How couples meet and assortative mating in Canada

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Abstract

Objective: This study examines, for the first time in Canada, the relationship between how different-sex couples meet and assortative mating on education, race, nativity, and age.

Background: Extending research on how the likelihood of heterogamy differed between offline and online dating, this study disentangles the implications of institutional and third-person influences from those of online dating for configuring the patterns of heterogamy and gender asymmetry in assortative mating.

Method: Data from a 2018 national survey are analyzed using (multinomial) logit models.

Results: Educational heterogamy and nativity heterogamy are higher, but age heterogamy appears lower, in online than offline dating. Next, specific channels of offline dating – formal institutions, social ties, and other channels – are distinguished and compared with online dating. Online dating tends to entail higher educational and nativity heterogamy (vs. meeting through formal institutions), higher racial and nativity heterogamy but lower age heterogamy (vs. meeting through social ties), and higher educational heterogamy (vs. meeting through other offline channels). Further considering gender asymmetry shows that online dating is associated with higher educational hypergyny (more-educated man, less-educated woman) than meeting through other offline channels; higher nativity hypogyny (immigrant man, native-born woman) than meeting offline (overall, formal institutions, social ties); and lower age hypergyny (older man, younger woman) than meeting offline through social ties.

Conclusion: The findings help untangle the roles of institutional, social, and digital forces in shaping assortative mating. They illustrate the importance of leveraging theoretically-informed comparisons to understand how online and offline dating configures assortative mating and its gender-asymmetric patterns.

Keywords: Canadian families, Dating, Family formation, Gender, Mate selection

INTRODUCTION

Assortative mating – the non-random sorting of individuals into couple relationships – has been researched widely. The degree to which people form intimate relationships outside their own groups not only indicates the rigidity of group boundaries but also shapes the (re)production of social inequality (Kalmijn, 1998; Schwartz, 2013). Extensive research has shown that individuals tend to partner with someone sharing similar sociodemographic characteristics, such as education, race/ethnicity, nativity status, and age (for reviews, see Kalmijn, 1998; Lichter & Qian, 2019; Schwartz, 2013). In recent decades, the rise of the internet and mobile phones has transformed how people search for romantic partners (Bergström, 2022; Rosenfeld & Thomas, 2012). Online dating (e.g., through dating sites/apps, online chatrooms, social networking sites) has become one of the most common ways couples meet (Potarca, 2020; Rosenfeld et al., 2019; Thomas, 2020). Against this backdrop, it is important to examine the role of online dating in assortative mating.

Views on the implications of online dating for assortative mating follow two contending theoretical perspectives. The first posits that online dating would increase inter-group partnering. Before the internet, individuals tended to form intimate relationships with people to whom they were already connected through, for example, school, work, or family and friends; and the internet drastically expands the dating pool by allowing people to meet and form relationships with complete strangers (Rosenfeld & Thomas, 2012). Despite diverse online venues, online dating in general has made partner search "a private matter" (Bergström, 2022, p. 6). By reducing the intermediary role of formal institutions and preexisting social ties in mate selection, online dating is expected to facilitate contact and relationship formation between people of different backgrounds (Potarca, 2020; Rosenfeld et al., 2019; Schwartz, 2013). In contrast, the second perspective predicts that online dating would reinforce in-group partnering and heighten inter-group boundaries. Online dating

services make potential partners' sociodemographic characteristics readily available for users to search and filter, which facilitates partner selection based on preconceived criteria (Robinson, 2015; Skopek et al., 2011). As online dating reproduces preexisting social hierarchies (Cai & Qian, 2023; Curington et al., 2021; Lin & Lundquist, 2013), it may lead to assortative mating patterns that are similar to, if not more homogamous than, those resulting from offline dating.

These contending perspectives have been tested in an emerging body of research, which yielded mixed findings. In several Western contexts including Australia, Germany, Spain, Switzerland, the United Kingdom, and the United States, educational heterogamy was more likely among couples who met online rather than offline, but the opposite pattern was found in South Korea (Dutton et al., 2009; Lee, 2016; Potarca, 2017, 2020; Thomas, 2020). In Germany, the United Kingdom, and the United States, racial-ethnic exogamy was more likely among couples who met online than those who met through offline channels, in particular through the introduction of family or friends (Lampard, 2020; Potarca, 2017; Thomas, 2020). Inter-nativity partnering was only examined in a Swiss study: Compared with couples who met offline, those who met online were more likely to involve a Swiss native and an immigrant (Potarca, 2020). For age assortative mating, compared with couples who met offline, those who met online were less homogamous in Australia and Spain, but more homogamous in South Korea, Switzerland, and the United States, with mixed evidence reported in the United Kingdom (Dutton et al., 2009; Lampard, 2020; Lee, 2016; Potarca, 2020; Thomas, 2020). Together, these existing studies show that the role of online dating in shaping assortative mating patterns may vary across the characteristics of education, race, nativity, and age, as well as across social contexts. Thus, they highlight the need to assess assortative mating on diverse characteristics and extend research into understudied contexts.

Building on the above theoretical perspectives and going beyond existing empirical research, our study uses data from a 2018 national survey to examine, for the first time in Canada, the associations between how different-sex couples meet and assortative mating. We consider assortative mating on four key characteristics that are often examined in existing research – education, race, nativity, and age – such that our evidence can be compared with that from other countries (Dutton et al., 2009; Lampard, 2020; Potarca, 2017, 2020; Thomas, 2020). Our study makes several distinctive contributions to the literature.

First, this study makes theoretically-informed distinctions between different channels of offline dating to disentangle the implications of institutional and third-person influences from those of online dating for shaping assortative mating. Most research compared offline dating in general with online dating (Dutton et al., 2009; Lee, 2016; Potarca, 2020; Thomas, 2020). Yet, theories of mate selection maintain that key channels of offline dating, namely, formal institutions and preexisting social networks, promote in-group partnering through different mechanisms (Kalmijn, 1998). Formal institutions, such as schools, workplaces, and religious venues, though not designed for brokering partnership formation, provide structured opportunities for routine interactions among people who are often similar in various characteristics (Kalmijn & Flap, 2001; Mare, 1991; McClendon et al., 2014). Relationships formed through institutional brokerage, therefore, represent a by-product of the structural opportunities or constraints of meeting afforded by these institutions. In comparison, informal social ties that are often embedded in homophilous networks broker the formation of homogamous relationships through the "triadic closure" mechanism (Opsahl, 2013). In this mechanism, personal intermediaries are not part of the intimate relationship but they mediate who partners with whom by providing person-to-person introductions (Kalmijn, 1998; Rosenfeld et al., 2019). Departing from these offline mechanisms, online dating is expected to promote inter-group partnering because it affords individuals greater autonomy in mate

selection free from both structural constraints imposed by formal institutions and third-person intervention within personal networks (Bergström, 2022; Rosenfeld & Thomas, 2012). As some people may meet their partner offline without institutional or personal intermediaries, comparing this channel of offline dating with online dating would shed light on the role of digital forces in configuring assortative mating. Recognizing these theoretical nuances, our study compares assortative mating patterns across couples who met online, those who met offline through formal institutions, those who met offline through social ties, and those who met offline without formal institutions or social ties as intermediaries.

Second, going beyond existing focus on the dichotomy of homogamy vs. heterogamy, we systematically investigate gender asymmetry in assortative mating and its variation across different ways couples meet. Heterogamy encompasses two distinct types of pairings: (1) traditional hypergyny where women are paired with men of higher status than themselves; and (2) status-reversal relationships, termed hypogyny, in which women are paired with men of lower status than themselves (Dickemann, 1979). With the rise of women in educational and economic domains, hypogynous relationships have increased in many countries – a shift that has the potential to challenge traditional male dominance in families and advance gender equality in society (Hu & Qian, 2023; Van Bavel et al., 2018). Although evidence shows that heterogamy on characteristics such as education is more likely to occur in online than in offline dating (e.g., Dutton et al., 2009; Thomas, 2020), little is known about whether the heightened likelihood of heterogamy in online dating is driven by hypergynous or hypogynous relationships. Answers to this question are key to illuminating the course of the gender revolution in the digital era, given that online dating has displaced traditional channels to become one of the most common ways different-sex couples meet (Rosenfeld et al., 2019).

Third, our study focuses on an understudied context, Canada. The internet penetration rate is very high in Canada. As of 2021, 93% of residents in Canada used the internet

(including through smartphones), which was comparable to the corresponding rates in countries such as Germany (91%), the United States (92%), and the United Kingdom (97%) (International Telecommunication Union, 2023). In recent decades, similar to many other Western countries (Y. Qian, 2017; Van Bavel et al., 2018), the gender gap in education has reversed from favoring men to favoring women in Canada, and it has become more common for women to marry down rather than up in education (Guppy & Luongo, 2015; Hou & Myles, 2008). Meanwhile, Canada is an immigrant-receiving country, with immigrants accounting for about 25% of the population according to the 2021 Census (Statistics Canada, 2023). The majority of immigrants to Canada are non-White persons and about half were from Asia (Statistics Canada, 2017). Immigrants are more likely than native-born Canadians to use online dating, possibly because moving to a new country presents challenges to meeting romantic partners through traditional offline channels (Y. Qian, 2022). The prevalence of inter-nativity relationships is a salient indicator of the social distance and boundary-crossing between immigrants and native-born people (Z. Qian & Lichter, 2007). Thus, examining whether online dating facilitates relationship formation across the nativity boundary will shed light on mate selection and inter-group dynamics in an era when global mobilities and digitalization evolve hand in hand (Cabalquinto & Hu, 2023).

METHODS

Data and sample

Our data came from a national phone survey of 1,700 adults in Canada, conducted in 2018 (see also Y. Qian, 2022). The survey used a random-digit-dial sampling method, following the design of a Pew Research Center's (2013) survey of online dating and American life. About 22% of the contacted sample members participated in our survey, and the rate was higher than that for the Pew survey (17%). As part of a larger project comparing romantic relationship formation and dynamics between immigrants and native-born Canadians, our

survey oversampled immigrants, who comprised 45% of the sample. Respondents were asked about their relationship status, how they met their current partner (if partnered) or most recent partner (if unpartnered), and their own and partner's sociodemographic characteristics.

Of the 1,700 respondents, we first excluded 33 respondents who had never been in a romantic relationship (n = 1,667). Because online dating started in the mid-1990s, we limited our sample to the 949 respondents whose current or most recent relationship was formed in 1996 or later (Thomas, 2020). We excluded 103 immigrant respondents who had formed their relationship before moving to Canada because their relationship formation was not affected by the Canadian dating market (n = 846). We then limited our sample to 816 respondents in different-sex relationships because the small number of respondents in same-sex or other forms of relationships did not allow for meaningful analyses of this group. Finally, we deleted 21 respondents with missing data on any of the key predictors or control variables (n = 795). As our dependent variables had varying degrees of missingness, we conducted complete-case analyses for each dependent variable to minimize sample loss (Potarca, 2020; Thomas, 2020). Our final sample sizes for assortative mating on education, race, nativity, and age are 776, 793, 794, and 782, respectively.

Dependent variables

Our dependent variables capture assortative mating on education, race, nativity, and age. In creating the dependent variables, we first recoded the measures of education, race, nativity, and age for respondents and their partners separately. For education, we grouped the highest diploma or degree attained into four levels: high school diploma or less, college diploma below the bachelor's level, bachelor's degree, and advanced degree (Fuller & Hirsh, 2019). For race, we distinguished between White and non-White people, with the latter category including visible minorities and Indigenous persons (Statistics Canada, 2021). For nativity,

we differentiated immigrants from native-born Canadians. Age was calculated as survey year (2018) minus birth year.

For each characteristic, we constructed two sets of dependent variables. First, we created a binary measure to capture inter-group partnering, with 1 indicating that the two partners in a couple differ in a given characteristic (heterogamy) and 0 indicating otherwise (homogamy) (Thomas, 2020). Second, we created a three-category measure to capture gender asymmetry in assortative mating on each characteristic (Y. Qian, 2017). Based on respondents' gender (men vs. women) and the four characteristics of both the respondents and their partners, we captured homogamy in which the two partners are of the same status, hypergyny in which the male partner has a higher status (i.e., more-educated, White, native-born, older), and hypogyny in which the male partner has a lower status (i.e., less-educated, non-White, immigrant, younger) (Van Bavel et al., 2018). For age assortative mating, we followed prior research (Hu & Qian, 2019; Potarca, 2020) and measured the two partners' age difference being larger than 2 years as age heterogamy. Specifically, age hypergyny refers to the male partner being 3 or more years older than the female partner, and age hypogyny refers to the male partner being 3 or more years younger than the female partner. Notably, all of our dependent variables were constructed as couple-level/relationship-level measures and will be interpreted as such in our results section below.

Key predictors

Respondents were asked to indicate all applicable settings in which they met their partner: (1) work, (2) school, (3) church or other religious venue, (4) the internet, (5) newspaper advertisements, (6) vacation or business trip, (7) bar, night club, or dance club, (8) social organization (e.g., health club, gym, volunteer-service activity), (9) private party, and (10) other. This question and the response categories were adapted from a U.S. survey (Rosenfeld et al., 2018) and have been used in existing research (Potarca, 2017). Respondents who chose

"the internet" were classified as "online dating" (or interchangeably "meeting online") and those who did not were coded as "offline dating" (or interchangeably "meeting offline"). Only three respondents chose both "the internet" and an additional meeting setting (two chose "bar, night club, or dance club" and the third chose "other"); we coded them into the "online dating" category, but excluding them did not change our results. In the "online dating" category, 68% of the respondents met their partner via dating sites or apps and 32% via other online venues that include social networking sites, internet chatrooms, internet classified advertising sites, and meeting elsewhere online. Thus, in Canada, online dating mostly took place on dating sites or apps (68%), which resembled patterns in other Western countries such as the United States (65%) and Switzerland (69%) (Potarca, 2020; Thomas, 2020). We were unable to disaggregate the "online dating" category due to its relatively small size (n = 139), but prior studies comparing dating sites/apps and other online venues found limited differences in the assortative mating patterns resulting from the two: Dating sites/apps appeared to promote age homogamy (Thomas, 2020) and educational heterogamy (Potarca, 2020) more than other online venues did.

For respondents who did not report having met their partner through the internet, they were asked to indicate all applicable persons who introduced them to their partner: (1) family, (2) mutual friends or acquaintances, (3) co-workers, (4) classmates, (5) neighbors, (6) introduced self or partner introduced self, and (7) other (Rosenfeld et al., 2018). Based on the measures of meeting settings and personal intermediaries, we coded how couples met into four categories. The first category, "offline, formal institutions," includes respondents who met their partner offline through formal institutions (work, school, church, or other religious venue), regardless of who introduced them to their partner. Although partners who met offline through formal institutions may have formed their relationship through either third-person introduction or self-introduction, our categorization highlights the role of the

institutions in providing the structural opportunity for such introduction to occur in the first place. The second category, "offline, social ties," comprises respondents who met their partner offline outside of formal institutions but through one or more social ties. The third category, "offline, other," includes respondents who met their partner offline through self-introduction without formal institutions or social ties as intermediaries. The final category, "online," includes respondents who met their partner through the internet.

Control variables

Following prior research (Potarca, 2020; Thomas, 2020), we controlled for a range of variables that may confound the associations between how couples met and assortative mating outcomes. We included respondents' gender (woman, man) and controlled for the four characteristics constitutive of the assortative mating dimensions under consideration (Thomas, 2020), namely, education (high school diploma or less, college diploma, bachelor's degree, advanced degree), race (White, non-White), nativity (immigrant, Canadian-born), and age (continuous and top-coded at the 99th percentile). We also controlled for whether a respondent had ever been married before entering the relationship under scrutiny because marital history may influence individuals' dating prospects and strategies of partner search (Hu & Qian, 2019; Z. Qian & Lichter, 2018). Moreover, we adjusted for relationship-related variables, including relationship type (marriage, common-law union, other), whether the relationship was ongoing or had ended, length of the relationship, and the year when the relationship started, because previous research found that couples' sorting patterns and chances of meeting online tended to vary with these relationship characteristics (Potarca, 2020; Rosenfeld et al., 2019; Thomas, 2020). Finally, we controlled for geographical characteristics as proxies for one's local dating market (Thomas, 2020), including provinces of residence (a dummy variable for each of the three most populous provinces, Ontario, Quebec, and British Columbia, and a residual category capturing all other provinces due to

small sample sizes) and whether one lived in a large city, a smaller city/town, or a rural area. Table 1 presents the descriptive statistics for the independent and control variables.

Table 1. Descriptive statistics

Variable	Mean (standard deviation) / %
How couples met	
Meeting offline	82.5%
Offline, formal institutions	38.0%
Offline, social ties	29.8%
Offline, other	14.7%
Meeting online	17.5%
Men (reference = women)	43.5%
Education	
High school diploma or less	20.1%
College diploma	28.2%
Bachelor's degree	30.8%
Advanced degree	20.9%
White (reference = non-White)	61.6%
Immigrant (reference = native-born)	50.6%
Age (range: 18–83 years)	41.7 (13.9)
Previously married (reference = no) [a]	19.9%
Relationship type	
Marriage	50.4%
Common-law [b]	12.8%
Other	36.7%
Ongoing relationship (reference = relationship ended)	75.6%
Relationship duration (range: 0–22 years)	7.4 (6.6)
Year the relationship started (range: 1996–2018)	2010.0 (6.7)
Provinces	
Ontario	35.3%
Quebec	13.0%
British Columbia	26.4%
Other	25.3%
Residence location	
Large city	58.0%
Smaller city/town	30.2%
Rural area	11.8%

Note: Based on the sample of 795 respondents before we deleted missing cases for dependent variables.
[a] Previously married means that respondents had been married before entering the reported relationship.
[b] Common-law relationships are legally-recognized cohabiting unions (Laplante & Fostik, 2016).

Analytic strategies

For each characteristic (education, race, nativity, age), we estimated logit regression models predicting the log-odds of heterogamy and multinomial logit regression models predicting the three-category measure of homogamy, hypergyny, and hypogyny. Within each set of models

(logit and multinomial logit), we estimated the coefficients for the two key predictors – the binary and four-category measures of how couples met – in separate models, while adjusting for all control variables. For ease of interpretation, we graph predicted probabilities (Figure 1) and average marginal effects (AME; Figure 2) in the results section, while presenting the full models in the online appendix. The predicted probabilities and AMEs were estimated by holding the control variables at their observed values; such estimations, along with their 95% confidence intervals, were obtained using Stata's *margins* command (Mize, 2019).

Table 2. Percentage (%) distribution of assortative mating

Assortative mating pattern	Education	Race	Nativity	Age [a]
Homogamy: two partners' characteristics are similar	45.4	81.7	73.7	47.7
Heterogamy: two partners' characteristics are different	54.6	18.3	26.3	52.3
Hypergyny: male partner > female partner [b]	23.5	10.6	14.5	42.1
Hypogyny: male partner < female partner [c]	31.2	7.7	11.8	10.2

Note: Sample size = 776 (education), 793 (race), 794 (nativity), and 782 (age).
[a] Age assortative mating is coded as "homogamy" if the age difference between the two partners in a couple is within ±2 years; otherwise, it is coded as "heterogamy."
[b] In hypergyny, the male partner is more-educated, White, native-born, or older, whereas the female partner is less-educated, non-White, immigrant, or younger.
[c] In hypogyny, the male partner is less-educated, non-White, immigrant, or younger, whereas the female partner is more-educated, White, native-born, or older.

RESULTS

Descriptive results

Table 2 shows the patterns of assortative mating on each of the four focal characteristics. In our sample, just below half of the relationships include partners who are similarly educated (45%) or similarly aged (48%); 74% and 82% of the relationships include partners who share the same nativity status and White/non-White race, respectively. When partners differ in education, the woman rather than the man tends to be more-educated (31% vs. 24%, $p_{\text{difference}} < 0.01$), which is consistent with the increasing prevalence of women paired with less-educated men in Canada and many other countries (Hou & Myles, 2008; Van Bavel et al., 2018). By contrast, when two partners differ in the other three characteristics, the man rather than the woman tends to have a higher status. For racial pairing, 11% of the relationships include a White man and a non-White woman, whereas 8% include a non-White man and a

White woman ($p_{difference}$ = 0.056). For nativity pairing, 15% of the relationships are between a native-born man and an immigrant woman, and 12% are between an immigrant man and a native-born woman, but the difference is not statistically significant at the 10% level ($p_{difference}$ = 0.146). For age pairing, 42% of the relationships include an older man and a younger woman, whereas 10% include a younger man and an older woman ($p_{difference}$ < 0.001).

Logit regression results

Next, we present the results from logit regression models predicting the log odds of heterogamy. Figure 1 shows the predicted probabilities of educational, racial, nativity, and age heterogamy, respectively, by how couples met, while holding all control variables at their observed values (see Appendix Table A1 for full models). Specifically, the red and the blue bars depict the probabilities of heterogamy by the dichotomized measure and the four-category measure of how couples met, respectively, with the error bars indicating 95% confidence intervals.

Education. The probability of educational heterogamy is higher in online dating than in offline dating (0.63 vs. 0.53, $p_{difference}$ < 0.05). More specifically, relationships formed online are more likely to be educationally heterogamous than relationships formed offline through formal institutions (0.63 vs. 0.52, $p_{difference}$ < 0.05) and those formed offline without institutional or personal intermediaries (denoted as "offline, other" in the figure) (0.63 vs. 0.47, $p_{difference}$ < 0.05). The probability of educational heterogamy is not statistically different between online dating and offline dating through social ties (0.63 vs. 0.57, $p_{difference}$ = 0.231).

Race. The probability of forming a White–non-White interracial relationship does not differ significantly between online and offline dating (0.20 vs. 0.18, $p_{difference}$ = 0.638). Disaggregating offline dating channels reveals that the probability of interracial pairing in online dating is higher with marginal statistical significance than the corresponding probability in offline dating through social ties (0.20 vs. 0.13, $p_{difference}$ = 0.077), and is not

statistically different when compared with meeting offline through formal institutions (0.20 vs. 0.19, $p_{\text{difference}} = 0.908$) or self-introduction in the absence of institutional and personal intermediaries (0.20 vs. 0.24, $p_{\text{difference}} = 0.419$).

Nativity. Compared with offline dating, online dating is associated with a higher probability of inter-nativity partnering (0.24 vs. 0.36, $p_{\text{difference}} < 0.01$). This difference is driven primarily by the higher level of inter-nativity partnering in online dating, compared with offline dating through formal institutions (0.36 vs. 0.26, $p_{\text{difference}} < 0.05$) or through social ties (0.36 vs. 0.19, $p_{\text{difference}} < 0.001$). By contrast, the difference in the probability of nativity heterogamy between online dating and offline dating without institutional or personal intermediaries is not statistically significant (0.36 vs. 0.30, $p_{\text{difference}} = 0.226$).

Age. Overall, the probability of age heterogamy is marginally lower in online than in offline dating (0.46 vs. 0.54, $p_{\text{difference}} = 0.092$). Comparing online dating with each of the three offline dating channels reveals only one statistically significant difference: Age heterogamy is less likely in online dating than in offline dating through social ties (0.46 vs. 0.61, $p_{\text{difference}} < 0.01$).

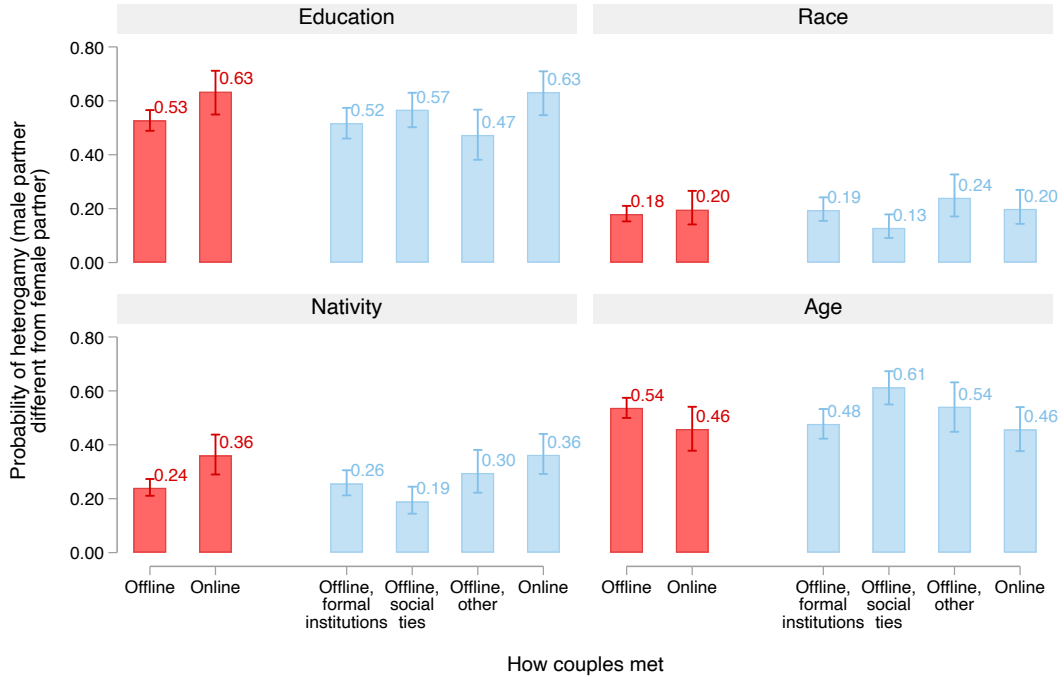

Figure 1. Predicted probability of heterogamy, by how couples met.
Note: See Appendix Table A1 for full models. Error bars indicate 95% confidence intervals.

Multinomial logit regression results

Moving beyond the dichotomy of heterogamy vs. homogamy, we fitted multinomial logit regression models predicting a three-category measure that captures gender asymmetry in assortative mating—hypergyny, hypogyny, and homogamy. To hone in on how specific offline ways of meeting compare with online dating, Figure 2 presents the average marginal effects (AME) of meeting offline (vs. online dating) on the probability of hypergyny (left) and that of hypogyny (right) for each characteristic, while holding all control variables at their observed values (see Appendix Table A2 for full models). In this figure, red dots depict the AMEs of meeting offline (overall) and blue symbols denote the AMEs for each of the three specific offline ways of meeting (formal institutions, social ties, other); and the error bars denote 95% confidence intervals.

The results in this section need to be considered in the context of our relatively small sample. We find several significant offline–online differences in the probability of hypergyny or hypogyny (i.e., significant AMEs), but as we compare the offline–online difference in hypergyny with that in hypogyny, none of the second differences were statistically significant (Mize, 2019). In Appendix Table A3, we present detailed statistics on the predicted probabilities of hypergyny and hypogyny by how couples met, the AMEs of meeting offline, and the tests for second differences.

Education. Results regarding how couples met and gender asymmetry in educational assortative mating are presented in the first row of Figure 2. Since all AMEs are negative, meeting offline (overall and in three specific categories) appears to be associated with lower levels of educational hypergyny (more-educated man, less-educated woman) and hypopyny (less-educated man, more-educated woman), compared with meeting online. Nevertheless, all but one of the AMEs is statistically significant: Compared with online dating, the probability

of educational hypergyny is 0.13 points lower in offline dating without institutional or personal intermediaries, as indicated by an AME of –0.13 ($p < 0.05$).

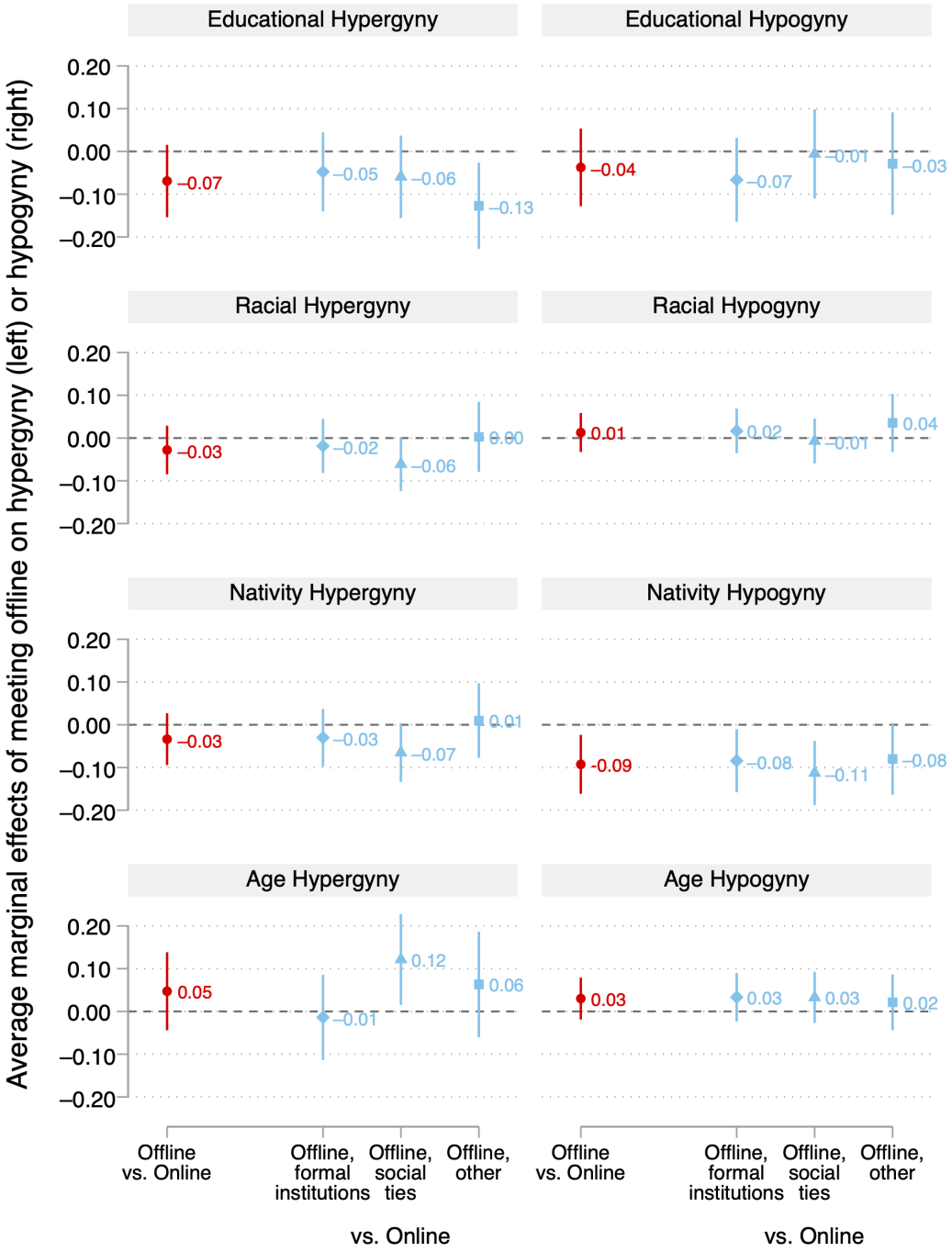

Figure 2. Average marginal effects of meeting offline (overall and in three specific categories) on the probability of hypergyny (left) and the probability of hypogyny (right).
Note: See Appendix Table A2 for full models and Appendix Table A3 for predicted probabilities of hypergyny and hypogyny, as well as tests for second differences.

Race. Considering gender-asymmetric racial pairings in Figure 2 further nuances our understanding of the interracial pairing patterns reported in Figure 1. Recall that in Figure 1,

racial heterogamy is less likely in offline dating through social ties than in online dating. As the second row of Figure 2 shows, this result is driven primarily by the lower probability of racial hypergyny (White man, non-White woman) in offline dating through social ties than in online dating (AME = –0.06, $p = 0.058$).

Nativity. The third row of Figure 2 shows that nativity hypogyny (immigrant man, native-born woman) is less likely in offline than in online dating (AME = –0.09, $p < 0.01$). Disaggregating offline dating channels reveals two statistically significant results: Compared with online dating, the likelihood of nativity hypogyny is lower in offline dating through formal institutions (AME = –0.08, $p < 0.05$) and through social ties (AME = –0.11, $p < 0.01$).

Age. The results for gender asymmetry in age assortative mating shed further light on the finding in Figure 1 that age heterogamy is more likely in offline dating through social ties than in online dating. As the bottom row of Figure 2 shows, this finding is driven by a higher probability of age hypergyny (older man, younger woman) in offline dating through social ties than in online dating (AME = 0.12, $p < 0.05$).

CONCLUSION AND DISCUSSION

With rapid digitalization, the internet has displaced traditional venues (e.g., friends and schools) to become one of the most common channels through which couples meet (Rosenfeld et al., 2019). In online dating, contending forces are at work that may disrupt or reinforce assortative mating patterns observed in offline dating. On the one hand, online dating allows users to access a drastically expanded pool of potential partners whom they are unlikely to encounter in traditional offline dating (Rosenfeld & Thomas, 2012). By displacing the brokerage role of institutional settings and personal intermediaries in relationship formation, online dating may increase the likelihood of heterogamy (Rosenfeld et al., 2019; Schwartz, 2013). On the other hand, assortative mating patterns in online dating may resemble or be even less heterogamous than those in offline dating, as online “search” and

"filter" functions predicated on predefined categories may heighten inter-group differences and reinforce preexisting hierarchies of desirability in dating (Cai & Qian, 2023; Curington et al., 2021; Lin & Lundquist, 2013; Robinson, 2015). Testing these contending perspectives, we examine how online and distinct offline ways of meeting partners relate to assortative mating on diverse characteristics in the understudied context of Canada. Our findings provide new insights into mate selection, as well as changes and continuity in social and gender inequality as partner search increasingly takes place online.

Our results show that online dating is associated with a heightened likelihood of educational heterogamy in Canada – a finding that is consistent with evidence from other Western contexts (Dutton et al., 2009; Potarca, 2017, 2020; Thomas, 2020). Going beyond prior research, our findings show that compared with online dating, the likelihood of educational heterogamy is not significantly different in offline dating through social ties, but is significantly lower in offline dating through formal institutions and other channels without institutional or personal intermediaries. Thus, compared with online dating, it is institutional settings (e.g., schools, work) and individuals' cultural matching (e.g., similar cultural tastes), rather than third-person intervention in offline dating, that seem to reinforce educational homogamy (Bruze, 2011; Kalmijn, 1994; Mare, 1991; McClendon et al., 2014).

Although the binary comparison between homogamy and heterogamy suggests a potential "equalizing effect" of online dating on educational mobility in dating, the results for gender asymmetry caution against an overly optimistic interpretation. When comparing online dating with meeting offline through self-introduction, we find that online dating entails a higher probability of traditional educational hypergyny (more-educated man, less-educated woman), even though both meeting channels are free from institutional and third-person interference. This finding resonates with research showing that women online daters are reluctant to contact less-educated men (Skopek et al., 2011), due to their preference for men's

long-term economic potential, which is often inferred from men's education (Buss & Schmitt, 2019). In this context, online dating may have bolstered women's ability to filter out men who are less educated than themselves. However, possibly due to the limited size of our sample, how online dating relates to educational hypergyny is not found to be statistically different from how it relates to hypogyny. Future studies could leverage larger samples to ascertain whether educational pairings resulting from online dating, in Canada and elsewhere, go against the global decline in educational hypergyny (Van Bavel et al., 2018).

When it comes to racial assortative mating, we have not found a statistically significant difference in the likelihood of interracial partnering between online and offline dating overall. Distinguishing the specific channels of offline dating, however, reveals the role of social ties in reinforcing racial endogamy. Interracial partnering is least likely in offline dating through personal intermediaries. Our gender-asymmetry analysis further shows that the probability of racial hypergyny between a White man and a non-white woman is lower in offline dating through social ties than in online dating. Our findings highlight that widely-observed racial segregation and homophily in preexisting social networks (Creese, 2019; McPherson et al., 2001) play a strong role in brokering intimate relationships between individuals of the same race.

As for nativity, inter-nativity partnering is more likely in online than in offline dating. In line with theories of mate selection that stress the role of formal institutions and social ties in promoting homogamy (Kalmijn, 1998; Kalmijn & Flap, 2001), we find that relationships formed online are more likely to cross the nativity boundary compared with those formed offline through formal institutions or social ties. However, we have not found a statistically significant difference in the likelihood of inter-nativity partnering between online dating and offline dating without institutional or personal intermediaries. Thus, our theoretically-

informed categorization of how couples meet highlights that it is the absence of third-party influence that facilitates partnering across the nativity boundary both online and offline.

Our gender-asymmetry analysis further shows statistically significant online–offline differences in nativity hypogyny (immigrant man, native-born woman). The probability of nativity hypogyny is higher in online dating than in offline dating (overall, through formal institutions, and through social ties). In Canada, immigrant men are less likely than native-born individuals and immigrant women to form a relationship through online dating (Y. Qian, 2022), but immigrant men who successfully do so may have been positively selected on their socioeconomic status and physical attractiveness in the eyes of native-born women. Inter-nativity partnership is a salient indicator of social distance between immigrant and native-born populations (Z. Qian & Lichter, 2007). Thus, the overall higher likelihood of nativity heterogamy and especially hypogyny in online than in offline dating highlights the potential of dating technologies for blurring the nativity boundary.

Finally, age heterogamy is marginally less likely in online than in offline dating, which is consistent with recent evidence from the United States and the United Kingdom (Lampard, 2020; Thomas, 2020). Comparing the three ways of meeting offline, the likelihood of age heterogamy is highest among couples who met offline through social ties. Our gender-asymmetry analysis further indicates that compared with online dating, meeting offline through social ties is associated with a higher likelihood of traditional age hypergyny (older man, younger woman). Insofar as a large age gap confers the older male partner greater power and a dominant position in the relationship (McKenzie, 2021), meeting offline through social ties likely sustains gender inequality in different-sex couples, whereas online dating may help reduce such age-related gender inequality.

Our study has a few limitations. First, our results indicate associations rather than causality. Online dating and offline dating are not necessarily independent. Difficulties in

finding a partner offline may encourage individuals to resort to online dating (Rosenfeld & Thomas, 2012), although this selection is becoming weaker as online dating becomes more widely adopted (Kreager et al., 2014). Meanwhile, mate selection is a two-sided process in which assortative mating outcomes are simultaneously influenced by both individuals' and potential partners' preferences and decisions (Grow et al., 2017). Inferring causality is, therefore, challenging in the absence of data on such two-sided dynamics. Second, our relatively small sample size entails several limitations in our study. For one, our sample distributions across the categories of control variables may be sparse, especially for respondents who met their partners online. The small sample also prevented us from jointly examining assortative mating on multiple characteristics, even though we recognize that mate selection is a multidimensional process in which trade-offs and exchanges may occur across multiple characteristics (Schwartz, 2013). Nevertheless, examining each dimension separately has allowed us to compare our results with similar prior research conducted in other contexts (e.g., Potarca, 2020; Thomas, 2020). Finally, different modes of online dating (e.g., dating sites or apps, social media, online chatrooms) may have different implications for assortative mating (Potarca, 2020), but our relatively small sample of "online daters" prevented us from further distinguishing diverse online venues.

Despite these limitations, our study develops new understandings of the link between how couples meet and assortative mating in several important directions. First, our study provides the first evidence of its kind from Canada. We show the heterogamy-promoting role of online dating in educational and nativity sorting, as in other Western contexts (Dutton et al., 2009; Potarca, 2020; Thomas, 2020). Our study also adds to a mixed body of evidence on the relationship between how couples meet and age pairings (Dutton et al., 2009; Lampard, 2020; Potarca, 2020; Thomas, 2020), lending support to the heterogamy-reducing role of online dating in age assortative mating. Second, going beyond a dichotomy of online vs.

offline dating, our theoretically-informed categorization of distinct offline dating channels illuminates the relative roles of formal institutions and informal social networks in configuring offline–online differences in assortative mating patterns (Kalmijn, 1998; Kalmijn & Flap, 2001). In sum, it is mainly third-person intervention in offline dating that contributes to the offline–online difference in race and age sorting; institutional settings play a more prominent role than social networks in explaining the difference in educational sorting; and for nativity assortative mating, both institutional and personal intermediaries reinforce homogamy in offline dating relative to online dating. Finally, our systematic investigation of gender asymmetry in assortative mating goes beyond the mainstream dichotomy of homogamy vs. heterogamy. Compared with offline dating (either overall or through specific channels), online dating increases educational hypergyny, racial hypergyny, and nativity hypogyny, while lowering age hypergyny. The conclusions we can draw from these findings, however, remain tentative, given that no second difference comparing the online–offline difference in hypergyny with that in hypogyny was statistically significant. Nonetheless, our results still highlight the importance of integrating a gender perspective in unraveling the implications of how couples meet for assortative mating. Taken together, our findings illuminate the roles of the institutional, the social, and the digital in shaping assortative mating in potentially gender-asymmetric ways.

REFERENCES

Bergström, M. (2022). *The new laws of love: Online dating and the privatization of intimacy*. Cambridge, UK: Polity Press.

Bruze, G. (2011). Marriage choices of movie stars: Does spouse's education matter? *Journal of Human Capital*, *5*(1), 1–28.

Buss, D. M., & Schmitt, D. P. (2019). Mate preferences and their behavioral manifestations. *Annual Review of Psychology*, *70*(1), 77–110.

Cabalquinto, E. C. B., & Hu, Y. (2023). The Transnationalisation of Intimacy: Family Relations and Changes in an Age of Global Mobility and Digital Media. In J. L. Waters & B. S. A. Yeoh (Eds.), *Handbook on migration and the family* (pp. 84–100). Edward Elgar Publishing.

Cai, M., & Qian, Y. (2023). Digital Ethnic Enclaves: Mate Preferences and Platform Choices Among Chinese Immigrant Online Daters in Vancouver. *Canadian Review of Sociology, 60*(1), 130–153.

Creese, G. (2019). *Where are you from?: Growing up African-Canadian in Vancouver*. Toronto, ON: University of Toronto Press.

Curington, C. V., Lundquist, J. H., & Lin, K.-H. (2021). *The dating divide: Race and desire in the era of online romance*. Oakland, CA: University of California Press.

Dickemann, M. (1979). The ecology of mating systems in hypergynous dowry societies. *Social Science Information*, *18*(2), 163–195.

Dutton, W. H., Helsper, E. J., Whitty, M. T., Li, N., Buckwalter, J. G., & Lee, E. (2009). The role of the internet in reconfiguring marriages: A cross-national study. *Interpersona: An International Journal on Personal Relationships*, *3*(supp2), 3–18.

Fuller, S., & Hirsh, C. E. (2019). "Family-friendly" jobs and motherhood pay penalties: The impact of flexible work arrangements across the educational spectrum. *Work and Occupations*, *46*(1), 3–44.

Grow, A., Schnor, C., & Van Bavel, J. (2017). The reversal of the gender gap in education and relative divorce risks: A matter of alternatives in partner choice? *Population Studies*, *71*(sup1), 15–34.

Guppy, N., & Luongo, N. (2015). The rise and stall of Canada's gender-equity revolution. *Canadian Review of Sociology*, *52*(3), 241–265.

Hou, F., & Myles, J. (2008). The changing role of education in the marriage market: Assortative marriage in Canada and the United States since the 1970s. *Canadian Journal of Sociology*, *33*(2), 337–366.

Hu, Y., & Qian, Y. (2019). Educational and age assortative mating in China: The importance of marriage order. *Demographic Research*, *41*, 53–82.

Hu, Y., & Qian, Y. (2023). Gender, education expansion and intergenerational educational mobility around the world. *Nature Human Behaviour, 7*(4), 583–595.

International Telecommunication Union. (2023). *Individuals using the internet*. https://datahub.itu.int/data/?e=CAN&c=701&i=11624

Kalmijn, M. (1994). Assortative mating by cultural and economic occupational status. *American Journal of Sociology*, *100*(2), 422–452.

Kalmijn, M. (1998). Intermarriage and homogamy: Causes, patterns, trends. *Annual Review of Sociology*, *24*(24), 395–421.

Kalmijn, M., & Flap, H. (2001). Assortative meeting and mating: Unintended consequences of organized settings for partner choices. *Social Forces*, *79*(4), 1289–1312.

Kreager, D. A., Cavanagh, S. E., Yen, J., & Yu, M. (2014). "Where Have All the Good Men Gone?" Gendered Interactions in Online Dating. *Journal of Marriage and Family*, *76*(2), 387–410.

Lampard, R. (2020). Meeting online or offline? Patterns and trends for co-resident couples in early 21st-century Britain. *Sociological Research Online*, *25*(4), 589–608.

Laplante, B., & Fostik, A. L. (2016). Cohabitation and marriage in Canada. The geography, law and politics of competing views on gender equality. In R. J. Lesthaeghe & A. Esteve (Eds.), *Cohabitation and Marriage in The Americas: Geo-Historical Legacies and New Trends* (pp. 59–100). Springer Open.

Lee, S. (2016). Effect of online dating on assortative mating: Evidence from South Korea. *Journal of Applied Econometrics*, *31*(6), 1120–1139.

Lichter, D. T., & Qian, Z. (2019). The study of assortative mating: Theory, data, and analysis. In R. Schoen (Ed.), *Analytical Family Demography* (pp. 303–337). Springer International Publishing.

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

Mare, R. D. (1991). Five decades of educational assortative mating. *American Sociological Review*, *56*, 15–32.

McClendon, D., Kuo, J. C.-L., & Raley, R. K. (2014). Opportunities to Meet: Occupational Education and Marriage Formation in Young Adulthood. *Demography*, *51*(4), 1319–1344.

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

McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology*, *27*(1), 415–444.

Mize, T. (2019). Best Practices for Estimating, Interpreting, and Presenting Nonlinear Interaction Effects. *Sociological Science*, *6*(4), 81–117.

Opsahl, T. (2013). Triadic closure in two-mode networks: Redefining the global and local clustering coefficients. *Social Networks*, *35*(2), 159–167.

Pew Research Center. (2013). *Online Dating & Relationships*. https://www.pewresearch.org/internet/2013/10/21/online-dating-relationships/

Potarca, G. (2017). Does the internet affect assortative mating? Evidence from the U.S. and Germany. *Social Science Research*, *61*, 278–297.

Potarca, G. (2020). The demography of swiping right. An overview of couples who met through dating apps in Switzerland. *PloS One*, *15*(12), e0243733.

Qian, Y. (2017). Gender Asymmetry in Educational and Income Assortative Marriage. *Journal of Marriage and Family*, *79*(2), 318–336.

Qian, Y. (2022). Disruption or reproduction? Nativity, gender and online dating in Canada. *Internet Research, 32*(4), 1264–1287.

Qian, Z., & Lichter, D. T. (2007). Social boundaries and marital assimilation: Interpreting trends in racial and ethnic intermarriage. *American Sociological Review*, *72*(1), 68–94.

Qian, Z., & Lichter, D. T. (2018). Marriage Markets and Intermarriage: Exchange in First Marriages and Remarriages. *Demography*, *55*(3), 849–875.

Robinson, B. A. (2015). "Personal preference" as the new racism: Gay desire and racial cleansing in cyberspace. *Sociology of Race and Ethnicity*, *1*(2), 317–330.

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), 523–547.

Rosenfeld, M. J., Thomas, R. J., & Falcon, M. (2018). *How Couples Meet and Stay Together (HCMST)*. https://data.stanford.edu/hcmst

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*, *116*(36), 17753–17758.

Schwartz, C. R. (2013). Trends and variation in assortative mating: Causes and consequences. *Annual Review of Sociology*, *39*(1), 451–470.

Skopek, J., Schulz, F., & Blossfeld, H.-P. (2011). Who contacts whom?: Educational homophily in online mate selection. *European Sociological Review*, *27*(2), 180–195.

Statistics Canada. (2017). *Immigration and ethnocultural diversity: Key results from the 2016 Census*. https://www150.statcan.gc.ca/n1/daily-quotidien/171025/dq171025b-eng.htm

Statistics Canada. (2021). *Visible minority of person*. https://www23.statcan.gc.ca/imdb/p3Var.pl?Function=DEC&Id=45152

Statistics Canada. (2023). *Census profile, 2021 census of population*. https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?LANG=E&GENDERlist=1,2,3&STATISTIClist=4&HEADERlist=23&SearchText=Canada&DGUIDlist=2021A000011124

Thomas, R. J. (2020). Online exogamy reconsidered: Estimating the internet's effects on racial, educational, religious, political and age assortative mating. *Social Forces*, *98*(3), 1257–1286.

Van Bavel, J., Schwartz, C. R., & Esteve, A. (2018). The reversal of the gender gap in education and its consequences for family life. *Annual Review of Sociology*, *44*(1), 341–360.

Online Appendix

How couples meet and assortative mating in Canada

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Appendix Table A1. Logit regression models predicting the log-odds of heterogamy

	Education		Race		Nativity		Age	
Variables	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Meeting offline (ref. = meeting online)	–0.455*		–0.120		–0.675**		0.344+	
	(0.205)		(0.250)		(0.221)		(0.206)	
How couples met (ref. = online)								
Offline, formal institutions		–0.487*		–0.032		–0.587*		0.089
		(0.224)		(0.273)		(0.244)		(0.224)
Offline, social ties		–0.279		–0.565+		–1.028***		0.684**
		(0.236)		(0.311)		(0.272)		(0.238)
Offline, other		–0.669*		0.265		–0.359		0.367
		(0.271)		(0.327)		(0.298)		(0.275)
Men (ref. = women)	0.089	0.116	–0.125	–0.177	0.040	0.000	–0.187	–0.164
	(0.150)	(0.152)	(0.197)	(0.200)	(0.179)	(0.181)	(0.153)	(0.155)
Education (ref. = high school diploma or less)								
College diploma	0.581**	0.567*	–0.393	–0.353	0.246	0.286	–0.068	–0.060
	(0.219)	(0.221)	(0.301)	(0.304)	(0.267)	(0.269)	(0.224)	(0.227)
Bachelor's degree	0.425+	0.416+	0.016	0.043	–0.132	–0.111	0.151	0.187
	(0.218)	(0.220)	(0.284)	(0.286)	(0.268)	(0.270)	(0.223)	(0.226)
Advanced degree	0.578*	0.559*	0.008	0.057	–0.128	–0.097	–0.230	–0.213
	(0.241)	(0.242)	(0.312)	(0.316)	(0.294)	(0.296)	(0.246)	(0.248)
White (ref. = non-White)	0.227	0.240	–0.830***	–0.848***	0.574**	0.558*	0.197	0.200
	(0.187)	(0.188)	(0.239)	(0.240)	(0.216)	(0.218)	(0.190)	(0.191)
Immigrant (ref. = native-born)	–0.015	–0.020	–0.471+	–0.465+	1.631***	1.638***	0.536**	0.523*
	(0.195)	(0.195)	(0.258)	(0.259)	(0.237)	(0.237)	(0.202)	(0.203)
Age	0.014+	0.013	0.011	0.013	0.010	0.011	0.050***	0.047***
	(0.008)	(0.008)	(0.010)	(0.011)	(0.009)	(0.010)	(0.009)	(0.009)
Previously married[a] (ref. = no)	0.087	0.123	–0.201	–0.302	–0.301	–0.361	–0.094	–0.048
	(0.245)	(0.246)	(0.336)	(0.339)	(0.301)	(0.302)	(0.246)	(0.248)

Relationship type (ref. = other)								
Marriage	0.089	0.055	–0.308	–0.243	–0.665**	–0.607*	–0.083	–0.126
	(0.201)	(0.202)	(0.265)	(0.268)	(0.236)	(0.237)	(0.206)	(0.208)
Common-law	0.202	0.180	0.328	0.363	0.078	0.113	0.017	–0.003
	(0.272)	(0.273)	(0.352)	(0.354)	(0.311)	(0.312)	(0.278)	(0.281)
Ongoing relationship (ref. = relationship ended)	–0.028	–0.030	–0.852**	–0.845**	–0.232	–0.230	0.170	0.175
	(0.224)	(0.225)	(0.268)	(0.270)	(0.249)	(0.250)	(0.230)	(0.231)
Relationship duration	0.003	0.002	0.104	0.110+	–0.030	–0.024	–0.014	–0.019
	(0.042)	(0.042)	(0.064)	(0.064)	(0.045)	(0.045)	(0.040)	(0.040)
Year the relationship started	0.006	0.005	0.128*	0.133*	–0.034	–0.027	0.024	0.016
	(0.042)	(0.042)	(0.063)	(0.062)	(0.044)	(0.044)	(0.040)	(0.040)
Provinces (ref. = British Columbia)								
Ontario	0.069	0.093	–0.041	–0.096	0.205	0.181	–0.071	–0.022
	(0.192)	(0.193)	(0.239)	(0.241)	(0.229)	(0.230)	(0.197)	(0.199)
Quebec	0.014	0.040	–1.173**	–1.243**	–0.198	–0.236	–0.061	–0.023
	(0.261)	(0.262)	(0.430)	(0.433)	(0.353)	(0.355)	(0.267)	(0.269)
Other	0.237	0.261	–0.271	–0.322	0.138	0.097	–0.036	0.008
	(0.209)	(0.210)	(0.272)	(0.274)	(0.255)	(0.257)	(0.212)	(0.213)
Residence location (ref. = large city)								
Smaller city/town	–0.220	–0.234	–0.447+	–0.431+	–0.282	–0.257	0.309+	0.312+
	(0.182)	(0.183)	(0.253)	(0.255)	(0.224)	(0.226)	(0.185)	(0.186)
Rural area	–0.588*	–0.625*	–0.348	–0.253	–0.470	–0.426	0.248	0.177
	(0.263)	(0.264)	(0.386)	(0.388)	(0.364)	(0.366)	(0.270)	(0.273)
Constant	–13.376	–10.990	–257.993*	–269.037*	66.388	53.209	–50.143	–34.310
	(84.654)	(85.229)	(126.600)	(125.981)	(89.509)	(89.308)	(80.472)	(80.637)
Observations	776	776	793	793	794	794	782	782

Note: Standard errors are in parentheses. ref. = reference category.
[a] Previously married means that respondents had been married before entering the reported relationship.
*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.10$.

Appendix Table A2. Multinomial logit regressions models predicting the relative log-odds of hypergyny and hypogyny vs. homogamy

Education

Variables	Model 1		Model 2	
	Hypergyny (vs. homogamy)	Hypogyny (vs. homogamy)	Hypergyny (vs. homogamy)	Hypogyny (vs. homogamy)
Meeting offline (ref. = meeting online)	–0.542*	–0.384		
	(0.246)	(0.238)		
How couples met (ref. = online)				
Offline, formal institutions			–0.465+	–0.500+
			(0.270)	(0.261)
Offline, social ties			–0.403	–0.185
			(0.288)	(0.271)
Offline, other			–0.960**	–0.457
			(0.346)	(0.311)
Men (ref. = women)	0.213	–0.003	0.252	0.018
	(0.188)	(0.174)	(0.190)	(0.176)
Education (ref. = high school diploma or less)				
College diploma	0.412	0.710**	0.377	0.714**
	(0.275)	(0.262)	(0.277)	(0.263)
Bachelor's degree	0.233	0.570*	0.198	0.581*
	(0.276)	(0.262)	(0.278)	(0.264)
Advanced degree	0.347	0.752**	0.301	0.752**
	(0.304)	(0.284)	(0.306)	(0.285)
White (ref. = non-White)	0.141	0.288	0.158	0.295
	(0.235)	(0.218)	(0.236)	(0.218)
Immigrant (ref. = native-born)	0.130	–0.118	0.129	–0.130
	(0.245)	(0.225)	(0.247)	(0.225)
Age	0.021*	0.009	0.022*	0.007
	(0.010)	(0.010)	(0.010)	(0.010)
Previously married[a] (ref. = no)	0.154	0.042	0.192	0.073
	(0.305)	(0.280)	(0.307)	(0.283)
Relationship type (ref. = other)				
Marriage	0.024	0.141	–0.011	0.107
	(0.251)	(0.233)	(0.252)	(0.235)
Common-law	0.073	0.288	0.052	0.266
	(0.348)	(0.310)	(0.348)	(0.311)
Ongoing relationship (ref. = relationship ended)	–0.265	0.186	–0.275	0.190
	(0.271)	(0.269)	(0.271)	(0.270)
Relationship duration	0.022	–0.015	0.024	–0.019
	(0.054)	(0.048)	(0.055)	(0.048)
Year the relationship started	0.034	–0.018	0.038	–0.023
	(0.054)	(0.048)	(0.054)	(0.048)
Provinces (ref. = British Columbia)				
Ontario	–0.082	0.180	–0.064	0.209
	(0.242)	(0.224)	(0.243)	(0.225)

Quebec	–0.094	0.090	–0.068	0.112
	(0.335)	(0.301)	(0.337)	(0.302)
Other	0.202	0.264	0.229	0.285
	(0.260)	(0.243)	(0.261)	(0.244)
Residence location (ref. = large city)				
Smaller city/town	–0.250	–0.203	–0.278	–0.207
	(0.232)	(0.209)	(0.233)	(0.210)
Rural area	–0.622+	–0.568+	–0.660+	–0.609*
	(0.345)	(0.304)	(0.347)	(0.305)
Constant	–69.525	34.998	–77.273	44.132
	(108.553)	(96.756)	(109.725)	(97.037)
Observations	776	776	776	776

Race

Variables	Model 1		Model 2	
	Hypergyny (vs. homogamy)	Hypogyny (vs. homogamy)	Hypergyny (vs. homogamy)	Hypogyny (vs. homogamy)
Meeting offline (ref. = meeting online)	–0.287	0.156		
	(0.301)	(0.380)		
How couples met (ref. = online)				
Offline, formal institutions			–0.168	0.223
			(0.331)	(0.412)
Offline, social ties			–0.779*	–0.217
			(0.391)	(0.461)
Offline, other			0.087	0.494
			(0.407)	(0.470)
Men (ref. = women)	–0.301	0.128	–0.352	0.079
	(0.254)	(0.278)	(0.257)	(0.282)
Education (ref. = high school diploma or less)				
College diploma	–0.268	–0.506	–0.232	–0.467
	(0.417)	(0.395)	(0.420)	(0.397)
Bachelor's degree	0.392	–0.395	0.409	–0.369
	(0.383)	(0.386)	(0.386)	(0.389)
Advanced degree	0.267	–0.216	0.310	–0.176
	(0.416)	(0.434)	(0.420)	(0.436)
White (ref. = non-White)	–1.193***	–0.342	–1.202***	–0.366
	(0.309)	(0.339)	(0.310)	(0.339)
Immigrant (ref. = native-born)	–0.665*	–0.222	–0.642+	–0.229
	(0.334)	(0.360)	(0.334)	(0.359)
Age	0.020	–0.001	0.022+	0.000
	(0.013)	(0.016)	(0.013)	(0.016)
Previously married[a] (ref. = no)	–0.058	–0.432	–0.179	–0.501
	(0.412)	(0.521)	(0.417)	(0.522)
Relationship type (ref. = other)				
Marriage	–0.103	–0.633	–0.038	–0.569
	(0.332)	(0.397)	(0.334)	(0.399)

Common-law	0.661	–0.237	0.694	–0.193
	(0.435)	(0.539)	(0.438)	(0.540)
Ongoing relationship (ref. = relationship ended)	–0.671*	–1.082**	–0.659+	–1.087**
	(0.341)	(0.371)	(0.343)	(0.374)
Relationship duration	0.006	0.294*	0.013	0.301*
	(0.069)	(0.139)	(0.069)	(0.140)
Year the relationship started	0.066	0.274*	0.072	0.281*
	(0.067)	(0.139)	(0.066)	(0.140)
Provinces (ref. = British Columbia)				
Ontario	0.106	–0.305	0.045	–0.342
	(0.293)	(0.355)	(0.295)	(0.356)
Quebec	–1.401*	–0.970	–1.467*	–1.033+
	(0.590)	(0.595)	(0.593)	(0.599)
Other	–0.561	–0.030	–0.603	–0.083
	(0.374)	(0.364)	(0.376)	(0.368)
Residence location (ref. = large city)				
Smaller city/town	–0.530	–0.352	–0.512	–0.339
	(0.331)	(0.355)	(0.334)	(0.358)
Rural area	–0.279	–0.374	–0.179	–0.293
	(0.507)	(0.546)	(0.511)	(0.548)
Constant	–133.169	–553.627*	–145.425	–568.430*
	(134.159)	(279.728)	(133.156)	(282.158)
Observations	793	793	793	793

Nativity

Variables	Model 1		Model 2	
	Hypergyny (vs. homogamy)	Hypogyny (vs. homogamy)	Hypergyny (vs. homogamy)	Hypogyny (vs. homogamy)
Meeting offline (ref. = meeting online)	–0.480+	–0.940**		
	(0.276)	(0.290)		
How couples met (ref. = online)				
Offline, formal institutions			–0.426	–0.830*
			(0.308)	(0.323)
Offline, social ties			–0.850*	–1.253***
			(0.344)	(0.369)
Offline, other			–0.061	–0.715+
			(0.373)	(0.395)
Men (ref. = women)	–1.104***	1.247***	–1.160***	1.213***
	(0.261)	(0.257)	(0.264)	(0.258)
Education (ref. = high school diploma or less)				
College diploma	0.017	0.538	0.064	0.570
	(0.330)	(0.384)	(0.332)	(0.385)
Bachelor's degree	–0.474	0.299	–0.449	0.306
	(0.334)	(0.385)	(0.336)	(0.387)
Advanced degree	–0.511	0.354	–0.472	0.367
	(0.369)	(0.417)	(0.371)	(0.420)

White (ref. = non-White)	0.625*	0.524+	0.609*	0.504+
	(0.265)	(0.296)	(0.268)	(0.297)
Immigrant (ref. = native-born)	1.752***	1.429***	1.751***	1.443***
	(0.308)	(0.326)	(0.307)	(0.326)
Age	0.017	0.000	0.017	0.001
	(0.012)	(0.014)	(0.012)	(0.014)
Previously married[a] (ref. = no)	–0.410	–0.208	–0.478	–0.262
	(0.382)	(0.423)	(0.384)	(0.425)
Relationship type (ref. = other)				
Marriage	–0.544+	–0.779*	–0.483	–0.730*
	(0.299)	(0.327)	(0.301)	(0.328)
Common-law	0.306	–0.172	0.348	–0.149
	(0.384)	(0.436)	(0.385)	(0.437)
Ongoing relationship (ref. = relationship ended)	–0.301	–0.207	–0.292	–0.210
	(0.308)	(0.342)	(0.310)	(0.342)
Relationship duration	–0.017	–0.032	–0.011	–0.026
	(0.065)	(0.056)	(0.065)	(0.057)
Year the relationship started	0.017	–0.078	0.021	–0.070
	(0.064)	(0.055)	(0.064)	(0.055)
Provinces (ref. = British Columbia)				
Ontario	0.380	–0.026	0.368	–0.055
	(0.290)	(0.311)	(0.292)	(0.312)
Quebec	–0.331	–0.120	–0.371	–0.145
	(0.487)	(0.471)	(0.489)	(0.472)
Other	0.113	0.088	0.088	0.043
	(0.334)	(0.337)	(0.336)	(0.340)
Residence location (ref. = large city)				
Smaller city/town	–0.274	–0.325	–0.247	–0.300
	(0.287)	(0.307)	(0.290)	(0.309)
Rural area	–0.532	–0.451	–0.486	–0.407
	(0.485)	(0.510)	(0.484)	(0.513)
Constant	–37.119	155.038	–45.418	138.807
	(129.171)	(111.241)	(128.332)	(111.507)
Observations	794	794	794	794

Age

Variables	Model 1		Model 2	
	Hypergyny (vs. homogamy)	Hypogyny (vs. homogamy)	Hypergyny (vs. homogamy)	Hypogyny (vs. homogamy)
Meeting online (ref. = meeting offline)	0.297	0.533		
	(0.216)	(0.367)		
How couples met (ref. = online)				
Offline, formal institutions			0.007	0.425
			(0.237)	(0.401)
Offline, social ties			0.657**	0.765+
			(0.248)	(0.420)

Offline, other			0.349	0.458
			(0.288)	(0.467)
Men (ref. = women)	–0.114	–0.522+	–0.090	–0.498+
	(0.160)	(0.270)	(0.162)	(0.273)
Education (ref. = high school diploma or less)				
College diploma	–0.071	–0.083	–0.056	–0.096
	(0.237)	(0.358)	(0.239)	(0.359)
Bachelor's degree	0.230	–0.258	0.276	–0.250
	(0.234)	(0.379)	(0.238)	(0.381)
Advanced degree	–0.179	–0.473	–0.154	–0.481
	(0.258)	(0.413)	(0.262)	(0.415)
White (ref. = non-White)	0.108	0.655+	0.112	0.656+
	(0.199)	(0.354)	(0.200)	(0.355)
Immigrant (ref. = native-born)	0.555**	0.453	0.541*	0.450
	(0.211)	(0.336)	(0.212)	(0.337)
Age	0.046***	0.063***	0.043***	0.061***
	(0.009)	(0.013)	(0.009)	(0.013)
Previously married[a] (ref. = no)	–0.142	0.142	–0.098	0.184
	(0.261)	(0.376)	(0.263)	(0.378)
Relationship type (ref. = other)				
Marriage	0.011	–0.478	–0.033	–0.502
	(0.216)	(0.339)	(0.219)	(0.341)
Common-law	–0.031	0.199	–0.053	0.192
	(0.296)	(0.417)	(0.299)	(0.418)
Ongoing relationship (ref. = relationship ended)	0.137	0.231	0.140	0.233
	(0.241)	(0.395)	(0.242)	(0.395)
Relationship duration	–0.001	–0.060	–0.006	–0.063
	(0.043)	(0.059)	(0.043)	(0.060)
Year the relationship started	0.033	–0.008	0.025	–0.012
	(0.043)	(0.058)	(0.043)	(0.058)
Provinces (ref. = British Columbia)				
Ontario	–0.052	–0.158	0.001	–0.125
	(0.205)	(0.353)	(0.207)	(0.354)
Quebec	–0.170	0.281	–0.131	0.316
	(0.284)	(0.417)	(0.286)	(0.418)
Other	–0.046	–0.026	–0.004	0.009
	(0.221)	(0.376)	(0.223)	(0.377)
Residence location (ref. = large city)				
Smaller city/town	0.455*	–0.390	0.463*	–0.400
	(0.193)	(0.328)	(0.195)	(0.329)
Rural area	0.422	–0.469	0.352	–0.520
	(0.283)	(0.448)	(0.286)	(0.449)
Constant	–68.303	10.823	–52.534	20.643
	(86.540)	(117.075)	(86.822)	(117.577)
Observations	782	782	782	782

Note: Standard errors are in parentheses. ref. = reference category.
[a] Previously married means that respondents had been married before entering the reported relationship.
*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.10$.

Appendix Table A3. Predicted probabilities of hypergyny and hypogyny by how couples met, average marginal effects (AME) of meeting offline, and differences in AMEs of meeting offline between hypergyny and hypogyny (second differences)

	Prob. of hypergyny	AME of meeting offline	*p* for AME	Prob. of hypogyny	AME of meeting offline	*p* for AME	Difference in AMEs of meeting offline, hypergyny vs. hypogyny (second difference)	*p* for second difference
Education								
Offline	0.22	–0.07	0.109	0.31	–0.04	0.421	–0.03	0.676
Online	0.29			0.34				
Offline, formal institutions	0.24	–0.05	0.313	0.28	–0.07	0.185	0.02	0.821
Offline, social ties	0.23	–0.06	0.229	0.34	–0.01	0.917	–0.05	0.539
Offline, other	0.16	–0.13	0.013	0.31	–0.03	0.641	–0.10	0.292
Online	0.29			0.34				
Race								
Offline	0.10	–0.03	0.337	0.08	0.01	0.580	–0.04	0.298
Online	0.13			0.07				
Offline, formal institutions	0.11	–0.02	0.566	0.08	0.02	0.528	–0.04	0.424
Offline, social ties	0.07	–0.06	0.058	0.06	–0.01	0.799	–0.05	0.217
Offline, other	0.13	0.00	0.944	0.10	0.04	0.309	–0.03	0.573
Online	0.13			0.07				
Nativity								
Offline	0.14	–0.03	0.278	0.10	–0.09	0.009	0.06	0.247
Online	0.17			0.19				

Offline, formal institutions	0.14	–0.03	0.383	0.11	–0.08	0.026	0.05	0.331
Offline, social ties	0.11	–0.07	0.063	0.08	–0.11	0.003	0.05	0.396
Offline, other	0.18	0.01	0.824	0.12	–0.08	0.062	0.09	0.178
Online	0.17			0.20				
Age								
Offline	0.43	0.05	0.312	0.11	0.03	0.231	0.02	0.770
Online	0.38			0.08				
Offline, formal institutions	0.37	–0.01	0.784	0.11	0.03	0.250	–0.05	0.467
Offline, social ties	0.50	0.12	0.025	0.11	0.03	0.283	0.09	0.203
Offline, other	0.44	0.06	0.315	0.10	0.02	0.524	0.04	0.592
Online	0.38			0.08				

Note: The results in this table are generated through post-estimation tests (using the *margins* and *test* commands in Stata) after we fit multinomial logit regression models presented in Appendix Table A2. The AMEs and the significance of the AMEs are the results that we report in Figure 2 in the manuscript.