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The Rise of Online Dating and Heterogamous Marriages

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Abstract

We study how online dating shapes intermarriage by race and education in the United States. Using American Community Survey data and a continuous-treatment two-way fixed-effects (TWFE) design, we estimate sizable TWFE coefficients linking platform exposure to interracial marriage that vary across platforms, with weaker estimates for educational homogamy. To probe mechanisms, we surveyed retrospective dating histories, partner preferences, and online dating behavior. Individual fixed-effects panel regressions show that effects of meeting a partner online vary with users' preferences and filter usage: those with strong same-race preferences use a race filter to meet same-race partners. Thus, platform features and user preferences jointly shape dating patterns.

JEL Classification : J11, J12, J15

Keywords: Online Dating, Assortative Mating, Racial Homogamy, Interracial Marriage

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1 Introduction

Online dating has become a popular way for young people to meet and date. Evidence from the sociology literature indicates that meeting online has been the most common way to meet a partner in the United States since 2013, replacing introductions through family or friends and encounters at churches or schools (Rosenfeld et al., 2019). Online dating platforms have substantially changed the way people search for potential partners. On one hand, they broaden individuals' dating networks and enable connections beyond their traditional social circles. On the other hand, some dating platforms facilitate screening potential matches based on preferred characteristics, such as race or education, which may increase the likelihood of homogamous marriages among people with strong preferences for similarity.

In this paper, we study how online dating contributes to heterogamous (i.e., mixed) marriages in the United States. Compared to the previous literature, we emphasize the differentiated nature of online dating platforms and the possibility that users sort into different platforms based on their preferences. Online dating platforms are highly differentiated in their design and features. For example, Tinder does not allow detailed filters for characteristics like race, or education to screen out matches. It only allows basic ones, such as distance, and gender/sexual orientation. As a result, Tinder users must swipe a large number of profiles before finding a preferred match, a process that can be time-consuming. In contrast, Hinge, which markets itself as an "anti-Tinder" platform and is known for prioritizing serious relationships over casual encounters[1], allows detailed filter functions over many characteristics, including race, education, age, height, and religion. Therefore, Hinge users can save search time by targeting profiles that match their preferences. The effect of online dating platforms on mating patterns may also vary across platforms for reasons unrelated to platform features. For example, some dating platforms have much bigger user pools than others; Tinder, for instance, has been the most popular online dating platform in the United States (McClain and Gelles-Watnick, 2023). Even without filter functions, users may expect a higher chance of meeting a preferred partner on Tinder simply due to its scale, provided they invest sufficient search effort. Moreover, Tinder's popularity may attract a particularly diverse user base, thereby increasing exposure to profiles from various backgrounds.

To understand the distinctive role of these online dating features in sorting and marriage patterns, we draw on two complementary datasets. The first combines the American Community Survey (ACS) with state-by-year online dating popularity indices that we construct from search-volume data in Google Trends and the Mangools database. The ACS provides a large, nationally representative sample of U.S. adults with detailed demographic and marriage information, while

[1] https://www.businessofapps.com/data/hinge-statistics/ [Accessed 2025/09/05]

Google Trends and Mangools jointly provide state-by-year search volumes for each platform's name, which we aggregate into platform-specific popularity indices.

We interpret our popularity indices as measures of *local salience*—the degree to which a platform captures public attention and consideration in a given state-year—rather than as direct measures of platform usage.[2] Salience and usage are distinct constructs but plausibly related: states where a platform is more salient should also exhibit more platform-related behavior. Consistent with this, a growing literature documents that Google search volumes are informative predictors of contemporaneous economic and social behavior (Goel et al., 2010; Choi and Varian, 2012; Da et al., 2011), and Jung and Lusher (2026, Figure 2) shows that state-level Tinder search intensity in 2013 is positively correlated with state-level dating-app expenditures in 2024 reported by Laws (2024). This evidence supports interpreting variation in our search-based salience measure as reflecting meaningful variation in platform engagement, even though absolute search volumes do not directly correspond to usage levels.

For each platform, we observe substantial, non-monotonic, and sudden shifts in local popularity that cannot be attributed to long-term demographic trends likely to influence partner preferences. Instead, the fluctuations appear to be driven by platform-specific launch marketing, with later dynamics shaped by network effects and competition. We leverage these sharp shifts as the key source of variation in our reduced-form analysis.

We employ a continuous-treatment panel design to examine how the rising local popularity of online dating platforms affects marriage patterns. As baseline estimates, we report the conventional continuous-treatment two-way fixed-effects (TWFE) coefficient. Building on Callaway et al. (2025)'s critique that the TWFE estimand is generally not an easily interpretable causal parameter under treatment-effect heterogeneity, we conduct a robustness analysis that allows for a flexible dose-response. Following Callaway et al. (2025), we use "dose" to refer to the value of the continuous treatment—here, the local popularity of a given dating platform—and "dose-response" to refer to how the outcome varies with the dose. The TWFE coefficient implicitly assumes a linear dose-response: the marginal effect of platform popularity is constant across all dose levels. To assess this assumption, we (i) estimate a quartic polynomial in the dose and test whether the linear specification is rejected, and (ii) when linearity is rejected, report the average marginal effect from the polynomial as a parametric summary of the dose-response, analogous to the average causal response parameter $ACRT^{\text{glob}} \equiv E[\partial ATT(d)/\partial d \mid D > 0]$ in Callaway et al. (2025).[3]

[2] Platform-level usage statistics at the U.S. state-year level are proprietary and not publicly available.

[3] Our setting differs from Callaway et al. (2025) in two respects. First, they assume a time-invariant dose D_i, whereas in our application the dose—local online dating platform popularity—varies across years. As a result, the TWFE decomposition in their Theorem 3.4 does not apply exactly to our specification, though the central message that the TWFE estimand is not generally causal still carries through. Second, their preferred estimators of $ATT(d) = E[\Delta Y \mid D = d] - E[\Delta Y \mid D = 0]$ require an untreated comparison

Interpreting the average marginal effect as causal requires two assumptions. The first is standard parallel trends: the path of untreated potential outcomes is the same across dose groups. The second is strong parallel trends (Callaway et al., 2025): the response to any given dose d does not depend on the dose actually received. Strong parallel trends rules out selection on treatment-effect heterogeneity—a non-trivial concern in our setting, since online dating adoption is concentrated among demographic groups with distinct mate preferences, and these groups may also differ in how their marriage outcomes respond to platform exposure.

To make strong parallel trends more plausible, we condition on a rich set of individual- and state-level covariates: individual gender, race, education, and birth-year dummies; state-level shares of singles, racial and age composition, and the college-educated share (each computed by gender); the sex ratio; log population; and average implicit and explicit racial attitudes—along with state and year fixed effects. The state-by-year racial attitude measures are intended to absorb a potentially important confounder that varies geographically alongside platform adoption. For robustness, we further allow for state-, education-, and race-specific linear trends; our estimates are stable across these specifications.

An event-study analysis shows no evidence of differential pre-trends in same-race or educational homogamy rates across states prior to treatment, supporting the standard parallel trends assumption on untreated potential outcomes. We acknowledge, however, that pre-trend evidence is not informative about the additional restrictions imposed by strong parallel trends as noted in Callaway et al. (2025). Our identification of cross-dose comparisons therefore rests on the substantive plausibility of the no-selection-on-heterogeneity restriction given the controls above, rather than on a directly testable implication. We view the inclusion of implicit and explicit racial attitudes as particularly important in this regard: states with different platform adoption rates may also differ systematically in residents' racial preferences, which in turn shape responses to platform exposure. By conditioning on these attitudes, we absorb a primary channel through which selection on treatment-effect heterogeneity could otherwise threaten identification.

Our ACS analysis shows that the spread of popular online dating platforms significantly shapes mating outcomes, though the direction of effects varies across platforms—indicating that there is no uniform impact of online dating technology. Tinder appears to be the most influential platform in fostering interracial marriage: a one–standard-deviation increase in local Tinder popularity, measured by keyword search volume, reduces the same-race marriage rate by 0.9 percentage points, or roughly 1% of the sample mean. The effect is substantial not only in statistical but also in economic terms—it accounts for nearly 30% of the overall 3-percentage-point decline in same-race marriage rates observed in our ACS sample between 2008 and 2018—so the

group in the post-treatment period; we lack one, since every U.S. state is exposed once a platform launches nationally. We therefore rely on a parametric approximation of the dose-response.

result cannot be attributed to the high statistical power afforded by our large sample. Estimated effects for other platforms are either statistically insignificant or considerably smaller in magnitude. Among those with significant impacts, a one–standard deviation increase in eHarmony search volume lowers same-race marriage by 0.4 percentage points, while equivalent increases in Match.com and Zoosk popularity raise same-race marriage by 0.5 percentage points. By contrast, we find little evidence that online dating has systematically influenced educational homogamy. The only exception is Coffee Meets Bagel, where a one–standard deviation increase in local popularity reduces same-education marriage rates by 0.4 percentage points.

We next turn to evidence from our original survey, which collects respondents' complete retrospective dating histories, self-reported preferences for partner characteristics, and detailed information on online dating usage. This complements our ACS analysis by shedding light on the mechanisms at play. While the ACS offers credibility through its large, nationally representative sample, it lacks crucial information on who used online dating and on unobserved individual preferences for partner traits. Our survey addresses these gaps by asking respondents which platforms they used and what filter settings they applied, thereby allowing us to study how platform features shape mating outcomes. This enables a more comprehensive understanding of sorting patterns across platforms, search behaviors within platforms, and outcomes conditional on stated preferences—areas that have received limited attention in the literature (Hitsch et al., 2010; Lee, 2016; Rosenfeld et al., 2019; Thomas, 2020; Buyukeren et al., 2025). In addition, the availability of multiple relationship spells per respondent enables the use of individual fixed-effects regressions, accounting for unobserved, time-invariant heterogeneity that may influence both selection into online dating and mating outcomes.

The data reveal substantial sorting in who uses online dating and, conditional on using it, who employs filter functions. Females, Black individuals, and older people are less likely to use online dating, whereas LGBTQ individuals, high earners, and those living in high–population-density areas are more likely to do so. Importantly, filter usage is closely aligned with preferences: among online daters, those with strong same-race preferences are more likely to use a race filter, and those with a strong preference for college-educated spouses are more likely to use an education filter.

The individual fixed-effects regressions using multiple dating spells show that the impact of meeting a partner online differs sharply between high– and low–population-density areas. In high–population-density areas, meeting online is significantly associated with a lower likelihood of same-race marriage—that is, with higher interracial marriage rates. However, this effect disappears for individuals with strong same-race preferences, regardless of filter usage, indicating that user preferences are crucial for mating outcomes. By contrast, in low–population-density areas we do not find a statistically significant overall effect of meeting online, nor a significant

interaction with same-race preferences, when race filter usage is not controlled for. However, race filter usage appears central to mating outcomes. Among online daters, individuals who use a race filter in low–population-density areas are more likely to meet a same-race partner, and this effect is primarily driven by those with strong same-race preferences. In contrast, those with strong same-race preferences who do not use a race filter are not more likely to meet a same-race partner, underscoring that race filter usage is key to the dating pattern.

In sum, meeting online in high–population-density areas generally increases interracial dating, except for individuals with strong same-race preferences. In low–population-density areas, however, how people use online dating—particularly race filters—is crucial for explaining dating patterns: individuals with strong same-race preferences who use race filters are more likely to date same-race partners when they meet online. This pattern is consistent with the idea that such individuals face greater offline search frictions in finding preferred same-race partners in low–population-density areas and therefore rely on online dating platforms with race filter functions to meet them.

With respect to educational sorting, meeting online is associated with a moderately higher likelihood of partnering with someone who has at least a college degree in the pooled sample. However, we find no significant heterogeneity in this effect by respondents' preferred partner education or education filter usage. Estimates from geographic subsamples are much noisier and not statistically significant.

Next, we investigate whether meeting a partner online is associated with differential relationship quality, proxied by the relationship duration. We adopt a Cox proportional hazard model, where the baseline hazard rate is separately estimated for each individual to account for individual unobserved heterogeneity that affects both relationship quality and selection in online dating. We find that meeting a partner online is not significantly associated with a higher break-up rate, once individual unobserved heterogeneity is accounted for.

Taken together, these findings indicate that online dating technologies have reshaped mating patterns in the United States, particularly with respect to interracial marriage. Importantly, the effects are not uniform: they vary across platforms and depend critically on individual preferences. Users with strong same-race preferences are especially likely to rely on race filters, which increase the likelihood of same race matches.

Our findings are broadly consistent with prior work in sociology (Potarca, 2017; Thomas, 2020), which shows that online dating has contributed to the rise of heterogamous couples in the United States and Europe using survey data such as the "How Couples Meet and Stay Together" survey. We extend this literature by providing evidence from the nationally representative American Community Survey, together with an original survey that sheds light on the mechanisms of sorting across platforms and the role of filter usage conditional on online dating participation.

Within economics, Lee (2016) uses data from a private anonymous online dating platform in South Korea and reports mixed effects: the platform reduces assortative mating by occupation and geographic distance but increases it by education and other demographic characteristics. Buyukeren et al. (2025) examines the impact of Tinder's introduction on college students, exploiting variation in exposure between students in Greek organizations (where Tinder was heavily advertised at launch) and other students. They find that Tinder substantially increased sexual activity and, notably, improved mental health among women. We complement their work by broadening the scope from a single platform among a specific population to a wider set of online dating technologies (including Tinder) across the general U.S. population, and by focusing on long-term mating outcomes such as interracial marriage.

Our paper also builds on a literature emphasizing the role of meeting opportunities in shaping mating outcomes (Belot and Francesconi, 2013; Bellou, 2015; Ciscato, 2025; Jung and Lusher, 2026). Belot and Francesconi (2013) use U.K. speed-dating data to show that meeting opportunities play a substantial role in dating proposals, often more important than individual preferences over partner attributes. Bellou (2015) finds that broadband internet diffusion between 2000 and 2005 raised marriage rates among young U.S. adults, documenting the first wave of internet-driven changes in the U.S. marriage market. Ciscato (2025) uses a structural model to show that search frictions play a central role in explaining racial homogamy in the United States. Most closely related is Jung and Lusher (2026), who use Google search intensity for "Tinder" as a proxy for platform exposure—an identification strategy similar to ours—and find no effect on aggregate marriage rates but positive effects on divorce and separation.

Across these strands of work, our paper makes three distinct contributions. First, we study a later period (2008–2018) covering the diffusion of online dating platforms that built on earlier broadband infrastructure. Second, we examine eleven platforms rather than a single one, documenting substantial heterogeneity in platform effects that helps explain why prior studies of individual platforms have reached divergent conclusions. Third, we focus on the composition of new marriages—specifically, racial and educational homogamy—rather than on the formation and dissolution of unions overall, providing new reduced-form evidence on how online dating technology reshapes the search environment and, in turn, marital sorting on race and education.

The remainder of the paper is structured as follows. Section 2 outlines the institutional background and the rise of different online dating platforms. Section 3 presents the continuous-treatment difference-in-differences results using the ACS. Section 4 describes our survey design and reports findings from the individual fixed-effects analysis and the Cox proportional hazards model. Section 5 concludes.

Table 1: Summary of Popular Online Dating Platforms

Platform	Launch Year	Race/Ethnicity Filter	Education Filter
Tinder	2013§	No	No
Bumble	2014	Premium Only Yes	Premium Only Yes
Plenty of Fish (POF)	2003	Yes	Yes
Hinge	2013‡	Yes	Premium Only
OkCupid	2004	Yes	Yes
Match.com	1995	Premium Only Yes	Premium Only Yes
Zoosk	2007	Yes	Yes
eHarmony	2000	Premium Only Yes	Premium Only Yes
Coffee Meets Bagel	2012	Yes	Yes
Black People Meet	2002	Yes	Yes
MeetMe	2005†	No	Yes

Note: We used various sources (https://www.datingsitesreviews.com/, Wikipedia, each platform website, ChatGPT 4o) to gather this information, and verified the presence of filters by manually checking their platforms in 2022.
Premium-only indicates filters available with a subscription.
§: Tinder launched a limited iOS version in 2012 and a full version (including Android) in 2013. Following Buyukeren et al. (2025), we consider 2013 as Tinder's full launch year.
†: MeetMe was formerly known as "myYearbook", rebranded in 2012.
‡: Hinge started as a dating website in 2012 but re-launched as a mobile app in 2013. Therefore, we consider 2013 as their first full-service launch year.

2 Background: The Rise of Online Dating

Most online dating platforms launched their services after 2000, with the exceptions of Match.com and eHarmony, which started in 1995 and 2000, respectively. The most popular online dating platform, Tinder, began its full service in 2013, around which time many other competing platforms, such as Bumble (2014) and Hinge (2013), emerged. Most online dating platforms have a free version and sometimes offer a separate paid premium version with different functionalities. Free versions typically allow users to set preferences for distance and gender/sexual orientation, limiting visible profiles to those meeting these criteria. Policies on race/ethnicity and education filters, however, vary across platforms, creating important differences in their services.

Table 1 summarizes the history of popular online dating platforms and whether each platform allows race/ethnicity and education filters. The majority of these online dating platforms allow users to filter matches by race/ethnicity, education, or both. Tinder is the only online dating platform on this list that offers neither of these filters. Bumble, Match.com and eHarmony do not offer such filters in their free versions but make them available in paid premium versions. Hinge offers a race/ethnicity filter in the free version, but the education filter is available only with the paid premium plan. MeetMe does not allow race/ethnicity filters but provides education filters instead.

Given these differentiated search tools, platforms tend to attract users with distinct preferences for partner characteristics. As we later show, there is substantial sorting across platforms and in filter usage, underscoring the importance of accounting for heterogeneous platform effects on mating outcomes by users' preferences.

3 Evidence from American Community Survey

In this section, we use microdata from the American Community Survey (ACS) obtained through IPUMS USA (Ruggles et al., 2024) to examine how the local popularity of online dating platforms affects intermarriage patterns by race and education, employing a continuous-treatment difference-in-differences design.

3.1 Construction of the Dataset

We construct our analysis sample from the ACS data by following several steps. First, we use 11 waves of data from 2008 to 2018, a period that coincides with the emergence and rapid growth of online dating. We then restrict the sample to individuals who were household heads, married at the time of the survey, aged 20 to 50 at the time of marriage, and whose marriage occurred between 2008 and 2018. To ensure accurate classification of racial matching, we exclude individuals who report two or more major races.

Table 2 presents summary statistics for the resulting dataset. The final sample consists of 766,074 household heads. The average age at marriage in the sample is 31.39 years. The sample includes 1.5% same-sex couples and the females are 44.3% of the sample. The racial composition, based on ACS classifications, includes five major groups. The majority of respondents are White (73%), followed by Hispanic/Latino (13.4%), Asian/Pacific Islander (6.5%), and Black (6.4%) individuals. A small fraction of the sample (0.7%) identifies as American Indian or Alaska Native.

Table 2: Summary Statistics for ACS Data (2008-2018)

	Mean	SD
Age At Marriage	31.391	7.741
Female	0.443	0.497
Same-Sex Marriage	0.015	0.122
White	0.730	0.444
Black	0.064	0.245
Asian/Pacific Islander	0.065	0.246
Hispanic/Latino	0.134	0.341
American Indian/Alaska Native	0.007	0.083
Spouse Same Race	0.877	0.329
— White	0.909	0.288
— Black	0.850	0.357
— Asian/Pacific Islander	0.823	0.382
— Hispanic/Latino	0.760	0.427
— American Indian/Alaska Native	0.481	0.500
Less Than High School	0.059	0.235
High School	0.177	0.382
Some College	0.312	0.463
College	0.279	0.449
Graduate School	0.173	0.378
Spouse Same Education	0.442	0.497
— Less Than High School	0.469	0.499
— High School	0.448	0.497
— Some College	0.458	0.498
— College	0.439	0.496
— Graduate School	0.401	0.490

Note: This table reports summary statistics from the ACS dataset, comprising 11 waves spanning 2008 to 2018. The sample has been restricted according to the selection criteria outlined in the main text, resulting in a total of 766,074 observations.

We next examine racial homogamy—the extent to which individuals marry within their racial groups—both overall and by racial subgroup. Overall, 87.7% of individuals share the same race as their spouse, indicating a very high racial homogamy rate. This tendency varies substantially across groups: White individuals exhibit the highest racial homogamy rate at 90.9%, followed by Black (85.0%) and Asian/Pacific Islander (82.3%) individuals. Hispanic/Latino individuals have a lower rate at 76.0%, while American Indian/Alaska Native individuals have the lowest rate at 48.1%. However, the standard deviation for this latter group is relatively large due to the small sample size.

The final section of the summary table reports the distribution of educational attainments as well as the likelihood of marrying a spouse with the same level of education. Compared to the

racial homogamy rate, the educational homogamy rate is substantially lower, almost half as large as the racial homogamy rate. The educational homogamy rate is not very different across educational groups, ranging from 40% to 47%.

We match each marriage year and state of residence in the ACS to the corresponding year's online dating platform popularity in that state. We measure popularity by per-capita search volumes for each platform name, constructed using Google Trends (Google, 2024) and the KWFinder tool by Mangools (Mangools, 2024). Rather than treating these search volumes as a direct proxy for usage, we interpret them as capturing each platform's *local salience*, defined as the extent to which it draws public attention and consideration within a given state-year.[4] Although salience and usage are conceptually different, the two should move together in practice: where a platform commands greater attention, we expect greater platform-related activity. This expectation is borne out empirically. Several studies establish that Google search volumes track contemporaneous economic and social outcomes well (Goel et al., 2010; Choi and Varian, 2012; Da et al., 2011), and Jung and Lusher (2026, Figure 2) demonstrates that state-level Tinder search intensity in 2013 closely tracks state-level dating-app expenditure in 2024, as documented by Laws (2024). Taken together, this evidence indicates that the variation captured by our salience indices reflects substantive differences in platform engagement, even if the absolute magnitudes of search volumes cannot be read as direct usage counts.

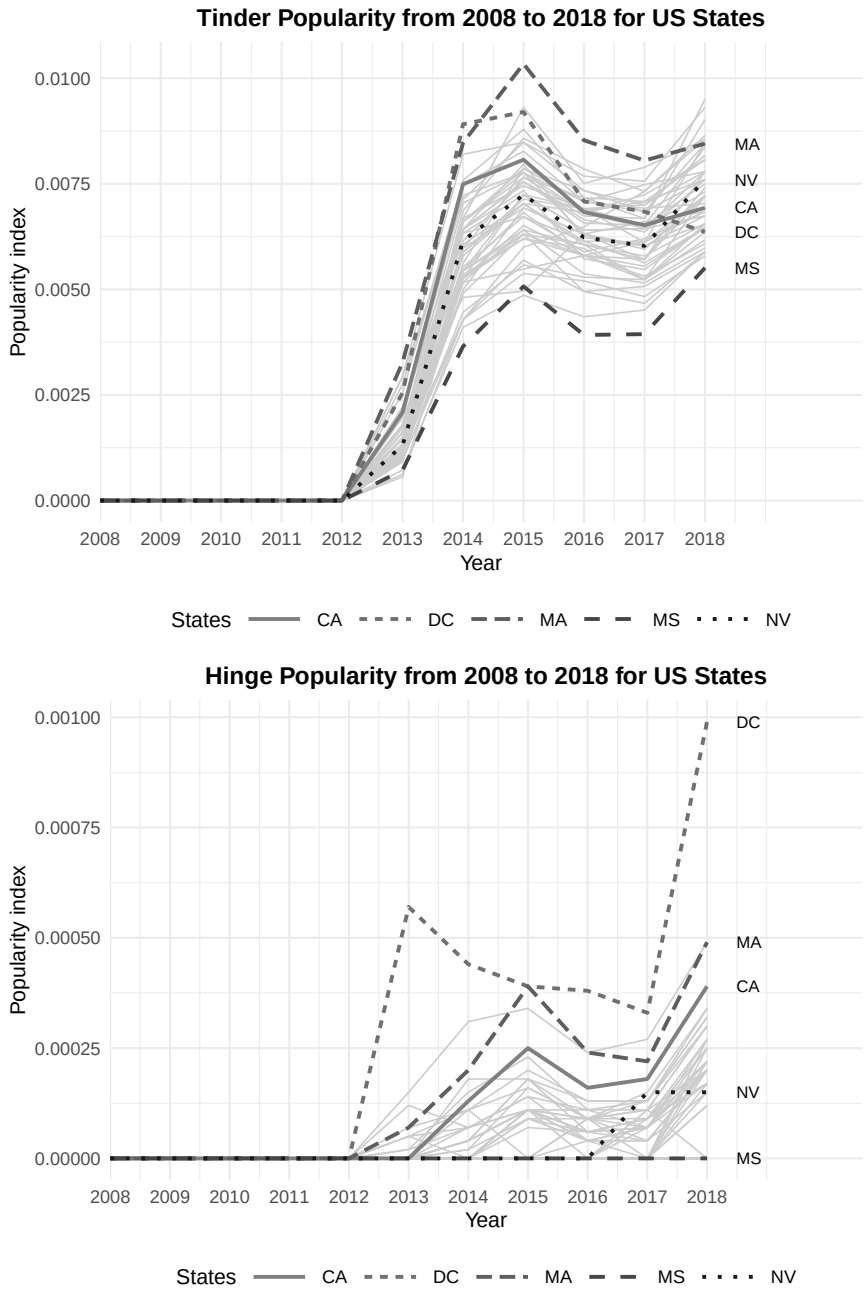
Because Google Trends reports only relative search volumes—normalizing the peak value within a given period to 100—we combine these relative indices with absolute search volume data from KWFinder for a subperiod to recover per-capita search volumes for each platform–state–year cell. Details on the construction of these popularity indices are provided in Online Appendix Section A. For our baseline analysis, we use the popularity index value for the marriage year. Recognizing that couples may date for some time before marrying, we also test the robustness of our findings in Section 3.6 using the average popularity over the two years preceding the marriage year; the results remain consistent.

Figure 1 presents the time series of two resulting panel popularity indices—Tinder and Hinge—across US states[5]; for nine other online dating platform popularity indices, see Online Appendix Section B. We observe that search volumes for both platforms surged rapidly after their 2013 launches. Initially, Tinder aggressively targeted college students, particularly those in Greek organizations (see Buyukeren et al. (2025) for details on Tinder's history). Consistent with this strategy, Massachusetts—known for its numerous universities—has consistently ranked highest in Tinder popularity. Tinder has also been popular in California, home to its co-founder's

[4]Platform-level usage data at the U.S. state-year level are not publicly released by the relevant firms.

[5]While minimal search activity for Tinder is observed in 2012, we set the popularity index to zero for all years prior to 2013, given that the platform's first full launch occurred in 2013 (Buyukeren et al. (2025)). For Hinge, the popularity index is zero through 2012, so no recoding is needed.

Figure 1: Popularity Index for Tinder and Hinge



Note: This figure shows Tinder and Hinge popularity indices for 51 US states, highlighting five states (Massachusetts, Nevada, California, Washington DC, Mississippi) in darker lines. Although small search volumes for Tinder were detected in 2012, we set the popularity index to zero prior to 2013, as 2013 marks Tinder's first full launch year.(Buyukeren et al. (2025)). For Hinge, the popularity index is zero through 2012, so no recoding is needed.

alma mater, the University of Southern California, and a key marketing target (Buyukeren et al. (2025)). Similarly, Hinge positioned itself as an "anti-Tinder" for serious relationships and initially

focused its marketing on Washington DC, where their headquarters are located (The Washington Post (2013)). Consequently, Hinge has remained most popular in Washington DC throughout our sample period.

We find substantial variation in online dating popularity across states and over time that is not fully explained by observed time-varying state characteristics, including demographic trends. Table B.1 in Online Appendix Section B reports correlations among the residualized standardized popularity measures for all platforms. Specifically, each popularity measure is residualized after controlling for the same time-varying state characteristics, state fixed effects, and year fixed effects used in our main specification in Section 3.2. These residualized standardized popularity measures constitute the identifying variation for our main estimates. The correlations are modest: all pairwise correlation coefficients are below 0.5, and many are below 0.3. This indicates that the platform-specific popularity measures retain meaningful independent variation, allowing us to separately identify platform effects in the joint regression.

As for the source of this variation, platform-specific marketing and competition appear to have generated idiosyncratic local adoption patterns. Initial marketing campaigns likely created plausibly exogenous shifts in local platform popularity, while subsequent competition across platforms produced non-monotonic usage dynamics over time. For example, in Washington, DC, Tinder's popularity declines steadily after 2015, whereas Hinge rises sharply around 2018 following targeted marketing. The popularity indices for other platforms, reported in Online Appendix Section B, show similarly complex, non-monotonic patterns of growth and decline.

Unfortunately, it is infeasible to obtain sufficiently detailed data on the timing and location of platform marketing campaigns. As noted by Buyukeren et al. (2025) (footnote 22), "Despite Tinder's team first promoting the app at select schools, it is infeasible to use the promotion timing patterns in a staggered difference-in-difference strategy. Detailed information on which colleges Tinder first promoted at and at what time proved to be inaccessible." Accordingly, unlike Buyukeren et al. (2025), who exploit variation between students in and out of Greek life, our setting focuses on the general population (rather than college students) and the ACS does not contain information on Greek-life participation. We therefore adopt a continuous-treatment difference-in-differences design and assess the standard parallel trend assumption by verifying the no-pretrends condition. Our survey evidence in Section 4 complements this strategy by exploiting the panel structure of retrospective dating histories and using an individual fixed-effects regression to directly address selection into online dating usage.

3.2 Main Regression Results

Next, we examine the impact of online dating platform popularity on marriage patterns using a continuous-treatment difference-in-differences framework. We report conventional two-way fixed-effects (TWFE) estimates as our baseline and conduct further robustness checks to address the concerns raised by Callaway et al. (2025). Identification rests on two assumptions: (i) standard parallel trends—in the absence of online dating, intermarriage patterns by race and education would have evolved similarly across states; and (ii) strong parallel trends (Callaway et al., 2025)—the response to any given dose, i.e., local online dating platform popularity, does not depend on the dose actually received, ruling out selection on treatment-effect heterogeneity.

We address each assumption in turn. For standard parallel trends, we present event-study evidence on the absence of differential pre-trends in Section 3.4. Strong parallel trends is inherently untestable, so we instead aim to make it more plausible by conditioning on a rich set of controls. At the individual level, we include birth year, gender, race, and education to capture demographic differences in partner preferences. At the state-by-year level, we include time-varying characteristics that shape the marriage market: the shares of singles, racial and age composition, and the college-educated share (each computed by gender for residents aged 20–50); the sex ratio and log population (also for the 20–50 population); and average implicit and explicit racial attitudes constructed from Project Implicit data (Xu et al., 2014).[6] The implicit racial attitude measure is the Race Implicit Association Test (IAT) D-score (Greenwald et al., 1998, 2003), where higher values indicate a stronger implicit preference for European Americans over African Americans. The explicit racial attitude measure is a seven-point Likert-scale item ranging from 1 ("I strongly prefer African Americans to European Americans") to 7 ("I strongly prefer European Americans to African Americans").

The baseline TWFE regression we focus on is:

$$\begin{aligned}\text{SameRacePartner}_{it} \text{ or } \text{SameEducPartner}_{it} = \alpha_0 + \sum_{k=1}^{K} \alpha_{1k} \text{Online Dating index (std.)}_{kst} \\ + X_{it}^{\top}\beta + \delta_s + \gamma_t + \lambda_s \times t + \mu_r \times t + \phi_e \times t + \epsilon_{it}.\end{aligned} \tag{1}$$

[6] Following standard practice for cleaning Implicit Association Test data (Greenwald et al., 2003), we drop respondents whose response patterns suggest inattentive or non-compliant behavior. Specifically, we exclude a respondent if any of the following holds: (a) more than 10% of trials have response latencies below 300 milliseconds, (b) the mean response latency across critical trials is below 400 milliseconds or above 10,000 milliseconds, or (c) the error rate across critical trials exceeds 30%. Because the Project Implicit sample is not representative of the U.S. population, we then compute weighted averages of the implicit and explicit racial attitude measures at the state-year level using post-stratification weights by gender, race, and age group.

Here, i denotes an individual, t is a year index, and s refers to state. The controls X_{it} include dummies for individual birth year, gender, race and education level, and time-varying state characteristics - shares of singles; racial and age composition; and the share college-educated—all computed by gender, sex ratio, log population, and implicit and explicit racial attitudes, each based on residents ages 20–50. The terms $\lambda_s \times t$, $\mu_r \times t$, $\phi_e \times t$ represent state-specific, race-specific, and education-specific linear time trends, respectively. SameRacePartner$_{it}$ (SameEducPartner$_{it}$) equals 1 if individual i's spouse has the same race (education) with i and 0 otherwise. The Online Dating index (std.)$_{kst}$ measures the standardized search volume for platform k in state s and year t, calculated by subtracting the mean and dividing by the standard deviation of that platform's index across all states and years, as described in Appendix Section A.

The coefficients $\{\alpha_{1k}\}$ are therefore our coefficients of interest and represent the effect of online dating platform k's popularity on racial or educational homogamy. The state-, race-, and education-specific linear time trends can capture slowly evolving long-term trends in preferences for spouse characteristics, so $\{\alpha_{1k}\}$ exploits remaining variations in short-term fluctuations in online dating popularity.

Tables 3 and 4 present the results of the regression analysis specified in Equation 1. From specifications (1) to (4), we progressively add state-specific, race-specific, and education-specific linear time trends to check the sensitivity of our results across these specifications. All specifications control for individual birth year, gender, race, and education, as well as year and state dummies. We examine eleven popular online dating platforms: Tinder, Plenty of Fish, Bumble, OkCupid, eHarmony, Zoosk, MeetMe, Match.com, Black People Meet, Hinge, and Coffee Meets Bagel. In specifications (5)–(8), we include only Tinder's standardized search volume, as Tinder has been the most popular and influential online dating platform throughout our sample period; results using Tinder alone are therefore of particular interest.

The estimated effects of a one standard deviation increase in Tinder popularity on racial homogamy are remarkably consistent across specifications, ranging from 0.7 to 1.1 percentage points, representing 0.8% to 1.25% of the dependent variable mean. In our preferred specification, which includes all linear time trends (columns 4 and 8), a one standard deviation increase in local Tinder popularity reduces same-race marriages by 0.9 percentage points. This effect is sizable, accounting for nearly 30% of the overall 3-percentage-point decline in same-race marriage rates observed in our ACS sample between 2008 and 2018. The finding, therefore, cannot be attributed to the high statistical power afforded by a large sample.

Tinder stands out as the platform with by far the largest impact on racial homogamy among those examined. Other platforms display either statistically insignificant or much smaller effects. Under our preferred specification (4), greater eHarmony popularity reduces same-race marriages, whereas higher popularity of Zoosk and Match.com leads to modest increases in same-race mar-

Table 3: Effect of Online Dating Popularity on Racial Homogamy

	Dependent Variable: Spouse Same Race							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Tinder (std.)	-0.011***	-0.009*	-0.009*	-0.009*	-0.007**	-0.009**	-0.009**	-0.009**
	(0.004)	(0.005)	(0.005)	(0.005)	(0.003)	(0.004)	(0.004)	(0.004)
Plenty of Fish (std.)	-0.001	-0.002	-0.002	-0.002				
	(0.001)	(0.001)	(0.001)	(0.001)				
Bumble (std.)	0.002	0.002	0.002	0.002				
	(0.002)	(0.002)	(0.002)	(0.002)				
Okcupid (std.)	0.001	0.000	0.000	0.000				
	(0.001)	(0.001)	(0.001)	(0.001)				
eHarmony (std.)	-0.003**	-0.004**	-0.004**	-0.004**				
	(0.002)	(0.002)	(0.002)	(0.002)				
Zoosk (std.)	0.004*	0.005**	0.005**	0.005**				
	(0.002)	(0.002)	(0.002)	(0.002)				
Meetme (std.)	0.001	-0.000	-0.000	-0.000				
	(0.001)	(0.001)	(0.001)	(0.001)				
Match.com (std.)	0.004**	0.005**	0.005**	0.005**				
	(0.002)	(0.002)	(0.002)	(0.002)				
Black People Meet (std.)	-0.003**	-0.002*	-0.002	-0.002				
	(0.001)	(0.001)	(0.001)	(0.001)				
Hinge (std.)	-0.002	-0.000	-0.000	-0.000				
	(0.001)	(0.002)	(0.002)	(0.002)				
Coffee Meets Bagel (std.)	0.002**	0.000	0.000	0.000				
	(0.001)	(0.001)	(0.001)	(0.001)				
Avg. of Dependent Variable	0.877	0.877	0.877	0.877	0.877	0.877	0.877	0.877
Individual Demographics	Y	Y	Y	Y	Y	Y	Y	Y
Time-Varying State Char.	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
State FE	Y	Y	Y	Y	Y	Y	Y	Y
State Time Trend	N	Y	Y	Y	N	Y	Y	Y
Race Time Trend	N	N	Y	Y	N	N	Y	Y
Education Time Trend	N	N	N	Y	N	N	N	Y
Adjusted R squared	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055
Observations	766074	766074	766074	766074	766074	766074	766074	766074

Note: Standard errors are clustered at the state level and are presented in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The individual demographics include dummies for individual birth year, gender, race and education level. The time-varying state characteristics include the share of singles, racial and age composition, and the share of college graduates (all computed separately by gender), as well as the sex ratio, log population, average implicit and explicit racial attitudes—each based on residents ages 20–50.

riages. These contrasting patterns highlight the heterogeneity of platform effects, yet the magnitudes remain considerably smaller than the pronounced influence observed for Tinder. A few

Table 4: Effect of Online Dating Popularity on Educational Homogamy

	Dependent Variable: Spouse Same Education							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Tinder (std.)	0.004	-0.002	-0.002	-0.002				
	(0.007)	(0.007)	(0.007)	(0.007)				
Plenty of Fish (std.)	0.000	-0.000	-0.000	-0.000				
	(0.002)	(0.002)	(0.002)	(0.002)				
Bumble (std.)	0.002	0.001	0.001	0.001				
	(0.002)	(0.003)	(0.003)	(0.003)				
Okcupid (std.)	-0.003	-0.003	-0.003	-0.003				
	(0.002)	(0.002)	(0.002)	(0.002)				
eHarmony (std.)	0.003	0.004	0.004	0.004				
	(0.003)	(0.004)	(0.004)	(0.004)				
Zoosk (std.)	0.000	-0.002	-0.002	-0.002				
	(0.004)	(0.004)	(0.004)	(0.004)				
Meetme (std.)	-0.004*	-0.002	-0.002	-0.002				
	(0.002)	(0.002)	(0.002)	(0.002)				
Match.com (std.)	-0.001	-0.002	-0.002	-0.002				
	(0.004)	(0.004)	(0.004)	(0.004)				
Black People Meet (std.)	-0.002	-0.000	-0.000	-0.000				
	(0.002)	(0.002)	(0.002)	(0.002)				
Hinge (std.)	0.002	0.002	0.002	0.002				
	(0.002)	(0.002)	(0.002)	(0.002)				
Coffee Meets Bagel (std.)	-0.004***	-0.004***	-0.004***	-0.004***	-0.002**	-0.004***	-0.004***	-0.004***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Avg. of Dependent Variable	0.442	0.442	0.442	0.442	0.442	0.442	0.442	0.442
Individual Demographics	Y	Y	Y	Y	Y	Y	Y	Y
Time-Varying State Char.	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
State FE	Y	Y	Y	Y	Y	Y	Y	Y
State Time Trend	N	Y	Y	Y	N	Y	Y	Y
Race Time Trend	N	N	Y	Y	N	N	Y	Y
Education Time Trend	N	N	N	Y	N	N	N	Y
Adjusted R squared	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Observations	766074	766074	766074	766074	766074	766074	766074	766074

Note: Standard errors are clustered at the state level and are presented in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The individual demographics include dummies for individual birth year, gender, race and education level. The time-varying state characteristics include the share of singles, racial and age composition, and the share of college graduates (all computed separately by gender), as well as the sex ratio, log population, average implicit and explicit racial attitudes—each based on residents ages 20–50.

platforms (e.g., Black People Meet, Coffee Meets Bagel) show statistically significant effects in specifications with fewer controls (columns (1) and (2)) but lose significance once the full set of controls is included in column (4); we do not view these effects as robust.

In contrast to its effect on racial homogamy, we find no evidence that Tinder affects educational homogamy. Table 4 shows that when all eleven platforms are included, only the popularity of Coffee Meets Bagel reduces educational homogamy: a one-standard-deviation increase in its popularity declines same education marriages by 0.4 percentage points (0.9% of the mean). This result also holds when Coffee Meets Bagel is analyzed on its own. The corresponding specification that includes only Tinder is reported in Table B.2 in the Online Appendix. Although some specifications suggest a significant effect of Tinder, these appear to be driven by correlations with other omitted platforms, as Tinder ceases to be significant once all platforms are controlled for (see Columns 1 to 4 in Table 4).

A natural question is whether platform-level differences in search-filter design help explain the heterogeneity we document. Tinder, which offers no race-based filter, reduces same-race marriage rates, while Match.com and Zoosk, both of which allow filtering by race in either their free or premium tiers, raise same-race marriage rates. However, filter availability does not lead to increased homogamy across all platforms. eHarmony reduces same-race marriage rates despite offering a racial filter in its paid premium tier, and Coffee Meets Bagel reduces same-education marriage rates despite offering an education filter. These exceptions suggest that filter availability is only one of several determinants of marital sorting. Platform-level user composition is another: if users open to educational heterogamy disproportionately select into Coffee Meets Bagel for reasons unrelated to filter design, then the platform's overall effect can reduce same-education marriage even when an education filter is available. We therefore interpret the filter-availability mechanism as a partial but incomplete explanation for the platform-level heterogeneity we document, with platform user composition and matching mechanism likely contributing as well.

Thus far, our analysis of marriage patterns has focused on newlyweds (Tables 3 and 4). We also test whether the popularity of online dating platforms changes marriage or divorce rates themselves—thereby altering the composition of married individuals. Tables B.3 and B.4 in the Online Appendix report these results. In addition to platform-specific measures, we construct a standardized aggregate search-volume index across the 11 platforms, denoted "Online Dating (std.)".

We find no evidence that rising online-dating popularity substantially altered either marriage or divorce rates: in our preferred specification (4) of Tables B.3 and B.4, coefficients on the standardized index are either statistically insignificant or small (below 0.0005) while only marginally significant at the 10% level. At the platform level, in our preferred specification (8), most coefficients are also insignificant; the lone exception is Match.com's association with divorce, which is only marginally significant at the 10% level, in our preferred specification column (8), and economically small in magnitude (0.001). Taken together, these results suggest that online dating did not substantially change aggregate marriage or divorce rates.

3.3 Robustness Analysis Concerning Callaway et al. (2025)

Callaway et al. (2025) show that the TWFE estimand is generally not an easily interpretable causal parameter under treatment-effect heterogeneity across dose groups, and that even under strong parallel trends, TWFE places non-uniform weights on doses that complicate its interpretation as an average causal response. To address this, we approximate the dose-response with a quartic polynomial in the dose and test whether linearity is rejected. When linearity is rejected, we report the average marginal effect (AME) implied by the polynomial as a parametric summary of the dose-response, analogous to the average causal response parameter $ACRT^{\text{glob}} \equiv E[\partial ATT(d)/\partial d \mid D > 0]$ in Callaway et al. (2025).[7] Under linearity and strong parallel trends, the conventional TWFE estimate coincides with this AME.

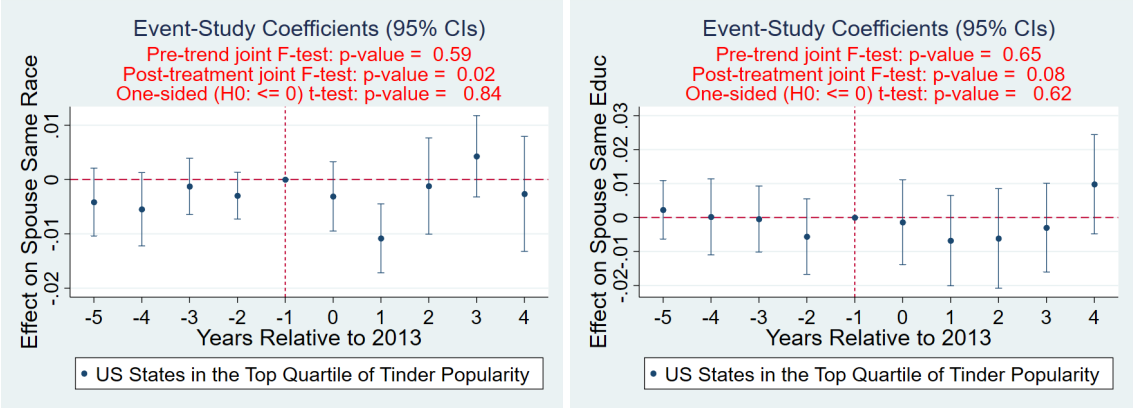
Tables B.5 and B.6 in Online Appendix Section B report the quartic polynomial estimates corresponding to the baseline specification in column (4) of Tables 3 and 4, with each platform's popularity index replaced by its quartic polynomial. The bottom rows report the F-test for linearity along with its p-value. When linearity is rejected at the 5% level, we report the AME of the platform's popularity; when it is not rejected, the baseline TWFE coefficient serves as a reasonable approximation to the average causal response.

Linearity is rejected in 5 of 22 specifications (11 platforms $\times$ 2 outcomes) at conventional unadjusted significance levels. We apply the Bonferroni correction to account for multiple testing across the 22 linearity tests, which controls the family-wise error rate at 5% by using an adjusted threshold of $0.05/22 \approx 0.0023$. Under this correction, 2 rejections survive: Coffee Meets Bagel and Hinge, both in the racial-homogamy regression, with raw p-values below 0.001. The remaining three unadjusted rejections—OkCupid in education homogamy ($p = 0.005$), Black People Meet in racial homogamy ($p = 0.009$), and Meetme in racial homogamy ($p = 0.019$)—do not survive the Bonferroni correction.

Crucially, for all five platforms with statistically significant TWFE estimates in our preferred specification—Tinder, eHarmony, Zoosk, and Match.com for racial homogamy (Table 3, column 4) and Coffee Meets Bagel for educational homogamy (Table 4, column 4)—we fail to reject linearity under both unadjusted and Bonferroni-adjusted thresholds. The baseline TWFE coefficients for these platforms are therefore well-approximated as average causal responses. Conversely, the two Bonferroni-surviving linearity rejections occur on platforms whose TWFE estimates are not

[7] Callaway et al. (2025) assume a time-invariant dose, whereas in our setting the dose—online dating platform popularity—varies over time. Our AME is therefore not identical to their $ACRT^{\text{glob}}$, but captures the same underlying object: an average derivative of the dose-response over the support of the treatment.

Figure 2: Event Study Evidence on the Absence of Pre-Trend



Note: We ranked the US states by average Tinder popularity indices throughout our sample periods and defined the US states in the top quartile of Tinder popularity as a treated group and years after 2013 (Tinder's launch year) as post-treatment year. The top-quartile US states are Massachusetts, Vermont, New York, Washington, Rhode Island, the District of Columbia, North Dakota, Utah, Colorado, Maine, Connecticut, New Hampshire, and California. For results using the top half of U.S. states, see Figure B.7 in the Online Appendix. We controlled for the same individual- and state-level covariates and the popularity of the ten other online dating platforms as in column (4) of Tables 3 and 4, along with year and state fixed effects.

statistically significant in the preferred specification, so these rejections do not undermine any of our headline findings. The average marginal effects from the quartic polynomial in the rejecting cases are generally small and statistically insignificant; the only marginally significant exception at the 10% level is Black People Meet in the racial-homogamy regression (AME $= -0.0042$, $p < 0.10$; Table B.5), which itself does not survive Bonferroni correction. We conclude that the baseline TWFE specification provides a reasonable approximation to the average causal response in the settings where our results are economically and statistically meaningful.

3.4 Supportive Evidence of Parallel Trend Identifying Assumption

We assess potential pre-trends in intermarriage by race and education to evaluate the credibility of the parallel trends assumption. Because Tinder is the most influential platform in shaping interracial marriage patterns, we focus on whether states where Tinder later became most popular exhibited differential trends in intermarriage prior to its launch. We define states in the top quartile of Tinder popularity during our sample period as the treated group, and classify years after 2013 as the post-treatment period.

Figure 2 shows no evidence of pre-trends in intermarriage by race or education once we include the same individual- and state-level controls and the popularity of the ten other online

dating platforms as in column (4) of Tables 3 and 4. The panels report p-values from two separate joint F-tests: one testing that all lead coefficients are zero and another testing that all lag coefficients are zero. In all cases, we fail to reject that the pre-treatment coefficients are jointly zero at the 5% significance level, consistent with no pre-trend (joint F test p-value = 0.59 and 0.65, respectively). In contrast, for same-race marriages, we reject the null that the post-treatment coefficients are jointly zero at the 5% level (joint F test p-value = 0.02), and we could not reject the null that the averages of the five post-treatment coefficients are non-positive (that is, negative or zero) at the 5% level (p-value for the one-sided t-test = 0.84). Turning to the point-wise tests that each post-treatment coefficient is zero, we find a significantly negative coefficient for the effect after one year, consistent with the significant TWFE estimate in Table 3[8]. For same-education marriages, however, we cannot reject the null that the post-treatment coefficients are jointly zero at the 5% level (joint F-test p-value $= 0.08$), and none of the individual lag coefficients is significant at the 5% level—again consistent with the insignificant TWFE estimate in Table 4.

Repeating the exercise with states in the top half of the Tinder popularity distribution (Figure B.7 in the Online Appendix) yields similar pre-treatment patterns: we again find no evidence of differential pre-trends for either same-race or same-education marriages (joint F-test p-values $= 0.95$ and 0.96, respectively). The joint F-test of the post-treatment coefficients yields $p = 0.10$, and as before we cannot reject at the 5% level the null that the average post-treatment effect is non-positive (one-sided $p = 0.44$). For same-education marriages, in contrast, we find suggestive evidence that high-Tinder-popularity states experienced higher rates of same-education marriage during the post-treatment period (joint F-test $p = 0.06$; one-sided $p = 0.04$)—a result that did not appear in the top-quartile specification. Overall, the absence of differential pre-trends in both definitions of the treated group supports the standard parallel trends assumption underlying our identification strategy.

3.5 Robustness to a Narrower Five-Year Window

We further assess the robustness of our findings by narrowing the sample period to a five-year window centered around 2013, the year Tinder launched its full service. Two considerations motivate this: first, slow-moving confounders such as marriage-market preferences are less likely to shift over short horizons; second, early marketing efforts generate sharper, more idiosyncratic variation in local platform popularity, strengthening the identifying variation. Table 5 shows that the effect of Tinder popularity on racial homogamy remains statistically significant across spec-

[8]Table 3 relies on a continuous measure of Tinder popularity, whereas Figure 2 classifies states into two groups: those where Tinder was consistently popular and those where it was not.

Table 5: Robustness Check: Effect of Online Dating Popularity on Racial and Education Homogamy (5-year window, 2010–2015)

Dependent Variable	Spouse Same Race				Spouse Same Education			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Tinder (std.)	-0.006	-0.009**	-0.009**	-0.009**	0.004	0.002	0.002	0.002
	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)	(0.007)	(0.007)	(0.007)
Avg. of Dependent Variable	0.877	0.877	0.877	0.877	0.442	0.442	0.442	0.442
Individual Demographics	Y	Y	Y	Y	Y	Y	Y	Y
Time-Varying State Char.	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
State FE	Y	Y	Y	Y	Y	Y	Y	Y
State-Specific Time Trend	N	Y	Y	Y	N	Y	Y	Y
Race-Specific Time Trend	N	N	Y	Y	N	N	Y	Y
Educ-Specific Time Trend	N	N	N	Y	N	N	N	Y
Adjusted R squared	0.055	0.055	0.055	0.055	0.011	0.011	0.011	0.011
Observations	462197	462197	462197	462197	462197	462197	462197	462197

Note: Standard errors are clustered at the state level and are presented in parentheses. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. The individual demographics include dummies for individual birth year, gender, race and education level. The time-varying state characteristics include the share of singles, racial and age composition, and the share of college graduates (all computed separately by gender), as well as the sex ratio, log population, average implicit and explicit racial attitudes—each based on residents ages 20–50.

ifications (2)-(4), with magnitudes similar to those in our baseline results in Table 3. In line with Table 4, we continue to find no significant effect of Tinder popularity on educational homogamy.

3.6 Robustness to Using Two-Year Average Indices

Next, we check the robustness of our results when using the two-year average of online dating popularity indices instead of the popularity indices for the marriage year. People may date for a while before getting married, so the effect of online dating might appear with a time lag. The results, reported in Tables B.7 and B.8 in Online Appendix Section B, show that a one–standard deviation increase in the two-year average of Tinder popularity reduces racial homogamy by 0.7 to 1.5 percentage points. Our preferred specifications (4) and (8) yield slightly larger magnitudes than the baseline estimates. For educational homogamy, the results remain broadly consistent with the baseline: Coffee Meets Bagel is the only platform showing a significant effect, with a one–standard deviation increase in popularity leading to a 0.5 percentage point decline, according to our preferred specifications (4) and (8).

3.7 Heterogeneous Effects of Tinder Popularity

Next, we further investigate the heterogeneous effects of Tinder popularity across subpopulations. Because online dating might be popular among young generations who are familiar with using the internet, the effect of Tinder's popularity may vary by technology access and age. Table B.10 in Online Appendix Section B shows regression results with interaction terms between the Tinder popularity index and demographic and technology access indicators. The results indicate a stronger negative effect of local Tinder popularity on same-race marriage rates among individuals with home internet access, and those born after 1980, which is close to the sample's median birth year. Moreover, we find no evidence of heterogeneous effects on educational homogamy: none of the interaction coefficients with Tinder popularity are statistically significant in this dimension.

4 Evidence from Survey

We next turn to evidence from our original survey, which complements the ACS analysis along two dimensions central to our argument. First, the ACS provides a large, nationally representative sample and credible identification of platform-level effects on aggregate marriage outcomes, but it does not record who used online dating, which platforms they used, what filter settings they applied, or what partner traits they sought. The survey fills these gaps by collecting respondents' complete retrospective dating histories, self-reported preferences for partner characteristics, and detailed information on platform-specific online dating usage. This allows us to study sorting patterns across platforms, search behaviors within platforms, and mating outcomes conditional on stated preferences—dimensions that the ACS cannot speak to and that remain underexplored in the existing literature (Hitsch et al., 2010; Lee, 2016; Rosenfeld et al., 2019; Thomas, 2020; Buyukeren et al., 2025).

Second, the survey provides individual-level evidence that addresses identification concerns inherent in the ACS design. Our ACS specification identifies effects from variation in state-by-year platform popularity, leaving open the concern that unobserved factors correlated with both local platform popularity and local mating outcomes could confound the estimated effects—even after conditioning on our extensive set of controls, including implicit and explicit racial attitudes. Because our survey collects multiple relationship spells per respondent, we can estimate individ-

ual fixed-effects regressions that compare the same person's mating outcomes across spells with and without online dating use, absorbing time-invariant heterogeneity that may simultaneously drive online dating adoption and partner choice. Together, the two analyses address different identification threats from different angles: the ACS provides credibly identified, externally valid evidence at the population level, while the survey provides direct evidence on user-level mechanisms and within-individual variation that the ACS cannot deliver.

4.1 Survey Design

We conducted a 10-minute online survey[9] through the survey platforms, Amazon MTurk and Lucid Marketplace[10], which have registered panel members between January 2022 and March 2022. To understand the racial and geographic differences in online dating usage, we stratified our sample by race and local Black population density. We restricted the eligibility to White or Black race only, who do not report multiple races or ethnicities, and those who were born between 1971 and 1991, corresponding to ages 31 to 51 at the time of the survey. This age band targets individuals old enough to plausibly have multiple serious relationships yet young enough to have used online dating technologies. The full survey questionnaire is shown in Online Appendix Section D.

Our survey consists of three main blocks. In the first block, we asked detailed questions about online dating usage, including the platforms respondents used, the types of filters they applied (e.g., race, education), and the number of dating partners they had met through these platforms. In the second major block, we asked about preferences for a spouse's characteristics, including race and education. For example, respondents were asked to indicate their level of agreement or disagreement with statements like: "*A person of the same race can be a better partner for me;*" and: "*There is nothing wrong with two people of different races being a couple.*" To address potential social desirability bias in responses, we implemented list randomization for race- and education-related statements and retained only a subset of statements for our analysis that do not show a substantial contamination with social desirability bias. See Online Appendix Section C for details of the list randomization analysis. Table 6 shows a full list of statements used in our analysis that passed the list randomization test [11]. The third major block asked about the full retrospective

[9] The median time spent on the survey was 10 minutes. Compensation varied across respondents, with an average payment of $1.70 per participant.

[10] 24% of our sample was collected on Amazon MTurk and 76% was collected on Lucid Marketplace. We initially fielded the survey on Amazon Mechanical Turk (MTurk) but subsequently switched to Lucid Marketplace, which offers better targeting and tighter control over sampling speed. To improve precision, we pool responses from both platforms to maximize sample size. Lucid Marketplace has been widely used in economics research (see, e.g., Binetti et al. (2024); Colarieti et al. (2024)).

[11] For a full set of statements included in the survey, see Table C.13 in the Online Appendix.

Table 6: Questions For Preferences on Spouse Characteristics

Race	*How much do you agree to the following statements?* • I prefer meeting a spouse having the same race as me. • A couple of the same race is more likely to stay together. • A person of the same race can be a better partner to me. • There is nothing wrong with two people of **different** races being a couple.
Education	*How much do you agree to the following statements? Note: University/College degree excludes a degree from a community college/vocational schools.* • I prefer meeting a spouse with at least a university/college degree. • Having a university/college degree is **not** an important consideration when choosing a spouse.

Note: This table lists the statements used in our analysis that passed the list randomization test (see Online Appendix Section C for details) and show no evidence of substantial social desirability bias. The responses are in 5-scales (Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree).

history of serious relationships, defined as marriage, engagement, or cohabitation. For each relationship, respondents reported when they met the partner and when they ended the relationship, how they met (online or offline), the dating platforms used if they met online, and the partner's characteristics. Information on multiple relationship spells is crucial for our research design, as it enables individual fixed-effects regressions that account for unobserved heterogeneity influencing both selection into online dating and mating outcomes. Although the dating histories are self-reported, we view recall bias as limited: these are salient, low-frequency life events, making systematic misreporting unlikely.

Table 7 presents summary statistics for key variables. We collected 1,986 responses in total. The average age of people in our sample is 40.33. Over half of them are female (62%), roughly 11% reported as LGBTQ, and slightly less than half of them are Black (46%). The educational attainment of the collected sample is relatively high, with over 70% of them having an associate's degree, bachelor's degree, or higher. In terms of marital status at the time of the survey, around 42% of people were never married, while 42% of them were married.

Many respondents were experienced with online dating: 57% reported having used online dating at least once, and indeed, they used multiple (3.3) online dating platforms on average. "Marriage" (65%) and "Casual Date" (59%) were the most common reasons people mentioned as the purpose of using online dating, confirming that online dating platforms can be influential in marriage outcomes. In terms of realized serious relationships, defined as marriage, engagement, cohabitation, or other similar verbal commitments, offline meetings were still more common than

Table 7: Summary Statistics for Key Variables

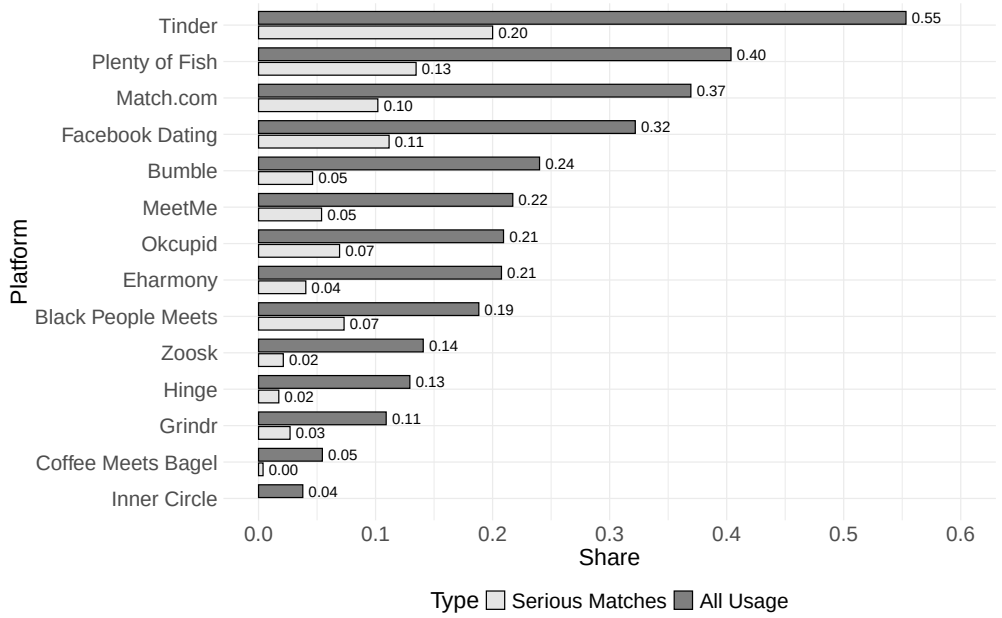
	N	Mean	SD
Age	1986	40.329	5.670
Female	1986	0.621	0.485
LGBTQ	1959	0.105	0.306
Black	1986	0.462	0.499
Less than High School	1986	0.033	0.178
High School	1986	0.212	0.409
Associate Degree	1986	0.377	0.485
Bachelor's Degree or Higher	1986	0.378	0.485
Never Married	1986	0.416	0.493
Married	1986	0.415	0.493
Divorced	1986	0.152	0.359
Widowed	1986	0.016	0.126
Ever Used Online Dating	1986	0.573	0.495
Number of Online Dating Platforms Used	1137	3.339	2.180
Online Dating For Marriage	1137	0.645	0.479
Online Dating for Casual Date	1137	0.588	0.492
Online Dating For Sex	1137	0.383	0.486
Online Dating For Friend	1137	0.451	0.498
Online Dating For Other Reasons	1137	0.011	0.106
Had Any Serious Relationships (Marriage/Engagement/Cohabitation)	1986	0.767	0.423
Number of Serious Relationships	1523	2.066	1.297
| Met Offline	1126	0.701	0.412
| Met on Online Dating	1126	0.251	0.393
| Met on Other Online Sites	1126	0.048	0.189

Note: This table presents the summary statistics for the key variables in our survey sample. The total sample size is 1986. The top panel of the table shows basic demographic characteristics, while the bottom panel shows dating patterns and online dating usage. We allowed multiple responses for the question about the purpose of using online dating. Serious relationships are defined as ones that have developed into either marriage/engagement/cohabitation (living together)/ other similar commitments (including any ongoing ones). We asked details, including whether they met offline/on online dating/on other online sites, up to five serious relationships.

online dating. On average, 70% of past serious relationships began offline, 25% through online dating platforms, and 5% via other online sites, such as Facebook (prior to the launch of Facebook Dating). Overall, 76% of our sample members reported having at least one serious relationship in the past, and the average number of serious relationships was 2.1.

Figure 3 shows the popularity of various online dating platforms among survey samples. The figure displays the share of online dating users who reported using each online dating platform and the distribution of online dating platforms where serious relationships, defined as those that

Figure 3: Online Dating Popularity Among People by Match Type



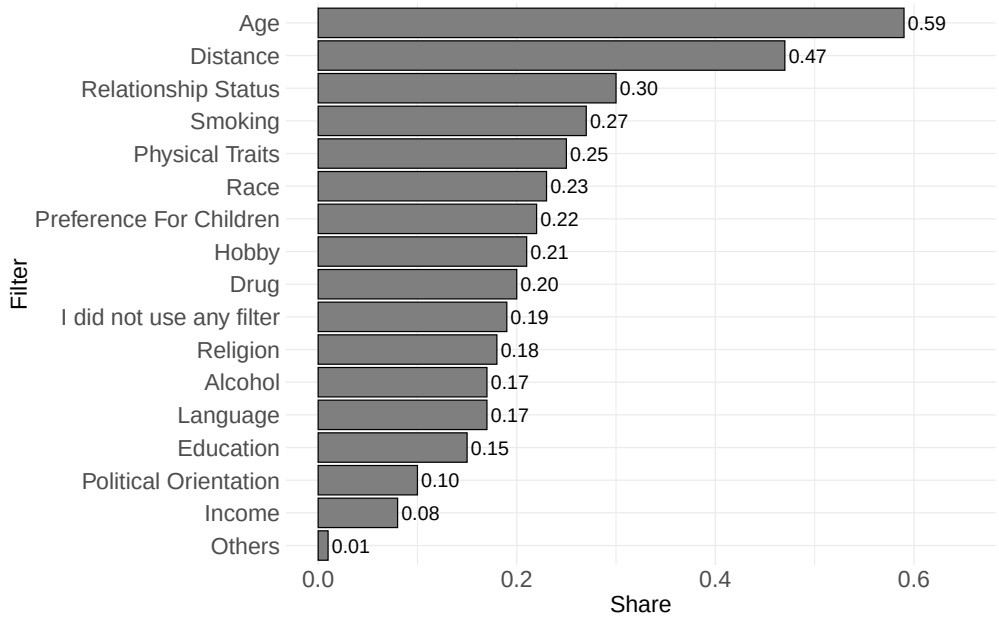
Note: This figure shows the popularity of online dating platforms. "All Usage" shows the share among online dating users who reported using each platform. Multiple choices are allowed. "Serious Matches" shows the distribution of online dating platforms where serious relationships were formed; serious relationships are defined as ones that have developed into either marriage/engagement/cohabitation (living together)/ other similar commitments (including any ongoing ones).

have developed into either marriage, engagement, cohabitation, or similar verbal promise, were formed. The figure confirms that Tinder is the most popular online dating platform. 55% of respondents who reported using any online dating platform indicated that they had used Tinder. The next popular platforms were Plenty of Fish (40%), Match.com (37%), and Facebook Dating (32%)[12], which launched for the first time in 2019. Interestingly, Tinder was also the platform that resulted in most serious relationships – defined as those that have developed into either marriage/engagement/cohabitation/other similar verbal commitments – challenging the common perception that it is primarily used for casual, one-time hook-ups. In fact, 20% of all serious relationships that originated online began on Tinder. Other major platforms, including Plenty of Fish, Match.com, and Facebook Dating, also contributed substantially to the formation of serious relationships.

Figure 4 presents the share of online dating users who reported using various filters to screen potential matches based on specific characteristics. Only 19% of users indicated that they did not use any filters, highlighting the widespread use of filtering functions on dating platforms.

[12]Facebook Dating offers no race filter but includes an education filter.

Figure 4: Filter Usage Among Online Dating users



Note: This figure displays the share of online dating users who reported using each filter. "Relationship Status" includes any presence of a child. "Physical Traits" includes height and weight.

Among the available options, "Age" and "Distance" were the most commonly used, with 59% and 47% of users reporting their use, respectively. Other frequently used filters included "Relationship Status" (30%), "Smoking" (27%), "Physical Traits" (25%), and "Race" (23%). The focus of our analysis, the race filter, was the sixth most popular filter among online dating users. In contrast, the "Education" filter was among the least utilized, with only 15% of users indicating that they applied it.

4.2 Results From the Survey Data

4.2.1 Evidence of Sorting into Online Dating and Filter Usage

This section examines patterns of sorting into online dating and the use of filtering features. Table 8 presents linear probability model estimates for four outcomes: whether respondents have used any online dating platform, whether they have used Tinder, and—conditional on online dating use—whether they applied a race filter or an education filter.

First, we find evidence of selection into online dating use. Women are 12 percentage points less likely to use online dating, while individuals identifying as LGBTQ are 10 percentage points more likely. Older individuals are less likely to use online platforms, whereas those with a strong

Table 8: Linear Probability Model on Sorting into Online Dating and Filter Usage

	(1) Used Online Dating	(2) Used Tinder	(3) Used Race Filter	(4) Used Educ Filter
Female	-0.121***	-0.135***	-0.042	0.002
	(0.033)	(0.029)	(0.033)	(0.026)
Black	-0.001	-0.071**	0.074*	0.034
	(0.035)	(0.029)	(0.039)	(0.030)
College	-0.014	0.009	-0.018	-0.013
	(0.031)	(0.034)	(0.033)	(0.023)
LGBTQ	0.103**	0.003	-0.020	-0.043
	(0.041)	(0.053)	(0.042)	(0.033)
Age	-0.018***	-0.022***	0.003	-0.001
	(0.003)	(0.002)	(0.003)	(0.003)
Same-Race Pref. Z-score	-0.027	-0.023	0.041**	0.017
	(0.019)	(0.018)	(0.018)	(0.015)
Higher-Educ Pref. Z-score	0.028*	0.015	0.007	0.033**
	(0.015)	(0.013)	(0.014)	(0.015)
Income 75k–99k	0.133**	0.133***	-0.024	0.008
	(0.050)	(0.038)	(0.063)	(0.047)
Income 100k–149k	0.160***	0.122**	0.018	0.099**
	(0.054)	(0.059)	(0.059)	(0.041)
Income 150k+	0.105*	0.129**	-0.065	0.129*
	(0.057)	(0.064)	(0.070)	(0.075)
Catholic	0.052	0.025	0.047	0.001
	(0.039)	(0.037)	(0.039)	(0.039)
Protestant	0.033	-0.033	0.099**	0.049
	(0.034)	(0.034)	(0.040)	(0.037)
Jew	0.211***	0.093	0.213*	0.045
	(0.075)	(0.105)	(0.112)	(0.101)
Hinduism	0.084	-0.241***	-0.237***	-0.138***
	(0.307)	(0.024)	(0.045)	(0.037)
Islam	-0.014	-0.008	0.158*	0.233**
	(0.081)	(0.113)	(0.093)	(0.108)
Conservatism Z-score	-0.012	-0.003	0.013	0.010
	(0.013)	(0.013)	(0.014)	(0.013)
Log(Pop. Density)	0.024**	0.001	0.128***	0.023
	(0.010)	(0.011)	(0.015)	(0.016)
Avg. Dep. Var.	0.573	0.314	0.233	0.146
State FE	Yes	Yes	Yes	Yes
Adj. R^2	0.101	0.148	0.046	0.036
Observations	1188	1188	749	749

Note: Standard errors are clustered by US states and are presented in parentheses. $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$. Baseline income group excluded from the regression is people who earn below 75k annual pre-tax income. Baseline religious groups excluded from the regression are people without any religion and people who believe in other religions, including Buddhism. 'Same-Race Pref. Z-score' and 'Higher-Educ Pref. Z-score' indicate standardized indices for the preference for same-race and highly educated spouses. 'Conservatism Z-score' is a standardized index for self-reported conservative political ideology.

preference for a highly educated spouse and those earning over $75,000 are more likely to do so. Among all religious groups, Jewish respondents are the most likely to engage in online dating. Notably, people living in densely populated areas are more likely to use online dating. Although theory suggests that those in sparsely populated areas might rely more on online platforms due to offline search frictions, our results imply that the higher user density in urban areas may enhance the perceived value of using these platforms.

Second, the pattern of Tinder usage largely mirrors that of general online dating but with several notable differences. Black respondents and Hindus are significantly less likely to use Tinder compared to White respondents and the omitted religious group – people without a religion or people with other religions.[13] In contrast to general online dating, LGBTQ status, preference for highly educated spouses, Jewish affiliation, and population density no longer show significant associations with Tinder use.

Third, among online dating users, we examine who uses race filters. Black individuals, those with a strong preference for same-race partners, Protestants, Jews, and Muslims are more likely to use race filters. Conversely, Hindus are significantly less likely to do so. Interestingly, users in high-density areas are more likely to apply race filters—possibly because such areas provide a sufficiently large pool of potential matches even within narrower racial criteria.

Fourth, we analyze the use of education filters among online dating users. Individuals who strongly prefer highly educated spouses and those earning over $100,000 annually are more likely to use education filters. As with race filters, Hindus are significantly less likely to use them, while Muslims are significantly more likely to do so.

In sum, the results reveal substantial sorting in both online dating participation and filter usage. Specifically, individuals with stronger preferences regarding partner characteristics are more likely to use filters to refine their search. Interestingly, race filtering is more prevalent in high-density areas, even though offline search frictions are arguably lower in these environments.

4.2.2 Evidence on Dating Patterns

Next, we examine how meeting a partner online is associated with dating patterns. While the ACS data do not include information on how respondents met their partners, our survey collected this information for up to five of each respondent's most serious relationships—defined as those that

[13] Although Black respondents in our survey report lower Tinder use than Whites, our ACS analysis indicates that Tinder still contributed to interracial marriage among Black individuals. Table B.9 in the Online Appendix shows that Tinder's diffusion increased interracial marriages for Black respondents born between 1971 and 1991.

resulted in marriage, engagement, cohabitation, or comparable verbal commitments. The availability of multiple relationships per individual enables the use of individual fixed-effects regressions to assess how partner characteristics vary with the meeting method, while controlling for unobserved time-invariant individual factors that may influence both selection into online dating and mating outcomes. All regressions include standard errors clustered at the individual level and control for relationship-type fixed effects (i.e., marriage, engagement, or cohabitation)[14]. We also estimate regressions separately by whether the U.S. state where the respondent met their partner had high or low population density, with "high population density" defined as states whose 2013 population density exceeded the median.

Table 9 reports results for the likelihood of having a same-race partner and reveals substantial heterogeneity by local population density. Columns 1–4 present results pooling all regions, columns 5–8 restrict the sample to high–population-density states, and columns 9–12 report results for low–population-density states only. In the pooled specification (columns 1–4), neither the coefficient on meeting online nor its interactions with same-race preferences or racial-filter usage are statistically significant. Note that the race-filter variable is invariant within individuals: we did not ask whether respondents used the race filter to meet each specific partner, nor which preferred races they selected when setting the filter. We therefore do not include 'Used Race Filter X Same-Race Pref. Z-Score' as a control, as it is invariant within individuals and is absorbed by the individual fixed effect.

In high–population-density areas, meeting online is associated with a lower likelihood of having a same-race partner when we control for individual fixed effects (columns 5–7). The interaction results in columns 6–8 show that this effect varies with same-race preferences but not with race filter usage: the interaction between meeting online and same-race preference is statistically significant and positive. For individuals one standard deviation above the mean in same-race preference, meeting online is no longer significantly associated with a lower likelihood of having a same-race partner, underscoring the role of users' preferences. By contrast, there is little evidence that the race filter plays a central role in partner search in high–population-density areas: whether respondents used a race filter does not affect the likelihood of meeting a same-race partner, as indicated by the insignificant coefficients on "Met Online X Used Race Filter" and "Met Online X Used Race Filter X Same-Race Pref. Z-Score."

By contrast, in low–population-density areas, we do not find a statistically significant overall effect of meeting online on the likelihood of having a same-race partner (columns 9–12). The interaction between meeting online and the same-race preference z-score is also not statistically significant, although its sign is positive and its magnitude is similar to that in high–population-

[14]Fewer than 4% of respondents in our sample reported multiple marriages, making it difficult to implement individual fixed-effects regressions using marriage spells alone.

Table 9: Individual Fixed Effect Regression on Same-Race Partner

Sample	Whether the partner is same race											
	All				High Pop. Density				Low Pop. Density			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Met Online	-0.034	-0.026	-0.052	-0.046	-0.090*	-0.085*	-0.099*	-0.086	0.005	0.027	-0.046	-0.048
	(0.034)	(0.032)	(0.039)	(0.037)	(0.047)	(0.045)	(0.058)	(0.056)	(0.050)	(0.048)	(0.050)	(0.043)
Met Online X Same-Race Pref. Z-score		0.046		0.021		0.084*		0.132*		0.083		-0.005
		(0.035)		(0.046)		(0.046)		(0.068)		(0.055)		(0.050)
Met Online X Used Race Filter			0.085	0.055			0.032	0.019			0.328**	0.014
			(0.075)	(0.070)			(0.097)	(0.095)			(0.147)	(0.103)
Met Online X Used Race Filter X Same-Race Pref. Z-score				0.055				-0.117				0.325**
				(0.064)				(0.085)				(0.158)
Avg. of Dependent Variable	0.789	0.789	0.789	0.789	0.796	0.796	0.796	0.796	0.780	0.780	0.780	0.780
Individual FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Relationship Type FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R squared	-0.001	0.001	-0.001	0.000	0.017	0.025	0.015	0.026	0.002	0.010	0.020	0.030
Number of Observations	976	976	976	976	551	551	551	551	425	425	425	425
Number of Individuals	402	402	402	402	256	256	256	256	195	195	195	195

Note: Standard errors, clustered at the individual level, are reported in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. To include individual fixed effects, we limit the sample to respondents who report at least two serious relationship spells. "Relationship type" is a categorical variable indicating whether the serious relationship involved marriage, engagement, or cohabitation. "High population density area" refers to a U.S. state with a 2013 population density above the median. We assign this based on the state in which the respondent met their partner.

density areas. However, race filter usage is critical for dating outcomes in these areas. Respondents who used a race filter are substantially more likely to meet a same-race partner (column 11), but this effect disappears once we control for the triple interaction "Met Online X Used Race Filter X Same-Race Pref. Z-score" in column 12. This indicates that the effect of using a race filter is primarily driven by those with strong same-race preferences and who used a race filter. In contrast, online daters with strong same-race preferences who did not use a race filter are not significantly more likely to meet a same-race partner, reinforcing the importance of race filter usage in low-population-density areas (column 12). These patterns are consistent with the idea

Table 10: Individual Fixed Effect Regression on College-Grad Partner

	Whether the partner has a college degree											
Sample	All				High Pop. Density				Low Pop. Density			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Met Online	0.054*	0.054*	0.045	0.044	0.046	0.048	0.041	0.036	0.003	0.001	-0.012	-0.014
	(0.031)	(0.031)	(0.033)	(0.036)	(0.044)	(0.044)	(0.050)	(0.052)	(0.053)	(0.061)	(0.054)	(0.065)
Met Online X High-Educ Pref. Z-score		-0.008		-0.003		-0.048		-0.056		-0.007		-0.006
		(0.027)		(0.033)		(0.036)		(0.045)		(0.052)		(0.059)
Met Online X Used Educ Filter			0.089	0.158			0.036	0.107			0.244	0.260
			(0.082)	(0.105)			(0.093)	(0.118)			(0.215)	(0.224)
Met Online X Used Educ Filter X High-Educ Pref. Z-score				-0.098				-0.018				-0.068
				(0.069)				(0.082)				(0.123)
Avg. of Dependent Variable	0.223	0.223	0.223	0.223	0.244	0.244	0.244	0.244	0.197	0.197	0.197	0.197
Individual FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Relationship Type FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R squared	0.028	0.027	0.028	0.027	0.032	0.033	0.030	0.031	0.033	0.031	0.036	0.032
Number of Observations	976	976	976	976	551	551	551	551	425	425	425	425
Number of Individuals	402	402	402	402	256	256	256	256	195	195	195	195

Note: Standard errors, clustered at the individual level, are reported in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. To include individual fixed effects, we limit the sample to respondents who report at least two serious relationship spells. "Relationship type" is a categorical variable indicating whether the serious relationship involved marriage, engagement, or cohabitation. "High population density area" refers to a U.S. state with a 2013 population density above the median. We assign this based on the state in which the respondent met their partner.

that individuals with strong same-race preferences in low–population-density areas rely on race filter functions in online dating to find same-race partners.

Table 10 reports similar regressions for the likelihood that the partner has a college degree. We find that meeting online is associated with a modestly higher likelihood of having a college-educated partner (Column 1). While subsample results by population density (Columns 4 to 12) are not statistically significant—likely due to smaller sample sizes—the full-sample results (Columns 1 to 4) are largely driven by respondents in high-density states (Columns 5 to 8).

Given the prominence of the Tinder effect in the ACS analysis, we also examine it using our

survey data (see Tables B.11 and B.12 in the Online Appendix). Most coefficients are statistically insignificant, likely due to the limited survey sample size compared to the ACS, but their signs are broadly consistent with the ACS baseline estimates. For instance, the effect of meeting on Tinder on the likelihood of same-race marriage remains negative (Table B.11). We caution that the magnitudes are nonetheless not directly comparable across datasets because the survey and the ACS analyses differ in research design and sample composition[15]. To gauge the expected precision with our survey sample size, we drew 100 bootstrap (i.e., sample with replacement) subsamples from the ACS, each with 635 White and 341 Black respondents born between 1971 and 1991, emulating the sample sizes in our survey. Figure B.8 reports the distribution of the bootstrapped Tinder coefficients and their associated p-values, showing that statistically significant effects are rare at this scale. This suggests that the lack of significance in our survey results reflects limited statistical power rather than a contradiction with the ACS findings.

In summary, the individual fixed effects regressions—which account for unobserved individual heterogeneity in selection into online dating—suggest that mating outcomes, specifically the likelihood of having a same-race or college-educated partner, are significantly associated with having met a partner online. For racial homogamy, we find heterogeneity based on respondents' same-race preference intensity and race filter usage, emphasizing that the influence of dating technologies depends heavily on user preferences and search behaviors.

4.2.3 Evidence on Relationship Quality

Lastly, we examine whether relationship quality—proxied by relationship duration—differs according to the method through which partners met. To do so, we estimate a Cox proportional hazards model (equation 2), stratified by individual, to assess whether the hazard of relationship dissolution, $h_i(t \mid X_i)$, varies systematically with meeting method. Stratification allows each individual to have their own baseline hazard function, $h_{0i}(t)$, thereby accounting for unobserved heterogeneity that may jointly influence both the meeting method and relationship duration (e.g., individuals who tend to exit relationships more quickly might be more likely to engage in online dating). In all specifications, we also control for age at the time of meeting their partner and for

[15] In Tables B.11 and B.12, for example, the Tinder covariate is a dummy indicating whether the respondent met their partner on Tinder, whereas in Tables 3 and 4 it is a continuous measure of platform popularity. Moreover, the ACS covers all racial groups (excluding mixed races) and includes individuals who married between 2008 and 2018 at ages 20–50, while our survey is restricted to White and Black respondents—roughly half of the sample each—born between 1971 and 1991.

Table 11: Cox Proportional Hazard Model Stratified by Individual

Sample	All		High Pop. Density		Low Pop. Density	
	(1)	(2)	(3)	(4)	(5)	(6)
Met Online	0.954	0.979	0.857	0.822	0.846	1.037
	(0.153)	(0.155)	(0.205)	(0.217)	(0.229)	(0.304)
Met Online X Same-Race Pref. Z-score		1.161		1.136		1.369
		(0.178)		(0.265)		(0.363)
Met Online X Higher-Educ Pref. Z-score		1.240		1.277		1.260
		(0.189)		(0.327)		(0.342)
Avg. of Duration	6.789	6.789	6.605	6.605	7.033	7.033
Control Age When Met	Yes	Yes	Yes	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes	Yes	Yes	Yes
Relationship Type FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R squared						
Observations	843	843	479	479	364	364

Note: The table shows the exponentiated coefficients; Standard errors, clustered at the individual level, are reported in parentheses. $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$. We limit the sample to respondents who report at least two serious relationship spells to estimate the baseline hazard functions separately for each individual.

relationship-type fixed effects.

$$h_i(t \mid X_i) \;=\; h_{0i}(t)\, \exp(X_i\beta) \tag{2}$$

Table 11 reports the exponentiated coefficients, $\exp(\widehat{\beta})$, which are interpreted as hazard ratios:

$$\exp(\beta_k) \;=\; \frac{h_i(t \mid x_{ik}+1,\, x_{i,-k})}{h_i(t \mid x_{ik},\, x_{i,-k})}. \tag{3}$$

Values greater than 1 indicate a higher hazard (shorter expected duration), while values less than 1 indicate a lower hazard (longer expected duration). Across all specifications, we find no statistically significant evidence that relationship duration differs by meeting method once individual-specific baseline hazards are taken into account.

5 Conclusion

This paper investigates how online dating technology shapes mating patterns in the United States, focusing on the role of platform-specific filtering functions that allow users to screen for preferred characteristics. Given that each platform offers different filtering capabilities, users may self-select into platforms that align with their partner preferences, resulting in different mating outcomes.

Using data from the American Community Survey and a continuous-treatment difference-in-differences design—validated through an event study—we find that rising local popularity of platforms such as Tinder and eHarmony increased interracial marriages, while Match.com and Zoosk increased same-race marriages. These effects remain robust after controlling for flexible state-, race-, and education-group–specific linear time trends. By contrast, we find weaker statistical evidence that online dating popularity affected educational homogamy.

We then turn to original survey data that captures partner preferences, dating histories, and online dating experiences. We find that users exhibit differential search behavior depending on their preferences: individuals with strong preferences for a partner's race or education are more likely to use filtering functions when available. Using individual fixed-effects models that account for unobserved heterogeneity in selection into online dating and spouse preferences, we find modest evidence that meeting a partner online is associated with a higher likelihood of interracial dating in high–population-density areas, where online dating is more prevalent. However, this effect disappears for individuals with strong same-race preferences, underscoring the importance of users' preferences. We do not find evidence that using a race filter alters mating outcomes in high–population-density areas. In contrast, in low–population-density areas we do not find a significant overall effect of meeting online, nor a significant interaction with same-race preferences. Instead, the use of race filters is critical in these areas: those who use a race filter while online dating are substantially more likely to meet a same-race partner, and this effect is largely driven by individuals with strong same-race preferences who use the race filter. This implies that filter functions in online dating play a central role in shaping mating outcomes in low–population-density areas, particularly for individuals with strong same-race preferences. We also examine whether relationships that began online differ in duration, which proxies for relationship quality. After accounting for individual-level unobserved heterogeneity, we find no significant overall difference in relationship duration by meeting method.

Taken together, our findings suggest that online dating technologies have the potential to

reshape broader patterns of assortative mating in the United States, particularly with respect to interracial marriages. Yet their influence on partner search is mediated by both individual preferences and platform design. The effects are not uniform but platform-specific, underscoring the importance of examining multiple platforms and the interaction between their features and users' preferences when evaluating their impact on mating outcomes. Finally, our analysis centers on assortative matching by race and education; we do not examine other dimensions (e.g., age, religion, political orientation), which we leave for future research.

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Online Appendix for "The Rise of Online Dating and Heterogamous Marriages" (Hwang, de Paula, Yang)

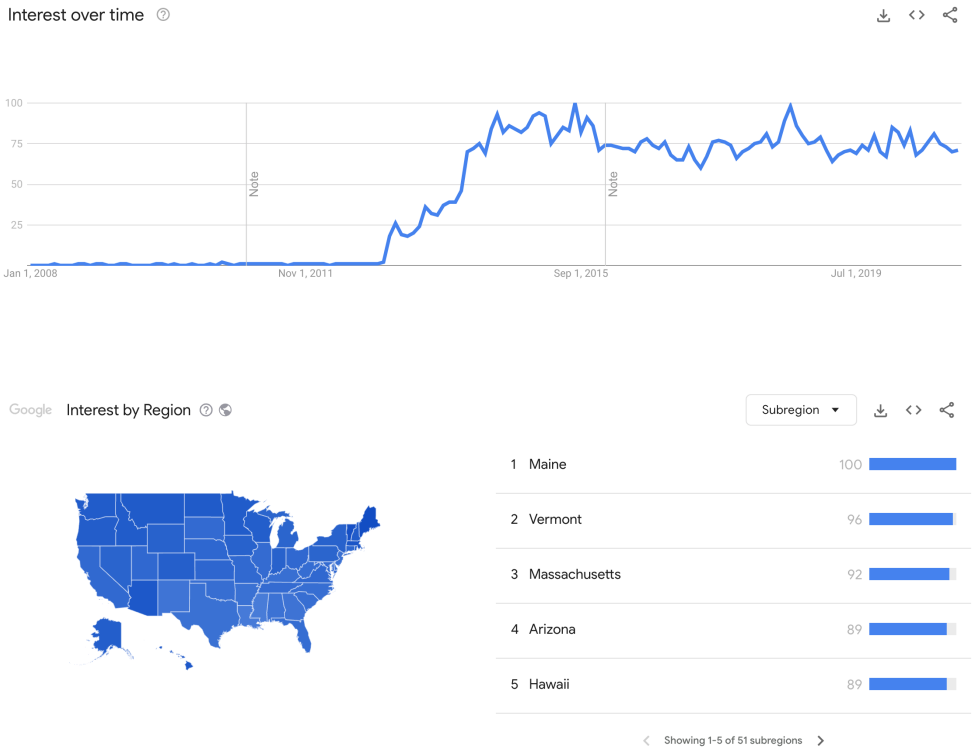
A Construction of Online Dating Platform Popularity Indices

This section describes the construction of the online dating platform popularity indices using Google Trends and KWFinder (Mangools) data. First, we obtain the relative search volume of each online dating platform name in different states and across time. For example, Figure A.1 shows the relative search volume we obtained for "Tinder". As an illustration, the upper subfigure displays the relative search volume for Tinder in New York state from 2008 to 2020, while the lower subfigure presents the relative search volume across different states in 2018. It is important to note that all search volumes are relative, meaning they are normalized to the highest value within the selected range, which is set to 100. Additionally, each individual search volume represents Tinder's search volume divided by the total search volume for all queries in that area or time period. Consequently, these figures reflect Tinder's relative popularity compared to all other search activities, rather than its absolute search volumes.

To deal with the problem that the absolute value is not available for the keyword, we combine the Google Trends data with the KWFinder tool on Mangools, where the absolute search volumes are available for a certain period of time for each US state. Specifically, we follow the steps below to construct the panel search volume index for Tinder. First, we obtain the absolute search volume for Tinder in 2020 for New York state using KWFinder denoted by X_{20}^{NY} [16]. Then we divide this number by the population of New York State to get a normalized version of the search volume for Tinder: $\widetilde{X}_{20}^{NY}$. Having this in hand, we then use the relative search volume for Tinder across time to back out the normalized search volume for Tinder across all time: $\{\widetilde{X}_{08}^{NY}, \widetilde{X}_{09}^{NY}, ..., \widetilde{X}_{18}^{NY}\}$. Finally, the last step is to use the relative search volume across different states in each year to back out the normalized search volumes for other states $\{\widetilde{X}_{08}^{S_1}, \widetilde{X}_{09}^{S_1}, ..., \widetilde{X}_{18}^{S_1}, ..., \widetilde{X}_{08}^{S_2}, \widetilde{X}_{09}^{S_2}, ..., \widetilde{X}_{18}^{S_2}, ..., \widetilde{X}_{08}^{S_N}, \widetilde{X}_{09}^{S_N}, ..., \widetilde{X}_{18}^{S_N}\}$. Using this method, we can construct the panel of online dating platform popularity indices for each US state and across years.

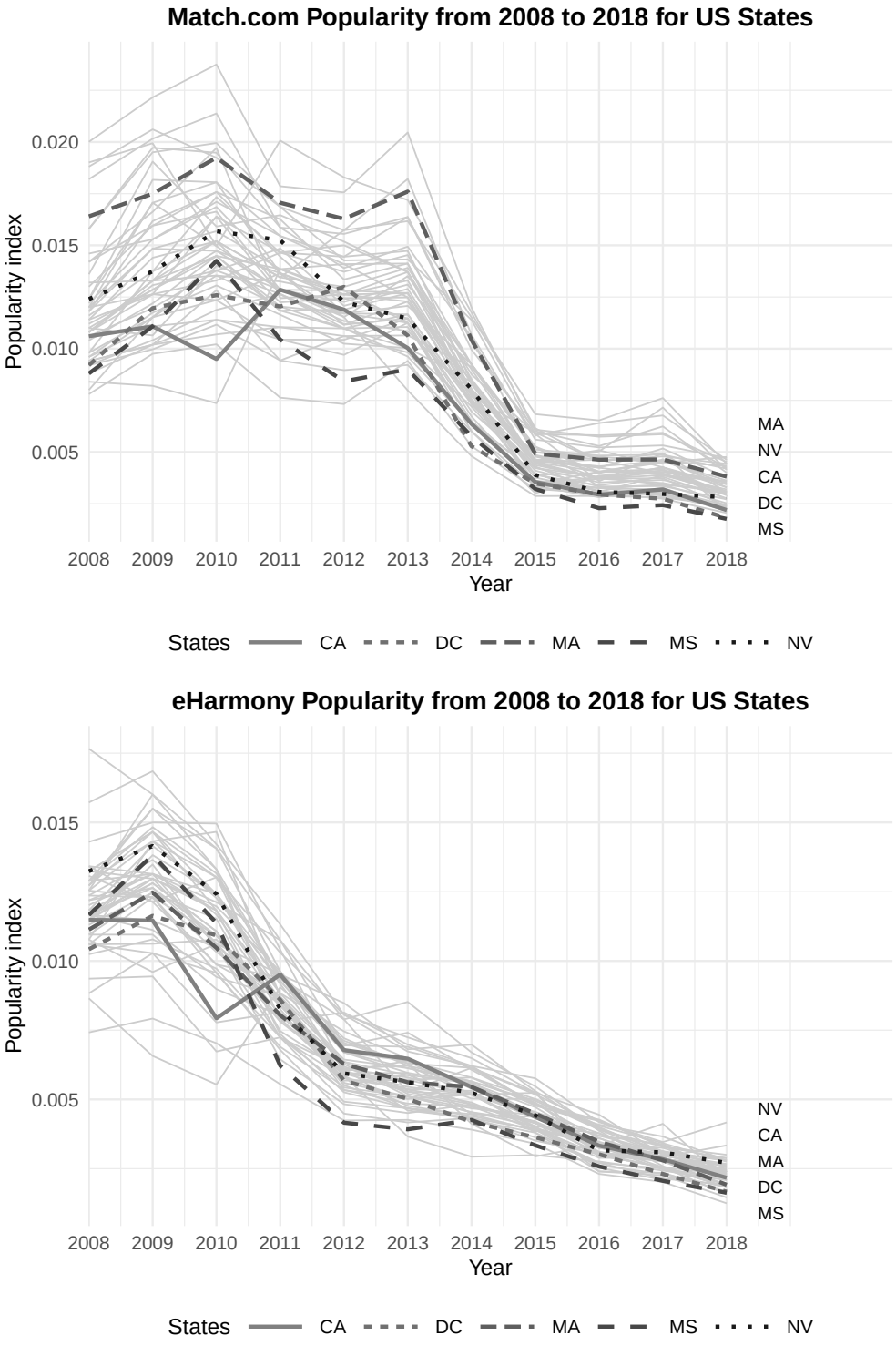
[16] We begin with search volume data from 2020, the earliest year for which KWFinder provides absolute search volume figures. Although 2020 is the first pandemic year, this does not affect our results: we rely on precise relative search indices from Google Trends across years, and the 2020 absolute value serves only as a scaling factor. New York is chosen as the baseline state due to its high and widespread usage of Tinder. To assess the robustness of our results, we also re-estimated the analysis using alternative baseline states and found that the results remained consistent.

Figure A.1: Screenshots of Google Trends for “Tinder” keyword: Across Time for New York and Across States



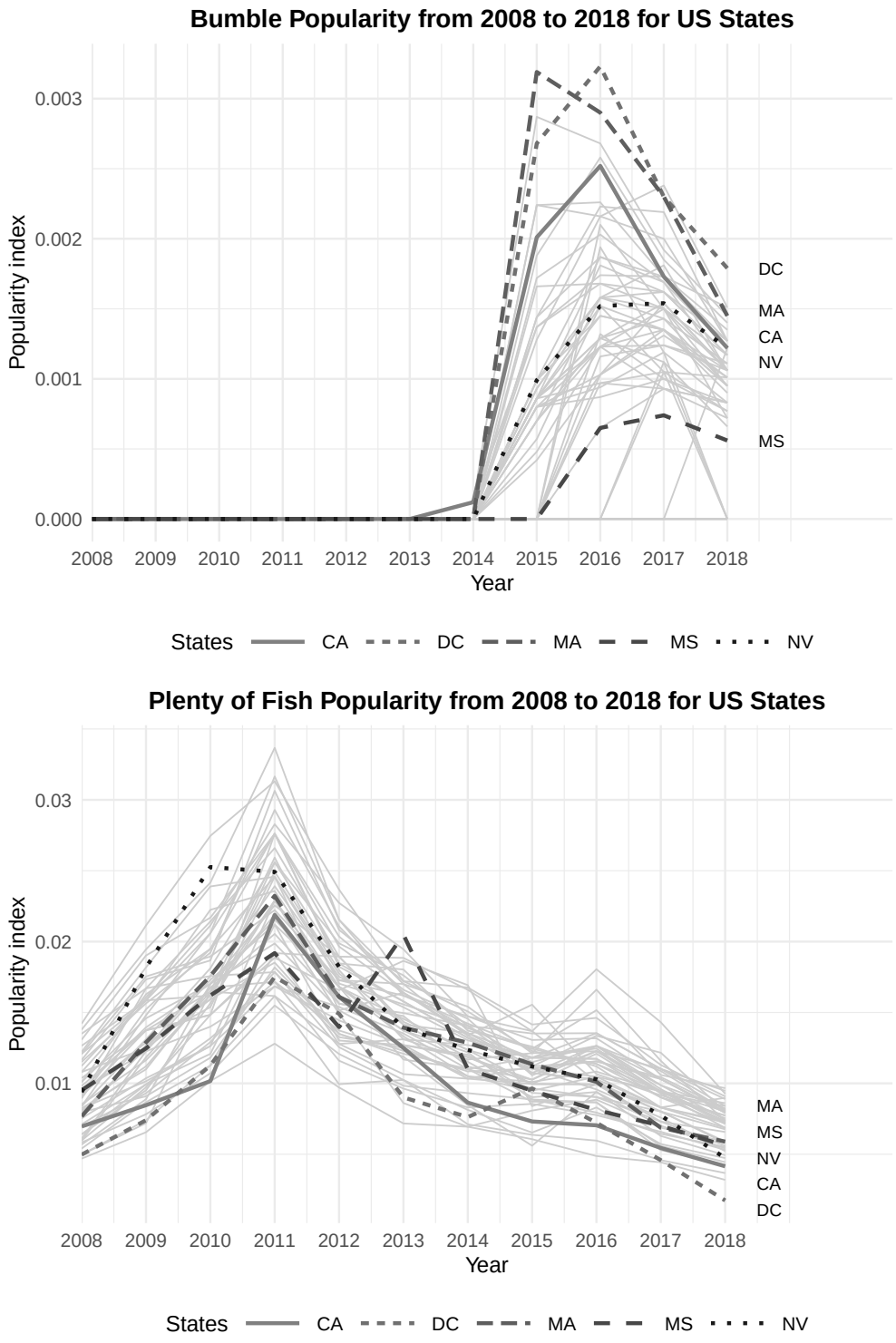
B Additional Tables and Figures

Figure B.2: Popularity Index for Match.com and eHarmony



Note: This figure shows Match.com and eHarmony popularity indices for 51 US states, where five states (Massachusetts, Nevada, California, Washington DC, Mississippi) are highlighted in darker lines.

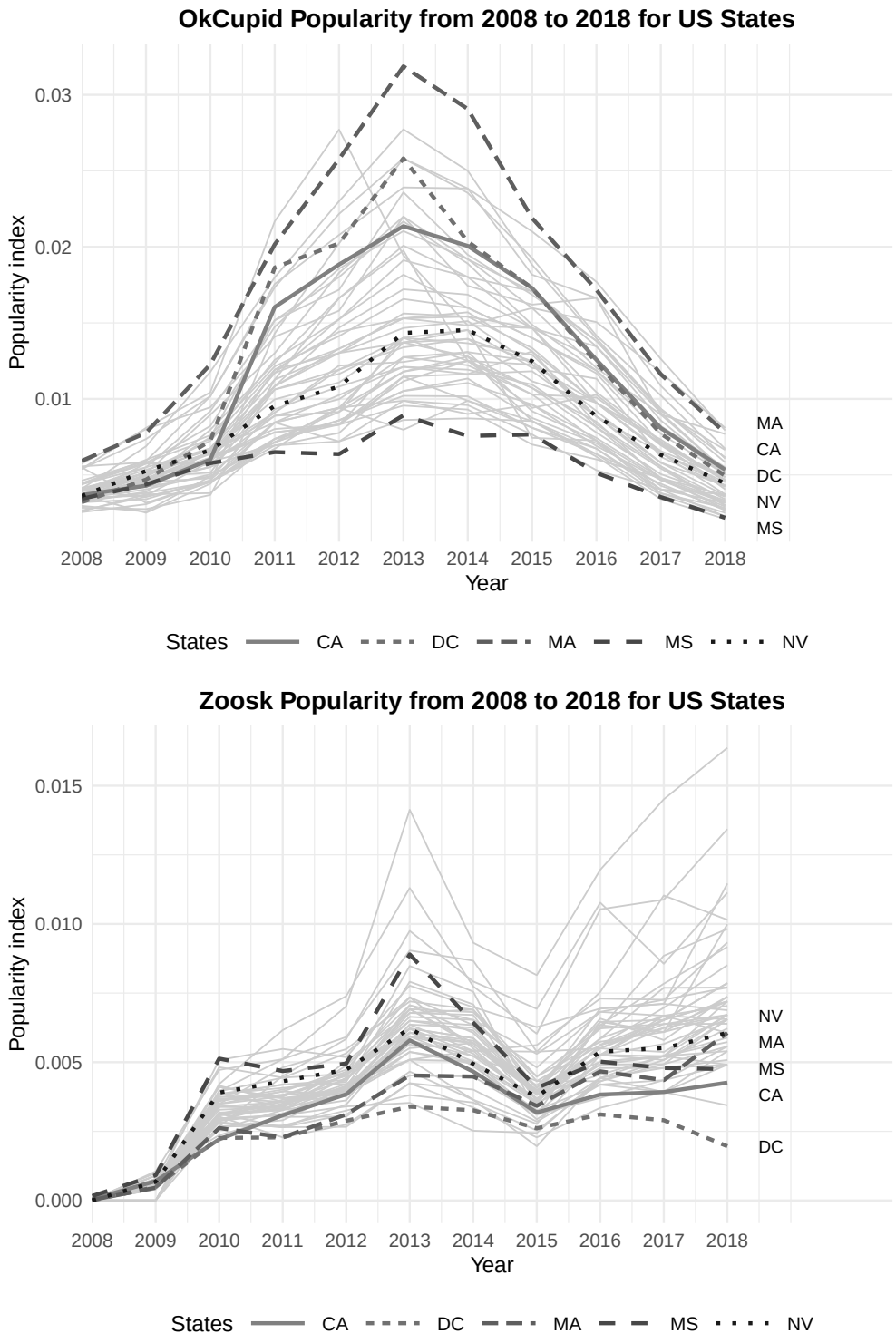
Figure B.3: Popularity Index for Bumble and Plenty of Fish



Note: This figure shows Bumble and Plenty of Fish popularity indices for 51 US states, where five states (Massachusetts, Nevada, California, Washington DC, Mississippi) are highlighted in darker lines.

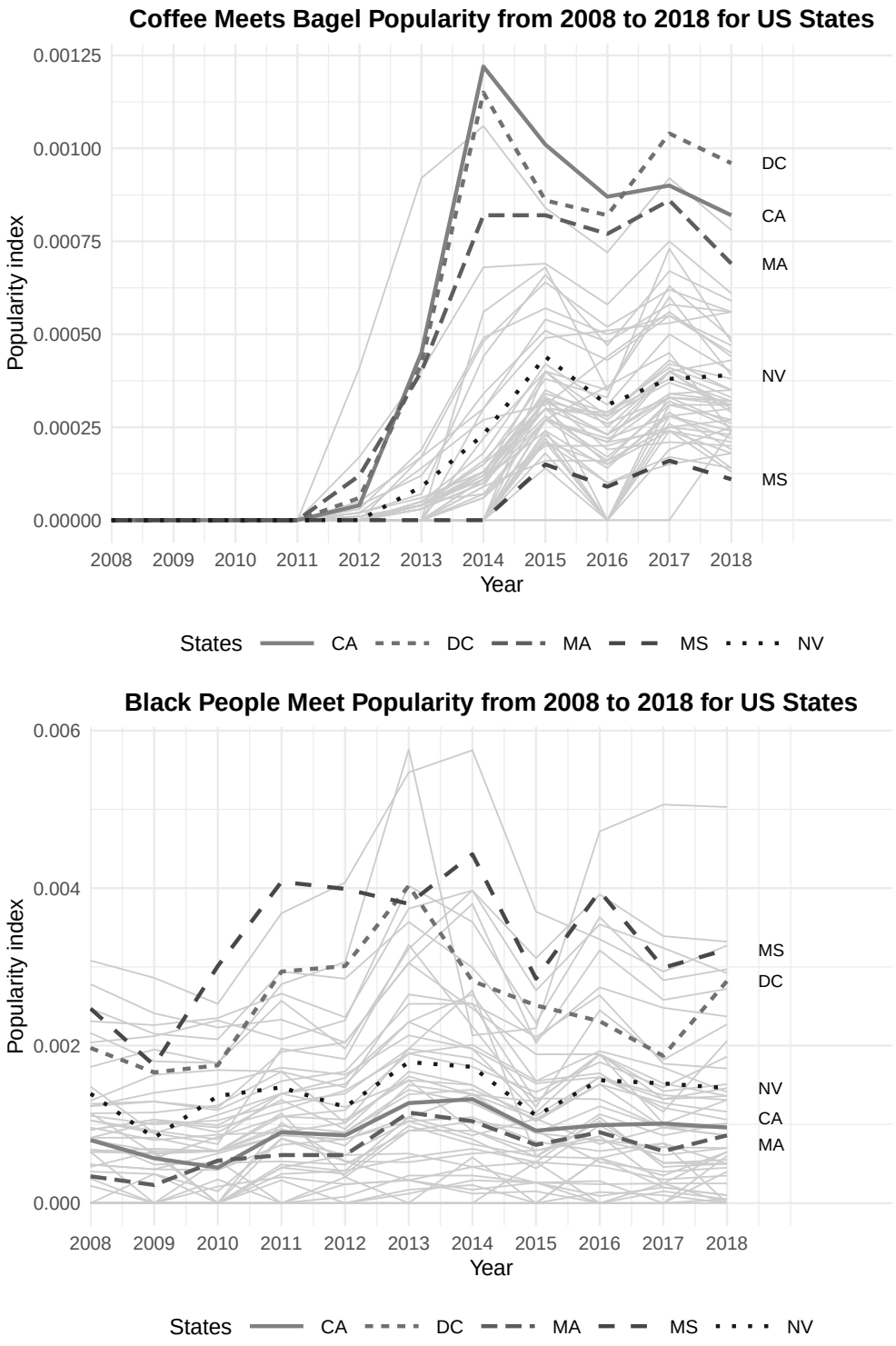
According to data Google shared with the press, Plenty of Fish was among the top-searched dating sites in the United States during 2015 (Anwar, 2015), consistent with our reconstructed search-volume index showing POF as a leading platform in our sample period.

Figure B.4: Popularity Index for OkCupid and Zoosk



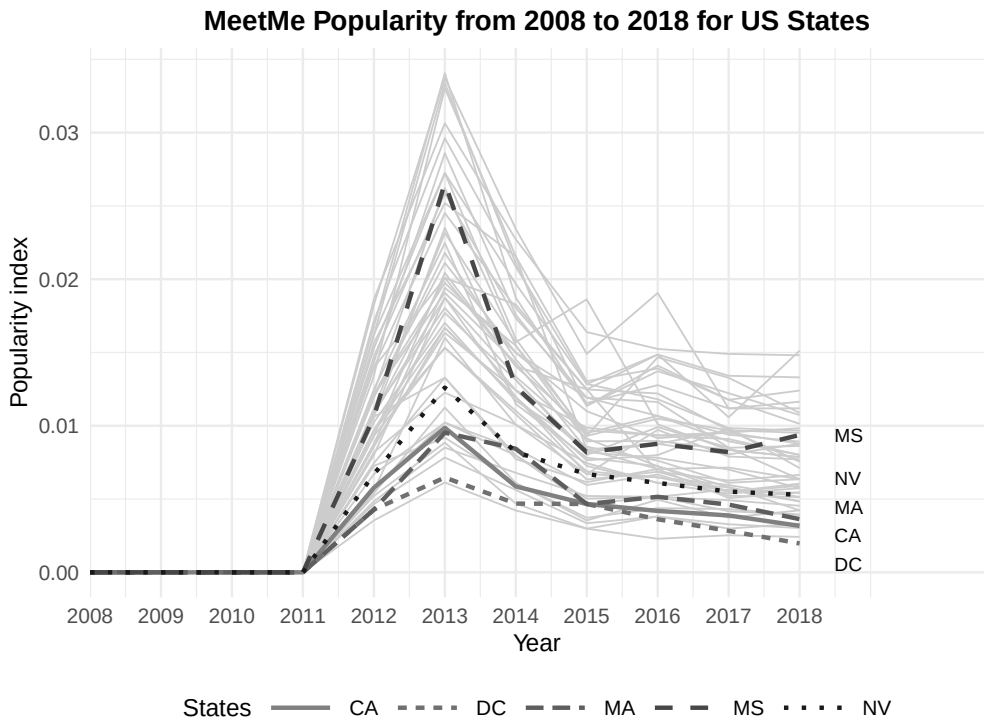
Note: This figure shows OkCupid and Zoosk popularity indices for 51 US states, where five states (Massachusetts, Nevada, California, Washington DC, Mississippi) are highlighted in darker lines.

Figure B.5: Popularity Index for Coffee Meets Bagel and Black People Meet



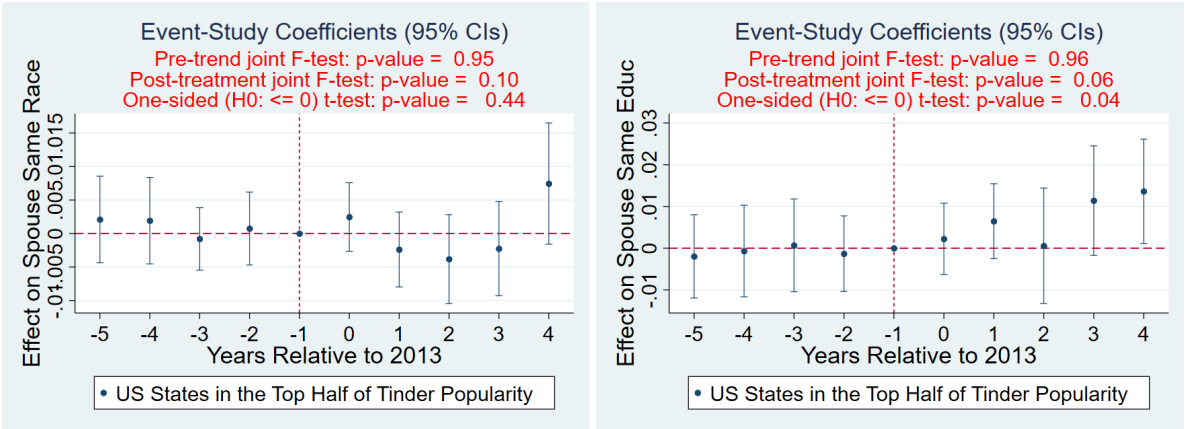
Note: This figure shows Coffee Meets Bagel and Black People Meet popularity indices for 51 US states, where five states (Massachusetts, Nevada, California, Washington DC, Mississippi) are highlighted in darker lines.

Figure B.6: Popularity Index for MeetMe



Note: This figure shows MeetMe popularity indices for 51 US states, where five states (Massachusetts, Nevada, California, Washington DC, Mississippi) are highlighted in darker lines.

Figure B.7: Event Study Evidence on the Absence of Pre-Trend (Using Top Half of US States)



Note: We ranked the US states by average Tinder popularity indices throughout our sample periods and defined the top half US states where Tinder was most popular as a treated group. The top half US states are Massachusetts, Vermont, New York, Washington, Rhode Island, Washington DC, North Dakota, Utah, Colorado, Maine, Connecticut, New Hampshire, California, Philadelphia, Hawaii, Montana, Illinois, Wisconsin, Michigan, Minnesota, Iowa, Arizona, Alaska, New Jersey, Nebraska, Nevada, and Oregon. We controlled for the same individual- and state-level covariates and the popularity of the ten other online dating platforms as in column (4) of Tables 3 and 4, along with year and state fixed effects.

Table B.1: Correlation Matrix of Residualized Standardized Online Dating Popularity Measures

	Tinder	POF	Bumble	OkCupid	eHarmony	Zoosk	MeetMe	Match	BPM	Hinge	CMB
Tinder	1										
Plenty of Fish	0.143***	1									
Bumble	0.121**	−0.155***	1								
Okcupid	0.330***	0.111**	−0.0999*	1							
eHarmony	0.0576	0.120**	0.00457	0.196***	1						
Zoosk	0.212***	0.284***	−0.0778	−0.00584	−0.106*	1					
Meetme	−0.127**	0.105*	0.0926*	−0.318***	−0.0154	0.276***	1				
Match.com	−0.201***	0.0981*	−0.0689	−0.00163	0.436***	−0.165***	0.0934*	1			
Black People Meet	−0.0220	0.131**	−0.0303	0.0606	0.0292	0.00298	−0.0286	0.139***	1		
Hinge	0.0133	−0.103*	0.335***	−0.0619	−0.0160	−0.224***	−0.0759	0.0234	0.0976*	1	
Coffee Meets Bagel	0.398***	−0.0879*	0.326***	0.171***	0.000792	−0.120**	−0.213***	−0.0472	0.0679	0.431***	1

Notes: POF = Plenty of Fish; BPM = Black People Meet; CMB = Coffee Meets Bagel. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. This table shows the Pearson correlation coefficients of residualized standardized online dating popularity measures.

Table B.2: Effect of Online Dating Popularity on Educational Homogamy (Tinder Only)

	Dependent Variable: Spouse Same Education			
	(1)	(2)	(3)	(4)
Tinder (std.)	-0.001	-0.011**	-0.011**	-0.011**
	(0.004)	(0.005)	(0.005)	(0.005)
Avg. of Dependent Variable	0.442	0.442	0.442	0.442
Individual Demographics	Y	Y	Y	Y
Time-Varying State Char.	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
State FE	Y	Y	Y	Y
State Time Trend	N	Y	Y	Y
Race Time Trend	N	N	Y	Y
Education Time Trend	N	N	N	Y
Adjusted R squared	0.010	0.010	0.010	0.010
Observations	766074	766074	766074	766074

Note: Standard errors are clustered at the state level and are presented in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The individual demographics include dummies for individual birth year, gender, race and education level. The time-varying state characteristics include the share of singles, racial and age composition, and the share of college graduates (all computed separately by gender), as well as the sex ratio, log population, average implicit and explicit racial attitudes—each based on residents ages 20–50.

Table B.3: Effect of Online Dating Popularity on New Marriages

	Dependent Variable: Whether Married This Year							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Online Dating App (std.)	-0.000	-0.000	-0.000	-0.000				
	(0.000)	(0.000)	(0.000)	(0.000)				
Tinder (std.)					-0.001	0.000	0.000	0.000
					(0.001)	(0.001)	(0.001)	(0.001)
Plenty of Fish (std.)					-0.000	0.000	0.000	0.000
					(0.000)	(0.000)	(0.000)	(0.000)
Bumble (std.)					0.002***	0.001	0.001	0.001
					(0.000)	(0.000)	(0.000)	(0.000)
Okcupid (std.)					-0.000	-0.000	-0.000	-0.000
					(0.000)	(0.001)	(0.001)	(0.001)
eHarmony (std.)					0.000	-0.000	-0.000	-0.000
					(0.001)	(0.001)	(0.001)	(0.001)
Zoosk (std.)					0.001	0.001	0.001	0.001
					(0.001)	(0.001)	(0.001)	(0.001)
Meetme (std.)					-0.000	0.000	0.000	0.000
					(0.001)	(0.001)	(0.001)	(0.001)
Match.com (std.)					-0.001*	-0.001	-0.001	-0.001
					(0.001)	(0.001)	(0.001)	(0.001)
Black People Meet (std.)					-0.000	-0.000	-0.000	-0.000
					(0.000)	(0.000)	(0.000)	(0.000)
Hinge (std.)					-0.000	-0.001	-0.001	-0.001
					(0.000)	(0.001)	(0.001)	(0.001)
Coffee Meets Bagel (std.)					0.001***	0.001	0.001	0.001
					(0.000)	(0.000)	(0.000)	(0.000)
Avg. of Dependent Variable	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043
Individual Demographics	Y	Y	Y	Y	Y	Y	Y	Y
Time-Varying State Char.	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
State FE	Y	Y	Y	Y	Y	Y	Y	Y
State Time Trend	N	Y	Y	Y	N	Y	Y	Y
Race Time Trend	N	N	Y	Y	N	N	Y	Y
Education Time Trend	N	N	N	Y	N	N	N	Y
Adjusted R squared	0.067	0.067	0.067	0.067	0.067	0.067	0.067	0.067
Observations	3574360	3574360	3574360	3574360	3574360	3574360	3574360	3574360

Note: Standard errors are clustered at the state level and are presented in parentheses. $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$. The individual demographics include dummies for individual birth year, gender, race and education level. The time-varying state characteristics include the share of singles, racial and age composition, and the share of college graduates (all computed separately by gender), as well as the sex ratio, log population, average implicit and explicit racial attitudes—each based on residents ages 20–50.

Table B.4: Effect of Online Dating Popularity on New Divorces

	Dependent Variable: Whether Divorced This Year							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Online Dating App (std.)	-0.000	-0.000*	-0.000*	-0.000*				
	(0.000)	(0.000)	(0.000)	(0.000)				
Tinder (std.)					0.000	0.001	0.001	0.001
					(0.001)	(0.001)	(0.001)	(0.001)
Plenty of Fish (std.)					-0.000	-0.000	-0.000	-0.000
					(0.000)	(0.000)	(0.000)	(0.000)
Bumble (std.)					-0.000	-0.000	-0.000	-0.000
					(0.000)	(0.000)	(0.000)	(0.000)
Okcupid (std.)					-0.000	-0.000	-0.000	-0.000
					(0.000)	(0.000)	(0.000)	(0.000)
eHarmony (std.)					-0.001	-0.001	-0.001	-0.001
					(0.000)	(0.001)	(0.001)	(0.001)
Zoosk (std.)					-0.000	-0.000	-0.000	-0.000
					(0.000)	(0.000)	(0.000)	(0.000)
Meetme (std.)					-0.000	-0.000	-0.000	-0.000
					(0.000)	(0.000)	(0.000)	(0.000)
Match.com (std.)					0.000	0.001*	0.001*	0.001*
					(0.001)	(0.001)	(0.001)	(0.001)
Black People Meet (std.)					0.000	0.000	0.000	0.000
					(0.000)	(0.000)	(0.000)	(0.000)
Hinge (std.)					0.000	0.000	0.000	0.000
					(0.000)	(0.000)	(0.000)	(0.000)
Coffee Meets Bagel (std.)					0.000	0.000	0.000	0.000
					(0.000)	(0.000)	(0.000)	(0.000)
Avg. of Dependent Variable	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024
Individual Demographics	Y	Y	Y	Y	Y	Y	Y	Y
Time-Varying State Char.	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
State FE	Y	Y	Y	Y	Y	Y	Y	Y
State Time Trend	N	Y	Y	Y	N	Y	Y	Y
Race Time Trend	N	N	Y	Y	N	N	Y	Y
Education Time Trend	N	N	N	Y	N	N	N	Y
Adjusted R squared	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Observations	3573844	3573844	3573844	3573844	3573844	3573844	3573844	3573844

Note: Standard errors are clustered at the state level and are presented in parentheses. $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$. The individual demographics include dummies for individual birth year, gender, race and education level. The time-varying state characteristics include the share of singles, racial and age composition, and the share of college graduates (all computed separately by gender), as well as the sex ratio, log population, average implicit and explicit racial attitudes—each based on residents ages 20–50.

Table B.5: CGBS Polynomial Dose-Response: Effect on Racial Homogamy

	(1) Tinder	(2) POF	(3) Bumble	(4) Okcupid	(5) eHarmony	(6) Zoosk	(7) Meetme	(8) Match	(9) BPM	(10) Hinge	(11) CMB
Popularity (std.)	-0.016	-0.002	0.004	0.002	-0.003	0.008***	0.012***	0.009**	-0.005	0.004	0.008***
	(0.012)	(0.002)	(0.004)	(0.003)	(0.004)	(0.003)	(0.004)	(0.004)	(0.003)	(0.003)	(0.002)
Popularity (std.)^2	-0.000	0.001	-0.002	-0.001	-0.002	0.000	-0.005	0.001	0.002	0.000	-0.002
	(0.006)	(0.001)	(0.004)	(0.002)	(0.003)	(0.002)	(0.005)	(0.002)	(0.001)	(0.003)	(0.003)
Popularity (std.)^3	-0.006	-0.000	0.002	0.000	-0.001	-0.001	-0.000	-0.003	0.000	-0.001	-0.000
	(0.011)	(0.001)	(0.003)	(0.001)	(0.003)	(0.001)	(0.003)	(0.002)	(0.001)	(0.001)	(0.001)
Popularity (std.)^4	0.005	0.000	-0.000	-0.000	0.001	0.000	0.000	0.001	-0.000	0.000	0.000
	(0.004)	(0.000)	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
F-test (H0: linear)	2.30	1.72	2.00	1.02	0.79	2.09	3.64	0.87	4.29	15.50	8.59
p-value	0.089	0.174	0.127	0.392	0.503	0.114	0.019	0.462	0.009	0.000	0.000
AME							0.0152		-0.0042*	0.0028	0.0085
							(0.0125)		(0.0025)	(0.0040)	(0.0057)
Avg. of Dep. Var.	0.877	0.877	0.877	0.877	0.877	0.877	0.877	0.877	0.877	0.877	0.877
Adjusted R-sq	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055
Observations	766074	766074	766074	766074	766074	766074	766074	766074	766074	766074	766074

Note: All columns are from a single joint quartic polynomial regression with all 11 platforms included simultaneously. Each column displays the coefficients for one platform. 'Popularity (std.)' denotes the standardized platform popularity index. All models include individual demographics, state time-varying characteristics, birth year FE, year FE, state FE, state-specific time trends, race-specific time trends, and education-specific time trends. F-test tests H0: quadratic, cubic, and quartic terms are jointly zero (linear dose-response). AME = average marginal effect from the quartic polynomial; reported only when F-test rejects linearity at 5%. Standard errors clustered at the state level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table B.6: CGBS Polynomial Dose-Response: Effect on Education Homogamy

	(1) Tinder	(2) POF	(3) Bumble	(4) Okcupid	(5) eHarmony	(6) Zoosk	(7) Meetme	(8) Match	(9) BPM	(10) Hinge	(11) CMB
Popularity (std.)	0.031**	0.002	0.007	0.003	0.002	-0.003	0.011	0.003	-0.005	0.004	-0.005
	(0.014)	(0.003)	(0.007)	(0.004)	(0.008)	(0.006)	(0.008)	(0.007)	(0.005)	(0.005)	(0.004)
Popularity (std.)^2	0.003	0.002	0.014	-0.005**	-0.003	0.003	-0.012	-0.002	0.004	-0.008	-0.001
	(0.007)	(0.002)	(0.009)	(0.002)	(0.005)	(0.003)	(0.008)	(0.004)	(0.003)	(0.005)	(0.005)
Popularity (std.)^3	-0.034*	-0.002*	-0.010*	0.003*	-0.000	-0.000	0.002	-0.001	-0.001	0.002	0.001
	(0.017)	(0.001)	(0.006)	(0.001)	(0.004)	(0.003)	(0.004)	(0.003)	(0.002)	(0.001)	(0.002)
Popularity (std.)^4	0.013*	0.000	0.002*	-0.000*	0.001	-0.000	0.000	0.000	0.000	-0.000	-0.000
	(0.006)	(0.000)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)
F-test (H0: linear)	2.27	2.50	1.33	4.80	0.66	0.66	2.61	0.14	1.48	0.98	0.81
p-value	0.092	0.070	0.274	0.005	0.580	0.582	0.062	0.935	0.232	0.411	0.496
AME				0.0085							
				(0.0057)							
Avg. of Dep. Var.	0.442	0.442	0.442	0.442	0.442	0.442	0.442	0.442	0.442	0.442	0.442
Adjusted R-sq	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Observations	766074	766074	766074	766074	766074	766074	766074	766074	766074	766074	766074

Note: All columns are from a single joint quartic polynomial regression with all 11 platforms included simultaneously. Each column displays the coefficients for one platform. 'Popularity (std.)' denotes the standardized platform popularity index. All models include individual demographics, state time-varying characteristics, birth year FE, year FE, state FE, state-specific time trends, race-specific time trends, and education-specific time trends. F-test tests H0: quadratic, cubic, and quartic terms are jointly zero (linear dose-response). AME = average marginal effect from the quartic polynomial; reported only when F-test rejects linearity at 5%. Standard errors clustered at the state level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table B.7: Effect of Online Dating Popularity (2-year average) on Racial Homogamy

	Dependent Variable: Spouse Same Race							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Tinder (std.;2yr avg.)	-0.012***	-0.015**	-0.015**	-0.015**	-0.007*	-0.014***	-0.013***	-0.014***
	(0.004)	(0.006)	(0.006)	(0.006)	(0.004)	(0.005)	(0.005)	(0.005)
Plenty of Fish (std.;2yr avg.)	-0.001	-0.002	-0.002	-0.002				
	(0.001)	(0.002)	(0.002)	(0.002)				
Bumble (std.;2yr avg.)	0.003	0.003	0.003	0.003				
	(0.003)	(0.003)	(0.003)	(0.003)				
Okcupid (std.;2yr avg.)	0.003**	0.003	0.003	0.003				
	(0.001)	(0.002)	(0.002)	(0.002)				
eHarmony (std.;2yr avg.)	-0.002	-0.004	-0.004	-0.004				
	(0.002)	(0.003)	(0.003)	(0.003)				
Zoosk (std.;2yr avg.)	0.000	0.001	0.001	0.001				
	(0.002)	(0.003)	(0.003)	(0.003)				
Meetme (std.;2yr avg.)	0.001	0.000	0.000	0.000				
	(0.001)	(0.002)	(0.002)	(0.002)				
Match.com (std.;2yr avg.)	0.004	0.005*	0.005*	0.005*				
	(0.002)	(0.003)	(0.003)	(0.003)				
Black People Meet (std.;2yr avg.)	-0.001	0.000	0.000	0.000				
	(0.001)	(0.002)	(0.002)	(0.002)				
Hinge (std.;2yr avg.)	-0.001	0.002	0.002	0.002				
	(0.002)	(0.003)	(0.003)	(0.003)				
Coffee Meets Bagel (std.;2yr avg.)	0.002*	-0.000	-0.000	-0.000				
	(0.001)	(0.001)	(0.001)	(0.001)				
Avg. of Dependent Variable	0.877	0.877	0.877	0.877	0.877	0.877	0.877	0.877
Individual Demographics	Y	Y	Y	Y	Y	Y	Y	Y
Time-Varying State Char.	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
State FE	Y	Y	Y	Y	Y	Y	Y	Y
State Time Trend	N	Y	Y	Y	N	Y	Y	Y
Race Time Trend	N	N	Y	Y	N	N	Y	Y
Education Time Trend	N	N	N	Y	N	N	N	Y
Adjusted R squared	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055
Observations	635616	635616	635616	635616	635616	635616	635616	635616

Standard errors are clustered at the state level and are presented in parentheses. $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$. The individual demographics include dummies for individual birth year, gender, race and education level. The time-varying state characteristics include the share of singles, racial and age composition, and the share of college graduates (all computed separately by gender), as well as the sex ratio, log population, average implicit and explicit racial attitudes—each based on residents ages 20–50.

Table B.8: Effect of Online Dating Popularity (2-year average) on Educational Homogamy

	Dependent Variable: Spouse Same Education							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Tinder (std.;2yr avg.)	0.007	-0.006	-0.006	-0.006				
	(0.010)	(0.013)	(0.013)	(0.013)				
Plenty of Fish (std.;2yr avg.)	-0.000	-0.002	-0.002	-0.002				
	(0.002)	(0.003)	(0.003)	(0.003)				
Bumble (std.;2yr avg.)	0.003	0.002	0.002	0.002				
	(0.003)	(0.005)	(0.005)	(0.005)				
Okcupid (std.;2yr avg.)	-0.003	-0.004	-0.004	-0.004				
	(0.003)	(0.003)	(0.003)	(0.003)				
eHarmony (std.;2yr avg.)	0.006	0.007	0.007	0.006				
	(0.004)	(0.005)	(0.005)	(0.005)				
Zoosk (std.;2yr avg.)	0.002	0.001	0.001	0.001				
	(0.005)	(0.006)	(0.006)	(0.006)				
Meetme (std.;2yr avg.)	-0.004	-0.002	-0.002	-0.002				
	(0.003)	(0.003)	(0.003)	(0.003)				
Match.com (std.;2yr avg.)	-0.001	-0.001	-0.001	-0.001				
	(0.005)	(0.006)	(0.006)	(0.006)				
Black People Meet (std.;2yr avg.)	-0.002	-0.001	-0.001	-0.001				
	(0.003)	(0.003)	(0.003)	(0.003)				
Hinge (std.;2yr avg.)	0.003	0.004	0.004	0.004				
	(0.003)	(0.004)	(0.004)	(0.004)				
Coffee Meets Bagel (std.;2yr avg.)	-0.005***	-0.005**	-0.005**	-0.005**	-0.001	-0.005***	-0.005***	-0.005***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Avg. of Dependent Variable	0.442	0.442	0.442	0.442	0.442	0.442	0.442	0.442
Individual Demographics	Y	Y	Y	Y	Y	Y	Y	Y
Time-Varying State Char.	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
State FE	Y	Y	Y	Y	Y	Y	Y	Y
State Time Trend	N	Y	Y	Y	N	Y	Y	Y
Race Time Trend	N	N	Y	Y	N	N	Y	Y
Education Time Trend	N	N	N	Y	N	N	N	Y
Adjusted R squared	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Observations	635616	635616	635616	635616	635616	635616	635616	635616

Standard errors are clustered at the state level and are presented in parentheses. $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$. The individual demographics include dummies for individual birth year, gender, race and education level. The time-varying state characteristics include the share of singles, racial and age composition, and the share of college graduates (all computed separately by gender), as well as the sex ratio, log population, average implicit and explicit racial attitudes—each based on residents ages 20–50.

Table B.9: Effect of Online Dating Popularity on Racial Homogamy (Black Respondents Born Between 1971-1991)

	Dependent Variable: Spouse Same Race							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Tinder (std.)	-0.048**	-0.054**	-0.054**	-0.054**	-0.035***	-0.022	-0.022	-0.022
	(0.023)	(0.026)	(0.026)	(0.026)	(0.011)	(0.018)	(0.018)	(0.018)
Plenty of Fish (std.)	-0.005	-0.004	-0.004	-0.004				
	(0.006)	(0.007)	(0.007)	(0.007)				
Bumble (std.)	0.002	0.001	0.001	0.001				
	(0.011)	(0.012)	(0.012)	(0.012)				
Okcupid (std.)	-0.002	0.001	0.001	0.001				
	(0.007)	(0.008)	(0.008)	(0.008)				
eHarmony (std.)	-0.022**	-0.022	-0.022	-0.022				
	(0.009)	(0.013)	(0.013)	(0.013)				
Zoosk (std.)	-0.022**	-0.020	-0.020	-0.020*				
	(0.011)	(0.012)	(0.012)	(0.012)				
Meetme (std.)	-0.002	0.001	0.000	0.001				
	(0.009)	(0.010)	(0.010)	(0.010)				
Match.com (std.)	0.011	0.014	0.014	0.014				
	(0.011)	(0.012)	(0.012)	(0.012)				
Black People Meet (std.)	0.009	0.008	0.008	0.008				
	(0.007)	(0.007)	(0.007)	(0.007)				
Hinge (std.)	0.008	0.012	0.012	0.012				
	(0.008)	(0.010)	(0.010)	(0.010)				
Coffee Meets Bagel (std.)	0.005	0.008	0.008	0.008				
	(0.005)	(0.007)	(0.007)	(0.007)				
Avg. of Dependent Variable	0.844	0.844	0.844	0.844	0.844	0.844	0.844	0.844
Individual Demographics	Y	Y	Y	Y	Y	Y	Y	Y
Time-Varying State Char.	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
State FE	Y	Y	Y	Y	Y	Y	Y	Y
State Time Trend	N	Y	Y	Y	N	Y	Y	Y
Race Time Trend	N	N	Y	Y	N	N	Y	Y
Education Time Trend	N	N	N	Y	N	N	N	Y
Adjusted R squared	0.074	0.074	0.074	0.074	0.074	0.074	0.074	0.074
Observations	36256	36256	36256	36256	36256	36256	36256	36256

Note: Standard errors are clustered at the state level and are presented in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The individual demographics include dummies for individual birth year, gender, race and education level. The time-varying state characteristics include the share of singles, racial and age composition, and the share of college graduates (all computed separately by gender), as well as the sex ratio, log population, average implicit and explicit racial attitudes—each based on residents ages 20–50.

Table B.10: Heterogeneous Effect of Online Dating Popularity on Racial and Education Homogamy

	Spouse Same Race		Spouse Same Education	
	(1)	(2)	(3)	(4))
Tinder (std.)	-0.005	-0.006	-0.045	-0.010*
	(0.013)	(0.004)	(0.032)	(0.005)
Tinder (std.) × Internet at Home	-0.020**		0.020	
	(0.009)		(0.016)	
Internet at Home	-0.041***		-0.054***	
	(0.011)		(0.012)	
Tinder (std.) × Born after 1980		-0.005***		-0.002
		(0.001)		(0.001)
Avg. of Dependent Variable	0.877	0.877	0.442	0.442
Individual Demographics	Y	Y	Y	Y
Time-Varying State Char.	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
State FE	Y	Y	Y	Y
State Time Trend	Y	Y	Y	Y
Race Time Trend	Y	Y	Y	Y
Educ Time Trend	Y	Y	Y	Y
Adjusted R squared	0.062	0.056	0.014	0.010
Observations	64939	766074	64939	766074

Note: Standard errors clustered at the state level are in parentheses. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. The individual demographics include dummies for individual birth year, gender, race, and education level. The time-varying state characteristics include the share of singles, racial and age composition, and the share of college graduates (all computed separately by gender), as well as the sex ratio, log population, average implicit and explicit racial attitudes—each based on residents ages 20–50.

Table B.11: Individual Fixed Effect Regression on Same-Race Partner (Tinder)

	Whether the partner is same race					
Sample	All		High Pop. Density		Low Pop. Density	
	(1)	(2)	(3)	(4)	(5)	(6)
Met on Tinder	-0.018	-0.018	-0.020	-0.050	-0.175	-0.314
	(0.088)	(0.089)	(0.105)	(0.105)	(0.164)	(0.206)
Met on Tinder X Same-Race Pref. Z-Score		-0.018		0.114		-0.361
		(0.098)		(0.091)		(0.224)
Avg. of Dependent Variable	0.789	0.789	0.796	0.796	0.780	0.780
Individual FE	Yes	Yes	Yes	Yes	Yes	Yes
Relationship Type FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R squared	-0.003	-0.004	0.006	0.007	0.005	0.011
Number of Observations	976	976	551	551	425	425
Number of Individuals	402	402	256	256	195	195

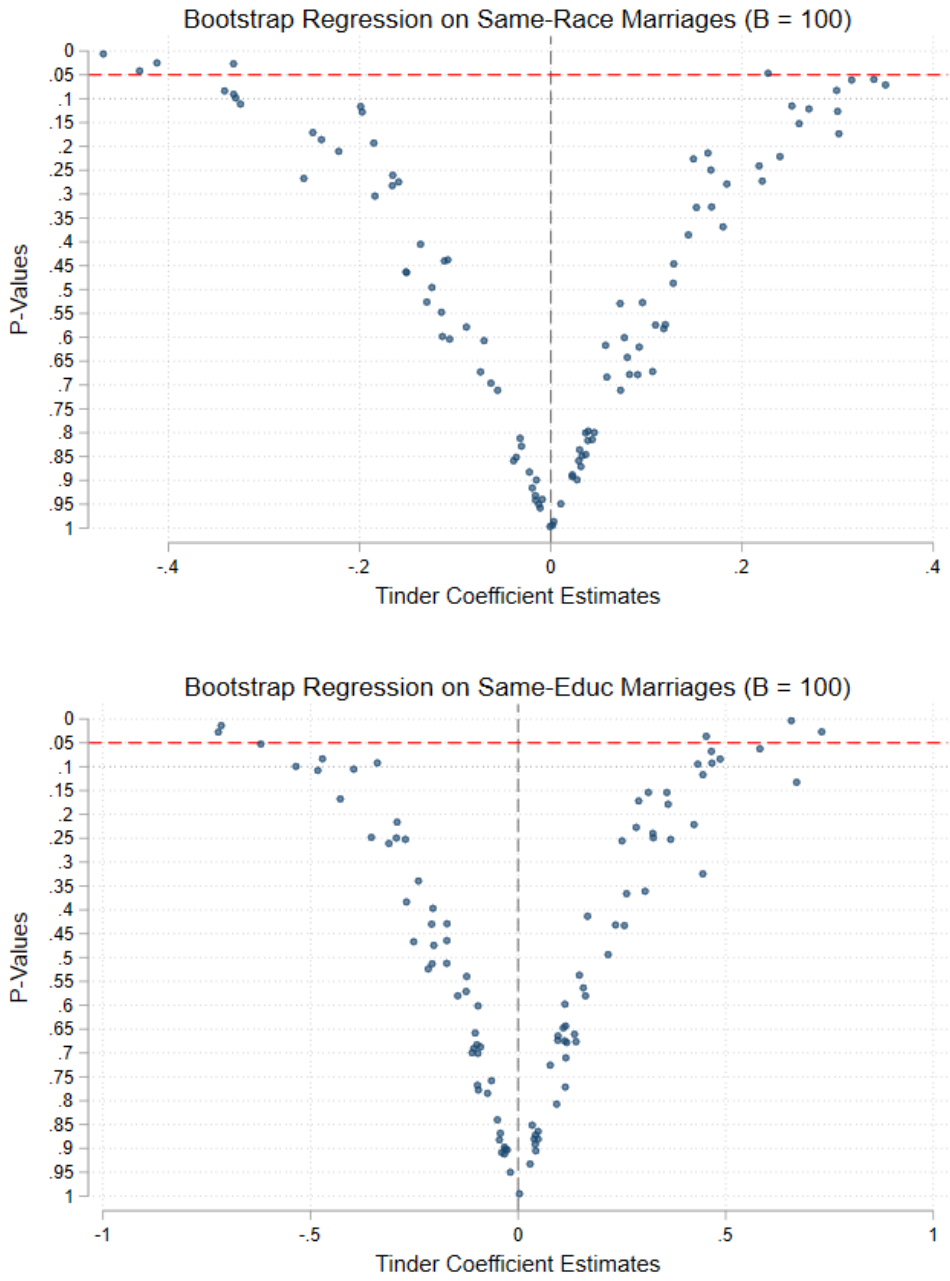
Note: Standard errors, clustered at the individual level, are reported in parentheses. $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$. To include individual fixed effects, we limit the sample to respondents who report at least two serious relationship spells. "Relationship type" is a categorical variable indicating whether the serious relationship involved marriage, engagement, or cohabitation. "High population density area" refers to a U.S. state with a 2013 population density above the median. We assign this based on the state in which the respondent met their partner.

Table B.12: Individual Fixed Effect Regression on College-Grad Partner

	Whether the partner has a college degree					
Sample	All		High Pop. Density		Low Pop. Density	
	(1)	(2)	(3)	(4)	(5)	(6)
Met on Tinder	0.157	0.200*	0.081	0.157	0.245	0.176
	(0.101)	(0.109)	(0.106)	(0.105)	(0.280)	(0.178)
Met on Tinder X High-Educ Pref. Z-Score		-0.127		-0.176**		0.901***
		(0.087)		(0.085)		(0.262)
Avg. of Dependent Variable	0.223	0.223	0.244	0.244	0.197	0.197
Individual FE	Yes	Yes	Yes	Yes	Yes	Yes
Relationship Type FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R squared	0.029	0.032	0.031	0.037	0.040	0.067
Number of Observations	976	976	551	551	425	425
Number of Individuals	402	402	256	256	195	195

Note: Standard errors, clustered at the individual level, are reported in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. To include individual fixed effects, we limit the sample to respondents who report at least two serious relationship spells. "Relationship type" is a categorical variable indicating whether the serious relationship involved marriage, engagement, or cohabitation. "High population density area" refers to a U.S. state with a 2013 population density above the median. We assign this based on the state in which the respondent met their partner.

Figure B.8: Bootstrapping ACS Regression with Small Random Sample



Note: To assess whether significant results persist at a sample size comparable to our survey, we bootstrapped the ACS 100 times to form subsamples of 635 White and 341 Black respondents born between 1971 and 1991. The figure plots the Tinder coefficient from each replication against its p-value. At this scale, the estimated effect of the Tinder popularity index seldom reaches conventional significance.

C Social Desirability Bias Check From List Randomization

We assess the presence of social desirability bias in respondents' stated preferences regarding spousal characteristics using the List Randomization method (Hubbard et al. (1989), Karlan and Zinman (2012), Valente et al. (2024), Deng and Hwang (2025)). This method allows us to detect bias by comparing agreement levels obtained through direct and indirect reporting.

In the direct report, respondents are asked whether they agree with a specific statement, and we record the proportion who report agreement. Responses were recorded on a five-point scale (Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree). We classify "Somewhat agree" and "Strongly agree" as agreement with the statement. In contrast, the indirect report is obtained by comparing two randomly assigned groups. One group is presented with a set of neutral statements and asked how many they agree with. The other group receives the same set, plus an additional sensitive statement of interest. The difference in average agreement between the two groups provides an estimate of the proportion agreeing with the sensitive statement, free from the pressure to respond in a socially desirable manner.

To construct the indirect report, we selected four neutral statements believed to be free of social desirability bias: "I exercise more than three times a week," "I am living with at least one child in my household," "I have three or more bedrooms at home," and "I have health insurance coverage (of any kind, either public or private)."

Table C.13 presents the results. The "Direct" column shows the proportion of respondents who directly expressed agreement with each statement, while the "Indirect" column provides the proportion inferred via list randomization. The "Difference" column reports the difference between these two measures, and the "P-value" column tests whether the difference is statistically significant.

Among the statements related to racial preferences, only "I have considered marrying someone of a different race" shows significant evidence of social desirability bias, suggesting that respondents may underreport agreement with this statement in direct questioning. The other four race-related statements do not exhibit significant differences, and we retain these for further analysis.

In contrast, among the education-related statements, several show substantial social desirability bias. Specifically, under the 5% significance level, we find that "Having a spouse with at least a university/college degree is necessary for a happy marriage," "I can marry someone without a university/college degree as long as I love this person," and "It is less risky to have a spouse with at least a university/college degree" all fail the test. Therefore, for subsequent analysis, we focus on the remaining two education-related statements that pass the list randomization test: "I prefer meeting a spouse with at least a university/college degree" and "Having a university/college

Table C.13: List Randomization Test for Social Desirability Bias

Statements	Direct	Indirect	Difference	P-Value
I prefer meeting a spouse having the same race as me.	0.399	0.537	0.138	0.246
	(0.012)	(0.119)		
I have considered marrying someone of a different race.	0.221	0.620	0.399	0.001
	(0.010)	(0.119)		
A couple of the same race is more likely to stay together.	0.272	0.419	0.146	0.235
	(0.010)	(0.123)		
A person of the same race can be a better partner to me.	0.554	0.469	-0.085	0.518
	(0.012)	(0.130)		
There is nothing wrong with two people of different races being a couple.	0.843	0.880	0.037	0.759
	(0.009)	(0.121)		
I prefer meeting a spouse with at least a university/college degree.	0.373	0.508	0.135	0.275
	(0.011)	(0.124)		
Having a spouse with at least a university/college degree is necessary for a happy marriage.	0.191	0.480	0.289	0.037
	(0.009)	(0.138)		
I can marry someone without a university/college degree as long as I love this person.	0.248	0.673	0.425	0.000
	(0.010)	(0.118)		
It is less risky to have a spouse with at least a university/college degree.	0.781	0.322	-0.458	0.000
	(0.010)	(0.128)		
Having a university/college degree is not an important consideration when choosing a spouse.	0.593	0.752	0.159	0.193
	(0.012)	(0.122)		

Note: This table shows the proportion of people who expressed agreement with statements through direct and indirect reports, the estimates of the difference in proportions, and the p-value for testing whether the difference is different from zero. The standard error estimates of the proportion estimates are presented within parentheses.

degree is not an important consideration when choosing a spouse."

D Survey Questionnaires

Online Dating

Start of Block: HIIT Demographics

demo_consent
We are a non-partisan group of researchers from Johns Hopkins University and University College London. You are being asked to join an academic research survey about dating preference. Participation in this study is voluntary. Even if you decide to join now, you can change your mind later.
This is a **short survey, which takes less than 1 minute, to check your eligibility to apply to participate in our 5-minutes survey about dating preference.** There is no reward for doing this short survey. However, if you pass the eligibility checks, you will be given a chance to participate in our **5-minutes** survey. The reward for successfully completing our main survey is **1.8 dollar.**

Your participation in this study is entirely voluntary. You may stop your participation at any time, without any penalty.

The records from your participation may be reviewed by people responsible for making sure that research is done properly, including members of the Johns Hopkins University Homewood Institutional Review Board.
You can ask questions about this research study now or at any time during the study, by emailing the **PI, Dr. Yujung Hwang, yhwang18@jhu.edu** If you have questions about your rights as a research participant or feel that you have not been treated fairly, or feel that you have been harmed in any way by participating in this study, please call the Homewood Institutional Review Board at Johns Hopkins University at (410) 516-6580. Clicking "Yes, I consent" below means that you have read and understood the information in this consent form. Also, it means that you agree to participate in the study. By consenting to this form, you have not waived any legal rights you otherwise would have as a participant in a research study.

- ○ Yes, I consent. (4)
- ○ No, I do not consent. (5)

End of Block: HIIT Demographics

Start of Block: Repeated Participation

answered_before Have you ever participated in **our survey** regarding dating preferences before?

- ○ Yes (2)
- ○ No (1)

End of Block: Repeated Participation

Start of Block: Eligibility

gender What is your **biological gender** at the time of your birth?

- ○ Male (1)
- ○ Female (2)

*

birthyear What is your **year of birth**?

_____

Page Break

educ What is your **highest level of education**?

- ○ Less than high school (1)
- ○ High school graduate (2)
- ○ Some college, no degree (3)
- ○ Associate degree (4)
- ○ Bachelor's degree (5)
- ○ Master's degree (6)
- ○ Professional or Doctorate degree (7)

marital What is your **current marital status**?

- ○ Married (1)
- ○ Widowed (2)
- ○ Divorced (3)
- ○ Separated (4)
- ○ Never married (5)

Page Break

race Choose **one or more ethnicities/races** that you consider yourself to be:

- [ ] White (1)
- [ ] Black or African American (2)
- [ ] Hispanic/Latino (7)
- [ ] American Indian or Alaska Native (3)
- [ ] Asian (4)
- [ ] Native Hawaiian or Pacific Islander (5)
- [ ] Other (6) _____

appuse Have you ever used any **online dating app** (e.g., Tinder, Bumble)?

- ○ Yes (1)
- ○ No (2)

Page Break

Display This Question:

If Have you ever used any online dating app (e.g., Tinder, Bumble)? = Yes

purpose What is/was the purpose of using **dating apps**? Click all that apply.

- ☐ To meet a potential spouse (1)
- ☐ To meet a sex partner (3)
- ☐ To meet a casual dating partner (4)
- ☐ To meet a friend (5)
- ☐ Other, please specify (6) _____

End of Block: Eligibility

Start of Block: Consent for recruitment

consent We are a non-partisan group of researchers from Johns Hopkins University and University College London. You are being asked to join an academic research survey about dating preference. Participation in this study is voluntary. Even if you decide to join now, you can change your mind later. RESEARCH SUMMARY (KEY INFORMATION) : The information in this section is intended to be an introduction to the study only. Complete details of the study are listed in the sections below. The purpose of this research is to understand dating preference. PROCEDURES: We will ask you several questions about your preference for a spouse/dating partner. The survey will take about **5 minutes.** RISKS/DISCOMFORTS: We do not anticipate any risks or discomforts greater than those encountered in daily life.
BENEFITS: This study may benefit society by contributing to scientific knowledge of social preference in the US. PAYMENTS: You will get paid **1.8 dollar** if you successfully complete this survey.
VOLUNTARY PARTICIPATION AND RIGHT TO WITHDRAW: You can agree to be in the study now and change your mind later, without any penalty or loss of benefits.
CONFIDENTIALITY:
Any study records that identify you will be kept confidential to the extent possible by law. The records from your participation may be reviewed by people responsible for making sure that research is done properly, including members of the Johns Hopkins University Homewood Institutional Review Board. Otherwise, records that identify you will be available only to people working on the study, unless you give permission for other people to see the records. IF YOU

HAVE QUESTIONS OR CONCERNS: You can ask questions about this research study now or at any time during the study, by emailing to socialprefresearch@gmail.com. If you have questions about your rights as a research participant or feel that you have not been treated fairly, please call the Homewood Institutional Review Board at Johns Hopkins University at (410) 516-6580. IF YOU ARE HARMED BY PARTICIPATING IN THE STUDY: If you feel that you have been harmed in any way by participating in this study, please email to socialprefresearch@gmail.com. Please also notify the Homewood Institutional Review Board at Johns Hopkins University at (410) 516-6580. Clicking "Yes, I consent" below means that you have read and understand the information in this consent form. Also, it means that you agree to participate in the study. By consenting to this form, you have not waived any legal rights you otherwise would have as a participant in a research study.

- ○ Yes, I consent. (1)
- ○ No, I do not consent. (2)

End of Block: Consent for recruitment

Start of Block: Commitment

commitment You have been selected to represent a portion of the US population. The results from the survey can influence public policy and thus affect the lives of many people. In order for the information from this research to be the most helpful, it is important that you try to be as accurate, complete, and **honest as possible with your answers.** To do this, it is important to think carefully about each question, search your memory, and take time in answering. Are you willing to do this?

- ○ Yes, I agree (1)
- ○ No, I do not agree (2)

End of Block: Commitment

Start of Block: Dating App Choice

datingapp Which **dating apps** did you use the most? Click **all** that apply.

- [ ] Tinder (464)
- [ ] Bumble (465)
- [ ] Okcupid (466)
- [ ] Hinge (467)
- [ ] Coffee Meets Bagel (468)
- [ ] Grindr (469)
- [ ] Eharmony (470)
- [ ] Zoosk (471)
- [ ] Black People Meets (472)
- [ ] Plenty of Fish (473)
- [ ] MeetMe (474)
- [ ] Inner Circle (475)
- [ ] Match.com (477)
- [ ] Facebook Dating (479)
- [ ] Others, please specify (478)

Page Break

freq How **many date partners** did you ever meet offline from using online dating apps?

- ○ One or two (1)
- ○ More than two but less than five (2)
- ○ More than five but less than ten (3)
- ○ More than ten (4)
- ○ Prefer not to say (5)

Page Break

filter Did you set **any filters** in any of the online dating apps you used? Choose all that apply.

- [ ] ⊗ I did not use any filter (18)
- [ ] Distance (17)
- [ ] Race (1)
- [ ] Education (4)
- [ ] Age (5)
- [ ] Income (8)
- [ ] Political orientation (7)
- [ ] Alcohol (9)
- [ ] Smoking (10)
- [ ] Drug (11)
- [ ] Relationship status (including any presence of children) (15)
- [ ] Religion (19)
- [ ] Preference for children (13)
- [ ] Physical traits (ex. heights/weights) (14)
- [ ] Hobby (2)
- [ ] Language they speak (16)

☐ Other, please specify (3)

_____

Page Break

appfyear When was your **first year** using any dating app?

- ○ Before 2005 (4)
- ○ 2005 to 2010 (6)
- ○ 2010 to 2015 (7)
- ○ 2015 to 2020 (8)
- ○ After 2020 (9)
- ○ Prefer not to say (11)
- ○ I do not remember (13)

applyear When was your **last year** using any dating app?

- ○ Before 2005 (4)
- ○ 2005 to 2010 (5)
- ○ 2010 to 2015 (6)
- ○ 2015 to 2020 (7)
- ○ After 2020 (8)
- ○ Prefer not to say (10)
- ○ I do not remember (11)

End of Block: Dating App Choice

Start of Block: Spouse preference 1

sprace_1 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I have considered marrying someone of a **different** race. (3)	○	○	○	○	○
A couple of the same race is more likely to stay together. (4)	○	○	○	○	○
A person of the same race can be a better partner to me. (2)	○	○	○	○	○
There is nothing wrong with two people of **different** races being a couple. (5)	○	○	○	○	○

Page Break

speduc_1 How much do you agree to the following statements?
Note : University/College degree excludes a degree from a community college/vocational schools.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse with at least a university/college degree. (1)	○	○	○	○	○
Having a spouse with at least a university/college degree is necessary for a happy marriage. (2)	○	○	○	○	○
I can marry someone **without** a university/college degree as long as I love this person. (3)	○	○	○	○	○
It is **less** risky to have a spouse with at least a university/college degree. (4)	○	○	○	○	○
Having a university/college degree is **not** an important consideration when choosing a spouse. (5)	○	○	○	○	○

Page Break

spincome_1 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse having an income level similar to mine / higher than mine. (1)	○	○	○	○	○
I have **not** considered marrying someone who earns **less** money than me. (2)	○	○	○	○	○
I can have a happy marriage even if my spouse earns **less** money than me. (3)	○	○	○	○	○
Whether my partner earns similar or more money than me is an important consideration when choosing a partner. (4)	○	○	○	○	○
I think it is **unlikely** for me to love someone who earns **less** money than me. (7)	○	○	○	○	○

Page Break

spother_1 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
(if you have a religion) I prefer a spouse having the same religion with me. **(if you do not have a religion)** I prefer a spouse having **no** religion as me. (1)	○	○	○	○	○
I prefer meeting a spouse having the same political orientation as me. (3)	○	○	○	○	○
I prefer meeting a spouse with a small age difference from myself. (5)	○	○	○	○	○

End of Block: Spouse preference 1

Start of Block: List Randomization 1

*

LR1 Without specifying which ones you agree to, please report the total number of "yes" answers to the statements below. Your answer must be a number between 0 and 5.

I exercise more than three times a week. I am living with at least one child in my

household. I have three or more bedrooms at home. I have health insurance coverage (of any kind, either public or private). I prefer meeting a spouse having the same race as me.

End of Block: List Randomization 1

Start of Block: Spouse preference 2

sprace_2 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse having the same race as me. **(1)**	○	○	○	○	○
A couple of the same race is more likely to stay together. **(4)**	○	○	○	○	○
A person of the same race can be a better partner to me. (2)	○	○	○	○	○
There is nothing wrong with two people of **different** races being a couple. (5)	○	○	○	○	○

Page Break

speduc_2 How much do you agree to the following statements?
Note : University/College degree excludes a degree from a community college/vocational schools.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse with at least a university/college degree. (1)	○	○	○	○	○
Having a spouse with at least a university/college degree is necessary for a happy marriage. (2)	○	○	○	○	○
I can marry someone **without** a university/college degree as long as I love this person. (3)	○	○	○	○	○
It is **less** risky to have a spouse with at least a university/college degree. (4)	○	○	○	○	○
Having a university/college degree is **not** an important consideration when choosing a spouse. (5)	○	○	○	○	○

Page Break

spincome_2 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse having an income level similar to mine / higher than mine. (1)	○	○	○	○	○
I have **not** considered marrying someone who earns **less** money than me. (2)	○	○	○	○	○
I can have a happy marriage even if my spouse earns **less** money than me. (3)	○	○	○	○	○
Whether my partner earns similar or more money than me is an important consideration when choosing a partner. (4)	○	○	○	○	○
I think it is **unlikely** for me to love someone who earns **less** money than me. (7)	○	○	○	○	○

Page Break

spother_2 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
(if you have a religion) I prefer a spouse having the same religion with me. **(if you do not have a religion)** I prefer a spouse having **no** religion as me. (1)	○	○	○	○	○
I prefer meeting a spouse having the same political orientation as me. (3)	○	○	○	○	○
I prefer meeting a spouse with a small age difference from myself. (5)	○	○	○	○	○

End of Block: Spouse preference 2

Start of Block: List Randomization 2

*

LR2 Without specifying which ones you agree to, please report the total number of "yes" answers to the statements below. Your answer must be a number between 0 and 5.

I exercise more than three times a week. I am living with at least one child in my

household. I have three or more bedrooms at home. I have health insurance coverage (of any kind, either public or private). I have considered marrying someone of a **different** race.

End of Block: List Randomization 2

Start of Block: Spouse preference 3

sprace_3 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse having the same race as me. (6)	○	○	○	○	○
I have considered marrying someone of a **different** race. (3)	○	○	○	○	○
A person of the same race can be a better partner to me. (2)	○	○	○	○	○
There is nothing wrong with two people of **different** races being a couple. (5)	○	○	○	○	○

Page Break

speduc_3 How much do you agree to the following statements?
Note : University/College degree excludes a degree from a community college/vocational schools.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse with at least a university/college degree. (1)	○	○	○	○	○
Having a spouse with at least a university/college degree is necessary for a happy marriage. (2)	○	○	○	○	○
I can marry someone **without** a university/college degree as long as I love this person. (3)	○	○	○	○	○
It is **less** risky to have a spouse with at least a university/college degree. (4)	○	○	○	○	○
Having a university/college degree is **not** an important consideration when choosing a spouse. (5)	○	○	○	○	○

Page Break

spincome_3 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse having an income level similar to mine / higher than mine. (1)	○	○	○	○	○
I have **not** considered marrying someone who earns **less** money than me. (2)	○	○	○	○	○
I can have a happy marriage even if my spouse earns **less** money than me. (3)	○	○	○	○	○
Whether my partner earns similar or more money than me is an important consideration when choosing a partner. (4)	○	○	○	○	○
I think it is **unlikely** for me to love someone who earns **less** money than me. (7)	○	○	○	○	○

Page Break

spother_3 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
(if you have a religion) I prefer a spouse having the same religion with me.	○	○	○	○	○
(if you do not have a religion) I prefer a spouse having **no** religion as me. (1)					
I prefer meeting a spouse having the same political orientation as me. (3)	○	○	○	○	○
I prefer meeting a spouse with a small age difference from myself. (5)	○	○	○	○	○

End of Block: Spouse preference 3

Start of Block: List Randomization 3

*

LR3 Without specifying which ones you agree to, please report the total number of "yes" answers to the statements below. Your answer must be a number between 0 and 5.

I exercise more than three times a week. I am living with at least one child in my

household. I have three or more bedrooms at home. I have health insurance coverage (of any kind, either public or private). A couple of the same race is more likely to stay together.

End of Block: List Randomization 3

Start of Block: Spouse preference 4

sprace_4 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse having the same race as me. (6)	○	○	○	○	○
I have considered marrying someone of a **different** race. (3)	○	○	○	○	○
A couple of the same race is more likely to stay together. (8)	○	○	○	○	○
There is nothing wrong with two people of **different** races being a couple. (5)	○	○	○	○	○

Page Break

speduc_4 How much do you agree to the following statements?
Note : University/College degree excludes a degree from a community college/vocational schools.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse with at least a university/college (1)	○	○	○	○	○
Having a spouse with at least a university/college degree is necessary for a happy marriage. (2)	○	○	○	○	○
I can marry someone **without** a university/college degree as long as I love this person. (3)	○	○	○	○	○
It is **less** risky to have a spouse with at least a university/college degree. (4)	○	○	○	○	○
Having a university/college degree is **not** an important consideration when choosing a spouse. (5)	○	○	○	○	○

Page Break

spincome_4 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse having an income level similar to mine / higher than mine. (1)	○	○	○	○	○
I have **not** considered marrying someone who earns **less** money than me. (2)	○	○	○	○	○
I can have a happy marriage even if my spouse earns **less** money than me. (3)	○	○	○	○	○
Whether my partner earns similar or more money than me is an important consideration when choosing a partner. (4)	○	○	○	○	○
I think it is **unlikely** for me to love someone who earns **less** money than me. (7)	○	○	○	○	○

Page Break

spother_4 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
(if you have a religion) I prefer a spouse having the same religion with me. **(if you do not have a religion)** I prefer a spouse having **no** religion as me. (1)	○	○	○	○	○
I prefer meeting a spouse having the same political orientation as me. (3)	○	○	○	○	○
I prefer meeting a spouse with a small age difference from myself. (5)	○	○	○	○	○

End of Block: Spouse preference 4

Start of Block: List Randomization 4

*

LR4 Without specifying which ones you agree to, please report the total number of "yes" answers to the statements below. Your answer must be a number between 0 and 5.

I exercise more than three times a week. I am living with at least one child in my

household. I have three or more bedrooms at home. I have health insurance coverage (of any kind, either public or private). A person of the same race can be a better partner to me.

End of Block: List Randomization 4

Start of Block: Spouse preference 5

sprace_5 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse having the same race as me. (6)	○	○	○	○	○
I have considered marrying someone of a **different** race. (3)	○	○	○	○	○
A couple of the same race is more likely to stay together. (8)	○	○	○	○	○
A person of the same race can be a better partner to me. (10)	○	○	○	○	○

Page Break

speduc_5 How much do you agree to the following statements?
Note : University/College degree excludes a degree from a community college/vocational schools.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse with at least a university/college degree. (1)	○	○	○	○	○
Having a spouse with at least a university/college degree is necessary for a happy marriage. (2)	○	○	○	○	○
I can marry someone **without** a university/college degree as long as I love this person. (3)	○	○	○	○	○
It is **less** risky to have a spouse with at least a university/college degree. (4)	○	○	○	○	○
Having a university/college degree is **not** an important consideration when choosing a spouse. (5)	○	○	○	○	○

Page Break

spincome_5 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse having an income level similar to mine / higher than mine. (1)	○	○	○	○	○
I have **not** considered marrying someone who earns **less** money than me. (2)	○	○	○	○	○
I can have a happy marriage even if my spouse earns **less** money than me. (3)	○	○	○	○	○
Whether my partner earns similar or more money than me is an important consideration when choosing a partner. (4)	○	○	○	○	○
I think it is **unlikely** for me to love someone who earns **less** money than me. (7)	○	○	○	○	○

Page Break

spother_5 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
(if you have a religion) I prefer a spouse having the same religion with me. **(if you do not have a religion)** I prefer a spouse having **no** religion as me. (1)	○	○	○	○	○
I prefer meeting a spouse having the same political orientation as me. (3)	○	○	○	○	○
I prefer meeting a spouse with a small age difference from myself. (5)	○	○	○	○	○

End of Block: Spouse preference 5

Start of Block: List Randomization 5

*

LR5 Without specifying which ones you agree to, please report the total number of "yes" answers to the statements below. Your answer must be a number between 0 and 5.

I exercise more than three times a week. I am living with at least one child in my household. I have three or more bedrooms at home. I have health insurance coverage (of

any kind, either public or private). There is nothing wrong with two people of **different** races being a couple.

End of Block: List Randomization 5

Start of Block: Spouse preference 6

sprace_6 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse having the same race as me. (6)	○	○	○	○	○
I have considered marrying someone of a **different** race. (3)	○	○	○	○	○
A couple of the same race is more likely to stay together. (8)	○	○	○	○	○
A person of the same race can be a better partner to me. (10)	○	○	○	○	○
There is nothing wrong with two people of **different** races being a couple. (11)	○	○	○	○	○

Page Break

speduc_6 How much do you agree to the following statements?
Note : University/College degree excludes a degree from a community college/vocational schools.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
Having a spouse with at least a university/college degree is necessary for a happy marriage. (2)	○	○	○	○	○
I can marry someone **without** a university/college degree as long as I love this person. (3)	○	○	○	○	○
It is **less** risky to have a spouse with at least a university/college degree. (4)	○	○	○	○	○
Having a university/college degree is **not** an important consideration when choosing a spouse. (5)	○	○	○	○	○

Page Break

spincome_6 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse having an income level similar to mine / higher than mine. (1)	○	○	○	○	○
I have **not** considered marrying someone who earns **less** money than me. (2)	○	○	○	○	○
I can have a happy marriage even if my spouse earns **less** money than me. (3)	○	○	○	○	○
Whether my partner earns similar or more money than me is an important consideration when choosing a partner. (4)	○	○	○	○	○
I think it is **unlikely** for me to love someone who earns **less** money than me. (7)	○	○	○	○	○

Page Break

spother_6 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
(if you have a religion) I prefer a spouse having the same religion with me. **(if you do not have a religion)** I prefer a spouse having **no** religion as me. (1)	○	○	○	○	○
I prefer meeting a spouse having the same political orientation as me. (3)	○	○	○	○	○
I prefer meeting a spouse with a small age difference from myself. (5)	○	○	○	○	○

End of Block: Spouse preference 6

Start of Block: List Randomization 6

*

LR6 Without specifying which ones you agree to, please report the total number of "yes" answers to the statements below. Your answer must be a number between 0 and 5.

I exercise more than three times a week. I am living with at least one child in my household. I have three or more bedrooms at home. I have health insurance coverage (of

any kind, either public or private). I prefer meeting a spouse with at least a university/college degree.

End of Block: List Randomization 6

Start of Block: Spouse preference 7

sprace_7 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse having the same race as me. (6)	○	○	○	○	○
I have considered marrying someone of a **different** race. (3)	○	○	○	○	○
A couple of the same race is more likely to stay together. (8)	○	○	○	○	○
A person of the same race can be a better partner to me. (10)	○	○	○	○	○
There is nothing wrong with two people of **different** races being a couple. (11)	○	○	○	○	○

Page Break

speduc_7 How much do you agree to the following statements?
Note : University/College degree excludes a degree from a community college/vocational schools.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse with at least a university/college degree. (7)	○	○	○	○	○
I can marry someone **without** a university/college degree as long as I love this person. (3)	○	○	○	○	○
It is **less** risky to have a spouse with at least a university/college degree. (4)	○	○	○	○	○
Having a university/college degree is **not** an important consideration when choosing a spouse. (5)	○	○	○	○	○

Page Break

spincome_7 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse having an income level similar to mine / higher than mine. (1)	○	○	○	○	○
I have **not** considered marrying someone who earns **less** money than me. (2)	○	○	○	○	○
I can have a happy marriage even if my spouse earns **less** money than me. (3)	○	○	○	○	○
Whether my partner earns similar or more money than me is an important consideration when choosing a partner. (4)	○	○	○	○	○
I think it is **unlikely** for me to love someone who earns **less** money than me. (7)	○	○	○	○	○

Page Break

spother_7 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
(if you have a religion) I prefer a spouse having the same religion with me.	○	○	○	○	○
(if you do not have a religion) I prefer a spouse having **no** religion as me. (1)					
I prefer meeting a spouse having the same political orientation as me. (3)	○	○	○	○	○
I prefer meeting a spouse with a small age difference from myself. (5)	○	○	○	○	○

End of Block: Spouse preference 7

Start of Block: List Randomization 7

*

LR7 Without specifying which ones you agree to, please report the total number of "yes" answers to the statements below. Your answer must be a number between 0 and 5.

I exercise more than three times a week. I am living with at least one child in my household. I have three or more bedrooms at home. I have health insurance coverage (of

any kind, either public or private). Having a spouse with at least a university/college degree is necessary for a happy marriage.

End of Block: List Randomization 7

Start of Block: Spouse preference 8

sprace_8 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse having the same race as me. (6)	○	○	○	○	○
I have considered marrying someone of a **different** race. (3)	○	○	○	○	○
A couple of the same race is more likely to stay together. (8)	○	○	○	○	○
A person of the same race can be a better partner to me. (10)	○	○	○	○	○
There is nothing wrong with two people of **different** races being a couple. (11)	○	○	○	○	○

Page Break

speduc_8 How much do you agree to the following statements?
Note : University/College degree excludes a degree from a community college/vocational schools.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse with at least a university/college degree. (7)	○	○	○	○	○
Having a spouse with at least a university/college degree is necessary for a happy marriage. (8)	○	○	○	○	○
It is **less** risky to have a spouse with at least a university/college degree. (4)	○	○	○	○	○
Having a university/college degree is **not** an important consideration when choosing a spouse. (5)	○	○	○	○	○

Page Break

spincome_8 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse having an income level similar to mine / higher than mine. (1)	○	○	○	○	○
I have **not** considered marrying someone who earns **less** money than me. (2)	○	○	○	○	○
I can have a happy marriage even if my spouse earns **less** money than me. (3)	○	○	○	○	○
Whether my partner earns similar or more money than me is an important consideration when choosing a partner. (4)	○	○	○	○	○
I think it is **unlikely** for me to love someone who earns **less** money than me. (7)	○	○	○	○	○

Page Break

spother_8 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
(if you have a religion) I prefer a spouse having the same religion with me. **(if you do not have a religion)** I prefer a spouse having **no** religion as me. (1)	○	○	○	○	○
I prefer meeting a spouse having the same political orientation as me. (3)	○	○	○	○	○
I prefer meeting a spouse with a small age difference from myself. (5)	○	○	○	○	○

End of Block: Spouse preference 8

Start of Block: List Randomization 8

*

LR8 Without specifying which ones you agree to, please report the total number of "yes" answers to the statements below. Your answer must be a number between 0 and 5.

I exercise more than three times a week. I am living with at least one child in my household. I have three or more bedrooms at home. I have health insurance coverage (of

any kind, either public or private). I can marry someone **without** a university/college degree as long as I love this person.

End of Block: List Randomization 8

Start of Block: Spouse preference 9

sprace_9 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse having the same race as me. (6)	○	○	○	○	○
I have considered marrying someone of a **different** race. (3)	○	○	○	○	○
A couple of the same race is more likely to stay together. (8)	○	○	○	○	○
A person of the same race can be a better partner to me. (10)	○	○	○	○	○
There is nothing wrong with two people of **different** races being a couple. (11)	○	○	○	○	○

Page Break

speduc_9 How much do you agree to the following statements?
Note : University/College degree excludes a degree from a community college/vocational schools.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse with at least a university/college degree. (7)	○	○	○	○	○
Having a spouse with at least a university/college degree is necessary for a happy marriage. (8)	○	○	○	○	○
I can marry someone **without** a university/college degree as long as I love this person. (9)	○	○	○	○	○
Having a university/college degree is **not** an important consideration when choosing a spouse. (5)	○	○	○	○	○

Page Break

spincome_9 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse having an income level similar to mine / higher than mine. (1)	○	○	○	○	○
I have **not** considered marrying someone who earns **less** money than me. (2)	○	○	○	○	○
I can have a happy marriage even if my spouse earns **less** money than me. (3)	○	○	○	○	○
Whether my partner earns similar or more money than me is an important consideration when choosing a partner. (4)	○	○	○	○	○
I think it is **unlikely** for me to love someone who earns **less** money than me. (7)	○	○	○	○	○

Page Break

spother_9 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
(if you have a religion) I prefer a spouse having the same religion with me.	○	○	○	○	○
(if you do not have a religion) I prefer a spouse having **no** religion as me. (1)					
I prefer meeting a spouse having the same political orientation as me. (3)	○	○	○	○	○
I prefer meeting a spouse with a small age difference from myself. (5)	○	○	○	○	○

End of Block: Spouse preference 9

Start of Block: List Randomization 9

*

LR9 Without specifying which ones you agree to, please report the total number of "yes" answers to the statements below. Your answer must be a number between 0 and 5.

I exercise more than three times a week. I am living with at least one child in my household. I have three or more bedrooms at home. I have health insurance coverage (of

any kind, either public or private). It is **less** risky to have a spouse with at least a university/college degree.

End of Block: List Randomization 9

Start of Block: Spouse preference 10

sprace_10 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse having the same race as me. (6)	○	○	○	○	○
I have considered marrying someone of a **different** race. (3)	○	○	○	○	○
A couple of the same race is more likely to stay together. (8)	○	○	○	○	○
A person of the same race can be a better partner to me. (10)	○	○	○	○	○
There is nothing wrong with two people of **different** races being a couple. (11)	○	○	○	○	○

Page Break

speduc_10 How much do you agree to the following statements?
Note : University/College degree excludes a degree from a community college/vocational schools.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse with at least a university/college degree. (7)	○	○	○	○	○
Having a spouse with at least a university/college degree is necessary for a happy marriage. (8)	○	○	○	○	○
I can marry someone **without** a university/college degree as long as I love this person. (9)	○	○	○	○	○
It is **less** risky to have a spouse with at least a university/college degree. (10)	○	○	○	○	○

Page Break

spincome_10 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse having an income level similar to mine / higher than mine. (1)	○	○	○	○	○
I have **not** considered marrying someone who earns **less** money than me. (2)	○	○	○	○	○
I can have a happy marriage even if my spouse earns **less** money than me. (3)	○	○	○	○	○
Whether my partner earns similar or more money than me is an important consideration when choosing a partner. (4)	○	○	○	○	○
I think it is **unlikely** for me to love someone who earns **less** money than me. (7)	○	○	○	○	○

Page Break

spother_10 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
(if you have a religion) I prefer a spouse having the same religion with me. **(if you do not have a religion)** I prefer a spouse having **no** religion as me. (1)	○	○	○	○	○
I prefer meeting a spouse having the same political orientation as me. (3)	○	○	○	○	○
I prefer meeting a spouse with a small age difference from myself. (5)	○	○	○	○	○

End of Block: Spouse preference 10

Start of Block: List Randomization 10

*

LR10 Without specifying which ones you agree to, please report the total number of "yes" answers to the statements below. Your answer must be a number between 0 and 5.

I exercise more than three times a week. I am living with at least one child in my household. I have three or more bedrooms at home. I have health insurance coverage (of

any kind, either public or private). Having a university/college degree is **not** an important consideration when choosing a spouse.

End of Block: List Randomization 10

Start of Block: Spouse preference 11

sprace_11 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse having the same race as me. (6)	○	○	○	○	○
I have considered marrying someone of a **different** race. (3)	○	○	○	○	○
A couple of the same race is more likely to stay together. (8)	○	○	○	○	○
A person of the same race can be a better partner to me. (10)	○	○	○	○	○
There is nothing wrong with two people of **different** races being a couple. (11)	○	○	○	○	○

Page Break

speduc_11 How much do you agree to the following statements?
Note : University/College degree excludes a degree from a community college/vocational schools.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse with at least a university/college degree. (7)	○	○	○	○	○
Having a spouse with at least a university/college degree is necessary for a happy marriage. (8)	○	○	○	○	○
I can marry someone **without** a university/college degree as long as I love this person. (9)	○	○	○	○	○
It is **less** risky to have a spouse with at least a university/college degree. (10)	○	○	○	○	○
Having a university/college degree is **not** an important consideration when choosing a spouse. (5)	○	○	○	○	○

Page Break

spincome_11 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I prefer meeting a spouse having an income level similar to mine / higher than mine. (1)	○	○	○	○	○
I have **not** considered marrying someone who earns **less** money than me. (2)	○	○	○	○	○
I can have a happy marriage even if my spouse earns **less** money than me. (3)	○	○	○	○	○
Whether my partner earns similar or more money than me is an important consideration when choosing a partner. (4)	○	○	○	○	○
I think it is **unlikely** for me to love someone who earns **less** money than me. (7)	○	○	○	○	○

Page Break

spother_11 How much do you agree to the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
(if you have a religion) I prefer a spouse having the same religion with me.	○	○	○	○	○
(if you do not have a religion) I prefer a spouse having **no** religion as me. (1)					
I prefer meeting a spouse having the same political orientation as me. (3)	○	○	○	○	○
I prefer meeting a spouse with a small age difference from myself. (5)	○	○	○	○	○

End of Block: Spouse preference 11

Start of Block: List Randomization 11

*

LR11 Without specifying which ones you agree to, please report the total number of "yes" answers to the statements below. Your answer must be a number between 0 and 4.

I exercise more than three times a week. I am living with at least one child in my

household. I have three or more bedrooms at home. I have health insurance coverage (of any kind, either public or private).

_____

End of Block: List Randomization 11

Start of Block: Any Serious Relationship

*

serious Did you have any serious relationships **which developed into either marriage / engagement / cohabitation (living together) / other similar commitment** (including any ongoing ones)?

- ○ Yes (1)
- ○ No (2)
- ○ Prefer not to say (6)

End of Block: Any Serious Relationship

Start of Block: Dating History Details

*

numserious How **many serious relationships** (marriage / engagement / cohabitation (living together) / similar verbal promise) did you have in the past?

_____

Page Break

instruction_dating From now on, we will ask about your past serious relationship partners (e.g., when and where you met this person). Please start from the most recent relationship.
If you have had more than three serious relationship partners, choose the most serious three partners.

(We would like to have the name of your partner so that we can make sure we are asking about the same person in the questions that follow. **You may also enter a nickname or initials in place of a name.**)

End of Block: Dating History Details

Start of Block: Serious Partners

name_p What is your partner ${lm://CurrentLoopNumber}'s first name?
(The name helps us make sure we are asking about the same person in the questions that follow. **You may enter a nickname or initials instead.**)

_____

Page Break

current_p Are you **still in the relationship** with ${name_p/ChoiceTextEntryValue}?

- ○ Yes, I'm still in the relationship with ${name_p/ChoiceTextEntryValue}. (1)
- ○ No, our relationship ended. (2)

type_p What is/was the **type of this serious relationship** between you and ${name_p/ChoiceTextEntryValue}?

- ○ Marriage (1)
- ○ Engagement (3)
- ○ Cohabitation (living together) (2)
- ○ Other, please specify (4) _____

*

starty_p **When did you meet** ${name_p/ChoiceTextEntryValue}? Please enter the year (4 digits). If you don't remember it exactly, please give us your best estimate.

_____

Page Break

Display This Question:

If Loop current: Are you still in the relationship with ${q://QID56/ChoiceTextEntryValue}? = No, our relationship ended.

endy_p **When did this relationship** between you and ${name_p/ChoiceTextEntryValue} **end**? Please enter the year (4 digits). If you don't remember it exactly, please give us your best estimate.

_____

meet_p Did you meet ${name_p/ChoiceTextEntryValue} for the **first time online or offline**? For example, if you found him/her from online dating apps and had offline datings afterward, please choose an online dating app.

- Offline (1)
- Online dating app (2)
- Other online sites, please specify (3) _____

currentaddress_p When you met ${name_p/ChoiceTextEntryValue}, were you living in the **current address**?

- Yes (1)
- No (2)
- I do not remember (3)

Page Break

Display This Question:

If Loop current: When you met ${q://QID56/ChoiceTextEntryValue}, were you living in the current address? = No

state_p In which **US state** were you living when you met ${name_p/ChoiceTextEntryValue}? If you were abroad, choose abroad.

- Alabama (1)
- Alaska (2)
- Arizona (3)
- Arkansas (4)
- California (5)
- Colorado (6)
- Connecticut (7)
- Delaware (8)
- District of Columbia (9)
- Florida (10)
- Georgia (11)
- Hawaii (12)
- Idaho (13)
- Illinois (14)
- Indiana (15)
- Iowa (16)
- Kansas (17)
- Kentucky (18)
- Louisiana (19)
- Maine (20)

- Maryland (21)
- Massachusetts (22)
- Michigan (23)
- Minnesota (24)
- Mississippi (25)
- Missouri (26)
- Montana (27)
- Nebraska (28)
- Nevada (29)
- New Hampshire (30)
- New Jersey (31)
- New Mexico (32)
- New York (33)
- North Carolina (34)
- North Dakota (35)
- Ohio (36)
- Oklahoma (37)
- Oregon (38)
- Pennsylvania (39)
- Puerto Rico (40)
- Rhode Island (41)

- ○ South Carolina (42)
- ○ South Dakota (43)
- ○ Tennessee (44)
- ○ Texas (45)
- ○ Utah (46)
- ○ Vermont (47)
- ○ Virginia (48)
- ○ Washington (49)
- ○ West Virginia (50)
- ○ Wisconsin (51)
- ○ Wyoming (52)
- ○ Abroad (53)

Display This Question:

If Loop current: When you met ${q://QID56/ChoiceTextEntryValue}, were you living in the current address? = No

zipcode_p What was the **US zipcode** of where you lived when you met ${name_p/ChoiceTextEntryValue}? If you lived abroad, type "abroad". If you do not remember, please type NA.

_____

Page Break

Display This Question:

If Did you meet ${q://QID56/ChoiceTextEntryValue} for the first time online or offline? For example,... = Online dating app

app_p On which **dating app** did you use to meet ${name_p/ChoiceTextEntryValue} ?

- Tinder (1)
- Bumble (4)
- Okcupid (5)
- Hinge (6)
- Coffee Meets Bagel (7)
- Grindr (8)
- Eharmony (9)
- Zoosk (10)
- Black People Meets (11)
- Plenty of Fish (12)
- Meetme (13)
- Inner Circle (14)
- Match.com (16)
- Facebook Dating (18)
- Others, please specify (17)

_____

Display This Question:

If Loop current: Did you meet ${q://QID56/ChoiceTextEntryValue} for the first time online or offline? For example,... = Offline

story_p Please use one or two sentences to briefly describe how you and ${name_p/ChoiceTextEntryValue} first met and got to know each other and be sure to describe **"how" and "where" you first met.**

_____

Page Break

age_p What is ${name_p/ChoiceTextEntryValue}'s **year of birth**?

_____

race_p What is the **race/ethnicity** of ${name_p/ChoiceTextEntryValue}? Choose **all** that applies.

- [ ] White (1)
- [ ] Black or African American (2)
- [ ] Hispanic/Latino (7)
- [ ] American Indian or Alaska Native (3)
- [ ] Asian (4)
- [ ] Native Hawaiian or Pacific Islander (5)
- [ ] Other (6) _____

educ_p What was the **highest education** of ${name_p/ChoiceTextEntryValue}?

(If ${name_p/ChoiceTextEntryValue} was still in school when you met, please choose the **degree in progress**)

- ○ Less than high school (1)
- ○ High school graduate (2)
- ○ Some college, no degree (3)
- ○ Associate degree (4)
- ○ Bachelor's degree (5)
- ○ Master's degree (6)
- ○ Professional or Doctorate degree (7)

Page Break

religion_p What was the **religion** of ${name_p/ChoiceTextEntryValue}?

- ○ No religion (1)
- ○ Catholic (11)
- ○ Protestants (2)
- ○ Buddhism (3)
- ○ Jew (4)
- ○ Islam (5)
- ○ Hinduism (6)
- ○ Other, please specify (7) _____
- ○ Prefer not to say (9)

political_p Here is an 11-point scale on which the **political views** that people might hold are arranged from extremely liberal (left) to extremely conservative (right). Where would you place ${name_p/ChoiceTextEntryValue} on this scale?

	Extremely liberal				Extremely conservative						Not Applicable
	0	1	2	3	4	5	6	7	8	9	10
Political Ideology ()											

Page Break

income_p What was the **pre-tax annual income** of ${name_p/ChoiceTextEntryValue} **when you met** ${name_p/ChoiceTextEntryValue}? If he/she did not work, then choose $0.

- ○ $0 (7)
- ○ $1 to $9,999 (8)
- ○ $10,000 to $24,999 (9)
- ○ $25,000 to $49,999 (10)
- ○ $50,000 to $74,999 (11)
- ○ $75,000 to $99,999 (12)
- ○ $100,000 to $149,999 (13)
- ○ $150,000 and greater (14)
- ○ Prefer not to say (15)
- ○ I do not know (17)

income_ps What was **<u>your</u> pre-tax annual income when you met** ${name_p/ChoiceTextEntryValue}? If you did not work, then choose $0.

- ○ $0 (1)
- ○ $1 to $9,999 (2)
- ○ $10,000 to $24,999 (3)
- ○ $25,000 to $49,999 (4)
- ○ $50,000 to $74,999 (5)
- ○ $75,000 to $99,999 (6)
- ○ $100,000 to $149,999 (7)
- ○ $150,000 and greater (8)
- ○ Prefer not to say (9)
- ○ I do not know (10)

Page Break

gender_ps What is the **biological gender** of ${name_p/ChoiceTextEntryValue} at the time of birth?

- ○ Male (1)
- ○ Female (2)

End of Block: Serious Partners

Start of Block: Demo

religion What is your **religion**?

- ○ No religion (1)
- ○ Catholic (16)
- ○ Protestants (2)
- ○ Buddhism (3)
- ○ Jew (9)
- ○ Islam (10)
- ○ Hinduism (11)
- ○ Other, please specify (12) _____
- ○ Prefer not to say (15)

Page Break

political Here is an 11-point scale on which the **political views** that people might hold are arranged from extremely liberal (left) to extremely conservative (right). Where would you place **yourself** on this scale?

	Extremely liberal					Extremely conservative				Not Applicable
	0	1	2	3	4	5	6	7	8	9	10
Political Ideology ()											

income What was **your pre-tax annual income in the year 2019** (before COVID)? If you did not work, then choose $0.

- ○ $0 (7)
- ○ $1 to $9,999 (8)
- ○ $10,000 to $24,999 (9)
- ○ $25,000 to $49,999 (10)
- ○ $50,000 to $74,999 (11)
- ○ $75,000 to $99,999 (12)
- ○ $100,000 to $149,999 (13)
- ○ $150,000 and greater (14)
- ○ Prefer not to answer (15)

End of Block: Demo

Start of Block: Sexual preference

socialgender What is your current **gender identity**?

- ○ Male (1)
- ○ Female (2)
- ○ Other, please specify (5) _____
- ○ Prefer not to say (4)

sexpref What is your **sexual orientation**?

- ○ Heterosexual (1)
- ○ Homosexual (2)
- ○ Bisexual (3)
- ○ Other, please specify (4) _____
- ○ Prefer not to say (5)

End of Block: Sexual preference

Start of Block: Location

*

Zipcode What is your current **zip code**? Please enter the **5 digits** of your zip code.

_____

End of Block: Location

Start of Block: End of Survey Message Lucid

end_message_lucid Thank you for taking part in this study. Please click the button below to be redirected back to LUCID Marketplace and register your submission.

End of Block: End of Survey Message Lucid