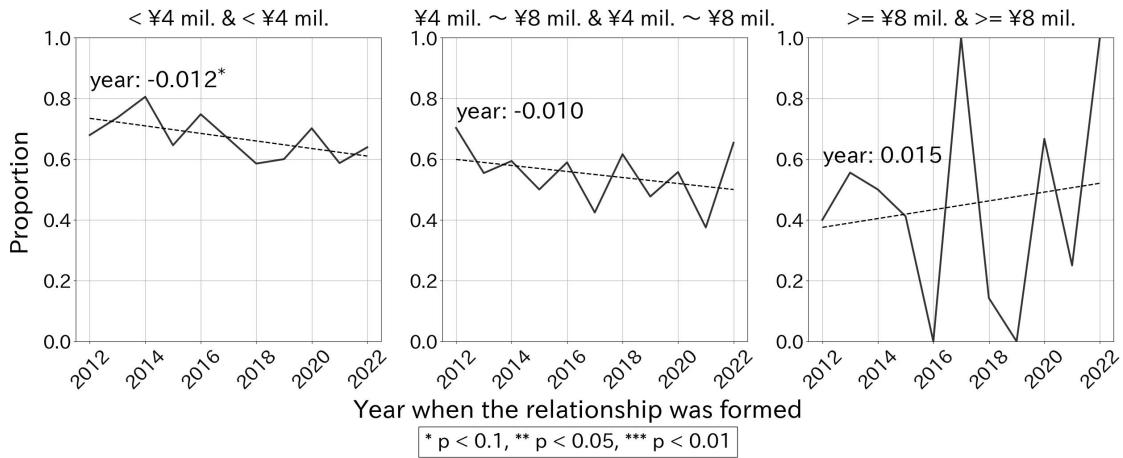


Figure 22: Income Assortativity: Age Group 30-34

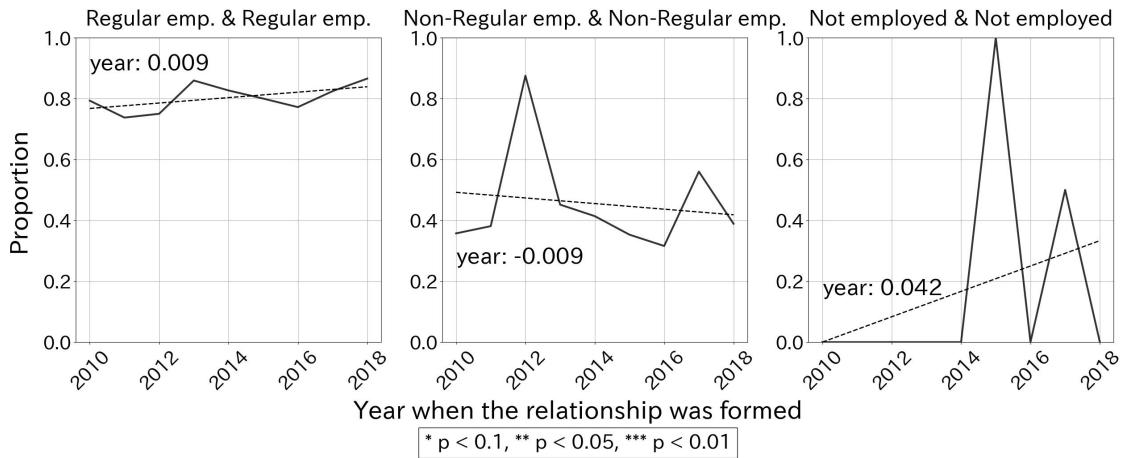


Figure 23: Employment-Type Assortativity: Age Group 20-24

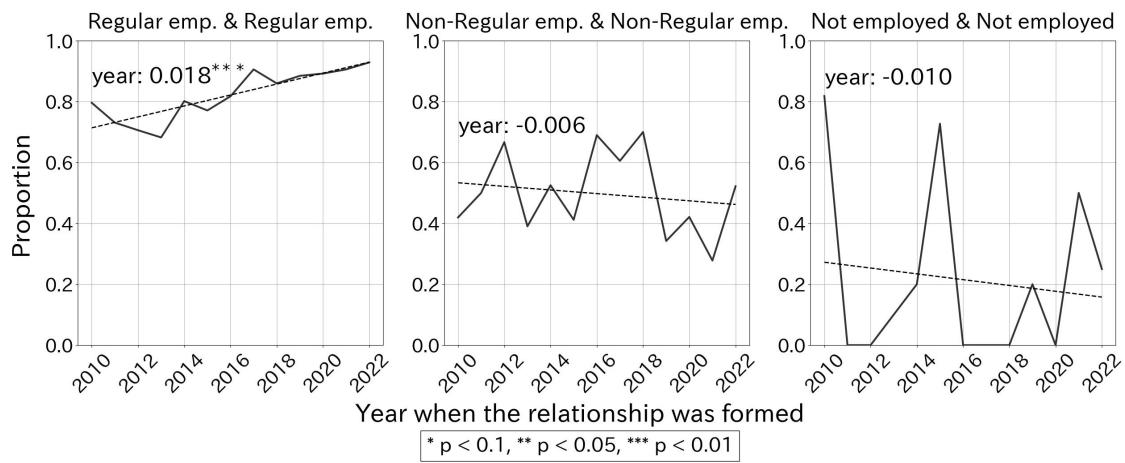


Figure 24: Employment-Type Assortativity: Age Group 25-29

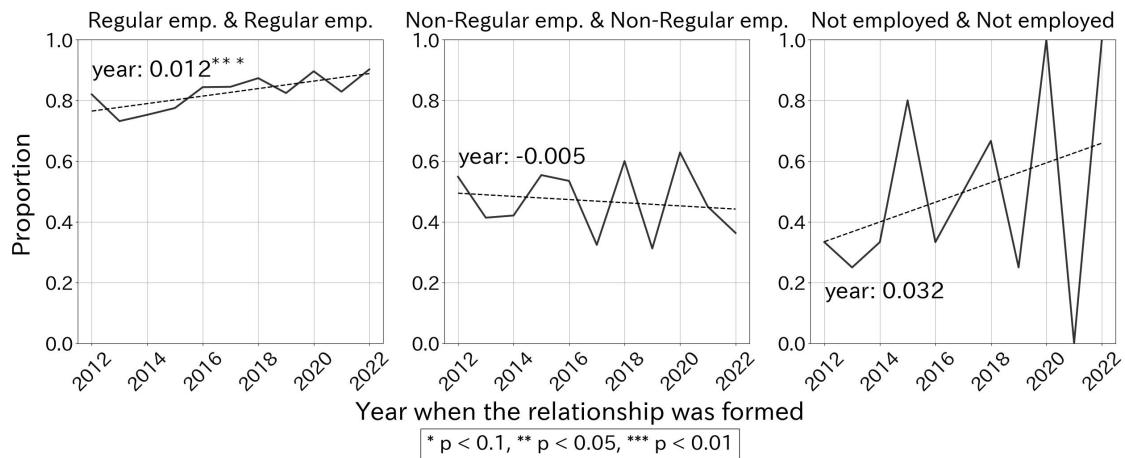


Figure 25: Employment-Type Assortativity: Age Group 30-34

E Impact of the pandemic

Table 2: Effects of the COVID-19 Crisis on Age Assortativity

VARIABLES	25-29	30-34
	→ 25-29	→ 30-34
Covid-20	-0.007 (0.079)	0.039 (0.065)
Covid-21	-0.057 (0.083)	-0.011 (0.070)
Covid-22	0.051 (0.087)	0.022 (0.075)
Year	0.019 ^{**} (0.007)	0.012 (0.008)
N	1230	910

Note: Standard errors in parentheses. ***p<0.01, **p<0.05, *p<0.1

Table 3: Effects of the COVID-19 Crisis on Income Assortativity

VARIABLES	25–29			30–34		
	< ¥4 mil. → < ¥4 mil.	¥4 mil. ~ ¥8 mil. → ¥4 mil. ~ ¥8 mil.	>= ¥8 mil. → >= ¥8 mil.	< ¥4 mil. → < ¥4 mil.	¥4 mil. ~ ¥8 mil. → ¥4 mil. ~ ¥8 mil.	>= ¥8 mil. → >= ¥8 mil.
Covid-20	-0.004 (0.058)	0.070 (0.080)	0.396 (0.232)	0.047 (0.106)	0.090 (0.101)	0.463 (0.301)
Covid-21	-0.026 (0.060)	-0.004 (0.083)	0.212 (0.243)	-0.059 (0.114)	0.015 (0.108)	0.037 (0.322)
Covid-22	-0.037 (0.063)	0.114 (0.088)	0.111 (0.255)	0.094 (0.122)	0.154 (0.116)	0.825* (0.346)
Year	0.000 (0.005)	-0.004 (0.007)	0.017 (0.021)	-0.011 (0.013)	-0.014 (0.012)	-0.038 (0.037)
N	1019	470	46	812	462	37

Note: Standard errors in parentheses. ***p<0.01, **p<0.05, *p<0.1.

Table 4: Effects of the COVID-19 Crisis on Employment-Type Assortativity

VARIABLES	25–29			30–34		
	Regular emp. → Regular emp.	Non-Regular emp. → Non-Regular emp.	Not employed → Not employed	Regular emp. → Regular emp.	Non-Regular emp. → Non-Regular emp.	Not employed → Not employed
Covid-20	-0.050 (0.049)	-0.049 (0.115)	-0.123 (0.344)	-0.002 (0.057)	0.134* (0.063)	0.400 (0.320)
Covid-21	-0.029 (0.051)	-0.150 (0.121)	0.239 (0.361)	-0.038 (0.061)	-0.057 (0.067)	-0.137 (0.343)
Covid-22	-0.045 (0.054)	-0.010 (0.127)	0.184 (0.379)	-0.036 (0.066)	-0.085 (0.072)	0.325 (0.368)
Year	0.021*** (0.004)	0.002 (0.010)	-0.028 (0.031)	0.012 (0.007)	0.007 (0.008)	0.038 (0.039)
N	1257	320	28	1165	309	30

Note: Standard errors in parentheses. ***p<0.01, **p<0.05, *p<0.1.