

How we met: the demography of online and offline partnerships

The rise of the internet has transformed the social world, fundamentally altering people's lives and social interactions (DiMaggio et al 2001). The digital revolution has also transformed how partners and family members interact (Qian and Hu 2023, Tammisalo and Rotkirch 2022). Prior studies have documented how the internet has altered the way people meet romantic partners; in the United States, for example, the percent of all couples who met online was around 5% in 2000 but increased to nearly 40% by 2017 (Rosenfeld et al 2019). Few studies, however, have provided recent estimates of the prevalence of online partnerships, especially comparing across countries. The rapid increase in internet usage raises questions about whether partnerships formed online resemble those formed offline, and whether they have similar rates of marriage and dissolution (Danielsbacka et al 2022).

One of the key debates in prior studies is whether the internet and online dating facilitate committed partnerships or lead to too many choices, thereby eroding commitment (Sironi and Kashyap 2021, Rosenfeld 2012, Rosenfeld 2019). On the one hand, people who use dating websites or apps may be intentionally seeking someone to marry. Many of the early dating sites were directly oriented towards finding a spouse and enabling partnering among people with specific characteristics, for example, homosexuals, specific religious denominations, or the highly educated (Potarca 2012). In the early days of online dating, people with the savvy and resources to navigate online platforms may have been at an advantage in finding a better mate. Now, however, online dating has become ubiquitous, accepted, and less reliant on technological proficiency. By allowing individuals to filter out unsuitable matches and avoid unwanted advances, online dating sites could be seen as a more efficient way of meeting a potential marriage partner (Rosenfeld 2019). Thus, online dating sites could enable a better matching process, facilitating marriage prospects (Potarca 2021). Because these relationships are better matches, they should also result in a lower likelihood of separation.

Conversely, those who date and find partners online may still be less conventional and more willing to try new experiences. Like the forerunners of the Second Demographic Transition (Lesthaeghe 2014), online daters may be more likely to buck established social norms and adopt new family formation behaviors. People who use non-traditional methods of finding a partner may also be more open to long-term cohabitation and dissolving dysfunctional or substandard relationships. Furthermore, people who date online may find themselves with so many choices, they are no longer satisfied with any choice they make, as argued by "Choice Overload" theory (Rosenfeld 2017, Turkle 2015). Some have argued that the abundance of potential new romantic partners has weakened commitment to current partners, as individuals continue to wonder if they can find someone better (Tukle 2015). As a result, partners who meet online may be slower to commit through marriage and more likely to separate.

In this study, we use Generations and Gender Surveys conducted from 2020-2023 to examine online partnership formation in the UK, Czechia, Estonia, and Norway. We will include other countries as the GGS data becomes available, e.g. Austria, Finland, France, Germany, the Netherlands, and Sweden. Retrospective partnership histories, which ask

respondents how they met their first co-residential partners, allow us to compare the increase in online partnership formation across countries and over time and examine the social pattern of those who meet their first partners online. Using competing risk hazard models, we analyze the risk of first marriage and dissolution, controlling for a set of standard characteristics. We also examine whether the association between meeting online and partnership outcome changes over time, from the 1990s when online dating first became available to the 2020s.

This study contributes to the understanding of family formation in the following ways. First, by comparing trends in online co-residential partnerships across European countries, we can see to what extent meeting online is replacing other ways of meeting a partner. Second, we investigate whether meeting a partner online is consistently selective of certain socio-economic characteristics, or whether online partnerships have become less selective over time as more people use the internet to find partners. Third, focusing on partnership outcomes provides insights into the nature of partnerships formed online, whether they are just as committed as those offline or instead more transient. Finally, because our data has been collected since 2020, we capture partnerships formed recently, when online dating has become popular. The timing of the data collection allows us to examine whether the nature of online partnerships has changed over time.

Data

We used the Harmonized Histories which standardized partnership histories from Generations and Gender Surveys Round II. We selected people who had ever been in a co-residential partnership (either cohabiting or married) and who answered questions about how they met their first partner; information on all dating relationships (i.e. Living Apart Together relationships) is not available for previous partnerships. We define online partnerships as those who reported meeting their first partner through online dating.

Table 1. Survey years and sample sizes

Generations and Gender Survey	Analytic sample size
United Kingdom 2022-23	4,604
Norway 2020	3,369
Estonia 2021-222	5,955
Czech Republic 2020-22	3,401

Methods

First, we show the increase in the percent of couples who met online, for those who formed partnerships between 1990 and the latest date available in each country. Next, we use logistic regression models to show the characteristics for each country associated with meeting a partner online. Finally, we apply a discrete time competing risks hazard models to examine whether cohabiting couples who met through online dating are more or less likely to marry or separate within 10 years, with the reference outcome “continue cohabiting.” Direct marriages are included and categorized as transitioning to marriage in the first month.

To investigate change over time, we also test for interaction between the year of partnership formation and online dating. For all models, we control for age, sex, education, religiosity, migration background, and whether respondents grew up in a two parent household.

Preliminary Results

Initial findings show that meeting through online dating as a share of how people meet their first co-residential partners has increased across countries (Figure 1). For the remainder of findings, we show results from the UK only. Logit model outcomes show some selection into meeting online, with medium and highly educated people, and less religious people more likely to meet online, as well as those who formed their first partnership at older ages and after 2010 (Figure 2).

Figure 1. Growth of first partnerships formed from online dating by country and year

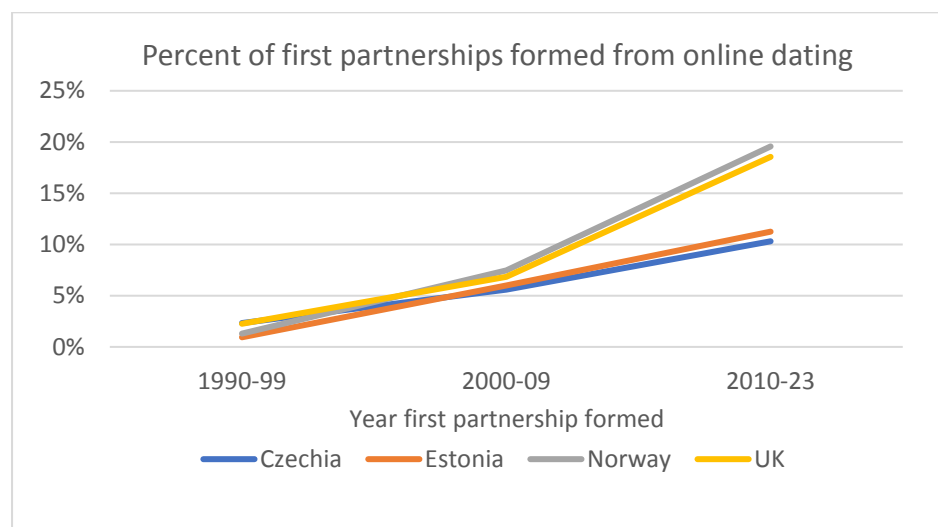
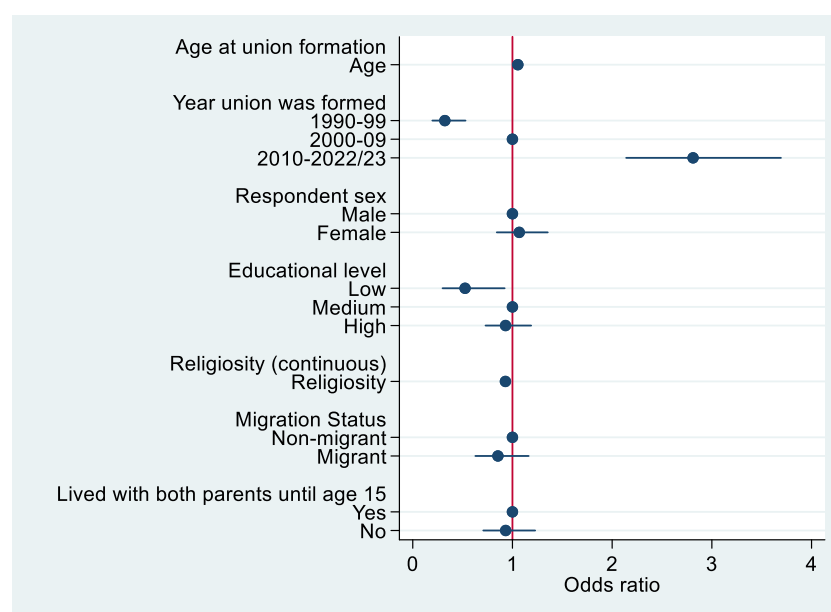
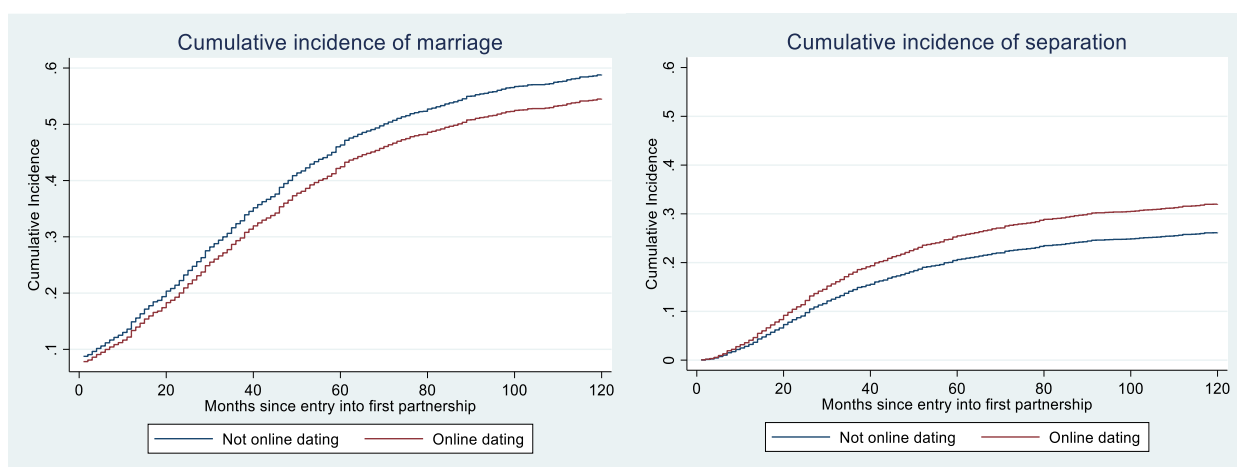


Figure 2. Coefficient plot from logit model outcomes, showing odds ratios of meeting through online dating vs. meeting any other way



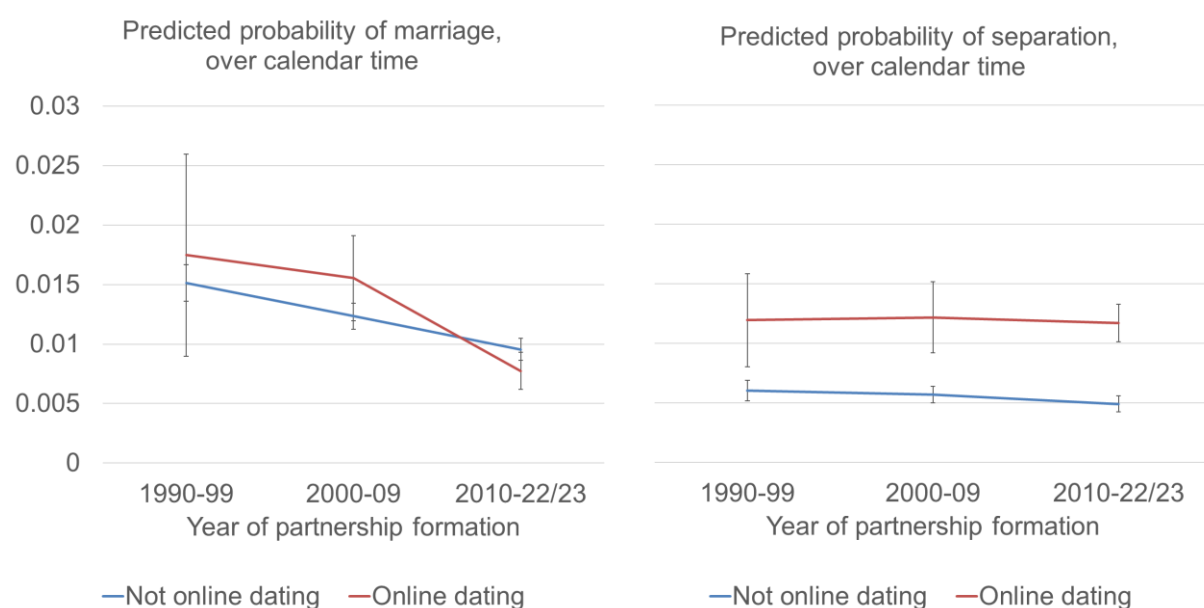
Competing risks hazard models (Figure 3) demonstrate no difference in marriage risks for those who met online dating or in other ways. However, separation risks were significantly higher for online daters; online daters were 27% more likely to separate (vs. remain in cohabitation) compared to those who met in other ways. When the interaction variable (between meeting online and year of partnership formation) was included, we found that over time, the association between online dating and marriage reverses, with online dating eventually associated with a lower likelihood of marriage (Figure 4). Those who met their first partner through online dating between 2010-22/23, were 36% less likely to marry than those who did not meet their first partner through online dating in 2000-09.

Figure 3. Competing risks hazard model of marriage and separation, by how respondents met **



** all control variables included

Figure 4. Predicted probabilities based on competing risks hazard model of marriage and separation, including interaction between year of partnership formation and meeting online



** all control variables included

References

- Danielsbacka, M., Tanskanen, A. O., Billari, F. C. (2022). Meeting online and family-related outcomes: Evidence from three German cohorts. *Journal of Family Studies* 28(4).
- DiMaggio, P., Hargittai, E., Neuman, R. W., Robinson, J. P. (2001) Social Implications of the Internet. *Annual Review of Sociology*. 27.
- Lesthaeghe, R. (2014). The second demographic transition: a concise overview of its development. *Proceedings of the National Academy of Sciences of the United States of America*. 111(51): 18112–18115.
- Potarca, G. (2017) Does the internet affect assortative mating? Evidence from the U.S. and Germany. *Social Science Research*. 61:278-297.
- Potarca, Gina. (2021). Online Dating Is Shifting Educational Inequalities in Marriage Formation in Germany. *Demography*. 58(5): 1977-2007.
- Potarca, G., Mills, M. (2012). Racial Homophily and Exclusion in Online Dating Preferences: A Cross-National Comparison. European Population Conference, June 13 - 16 2012, Stockholm, Sweden.
- Qian, Y., & Hu, Y. (2024). How couples meet and assortative mating in Canada. *Journal of Marriage and Family*, 1–16. <https://doi.org/10.1111/jomf.12967>
- Qian, Y., & Hu, Y. (2024). The digitalization of family life: A multilevel conceptual framework. *Journal of Marriage and Family*.
- Rosenfeld, M. J., Thomas, R. J. (2012). Searching for a Mate: The Rise of the Internet as a Social Intermediary. *American Sociological Review*. 77(4).
- Rosenfeld, M. J., Thomas, R. J., & Hausen, S. (2019). Disintermediating your friends: How online dating in the United States displaces other ways of meeting. *Proceedings of the National Academy of Sciences of the United States of America*, 116(36), 17753–17758.
- Sironi, M., Kashyap, R. (2021). Internet access and partnership formation in the United States. *Population Studies* 76(3)427-445.
- Tammisalo, K., & Rotkirch, A. (2022). Effects of information and communication technology on the quality of family relationships: A systematic review. *Journal of social and personal relationships*, 39(9), 2724-2765.
- Turkle, Sherry. (2015). *Reclaiming Conversation: The Power of Talk in a Digital Age*. Penguin Publishing Company.