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The Evolution of Partner Preferences: Evidence Using Matrimonial Ads from Canada, France, India and the United States

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Abstract

Using the text from matrimonial ads, we assemble a novel data set to describe the evolution of partner preferences over time and space. Analyzing ads published in Canada, France and India between 1950 and 1995, we show that stated preferences for economic criteria have fallen sharply in favour of personality traits in the two Western countries while they remain the most prevalent in India. Using ads covering various regions from the US and Canada in 1995, we show that personality traits are consistently more demanded than economic criteria. We provide evidence that these results are unlikely to be driven by the composition effects over time, role of parents or changing social norms. We show that the changes over time are particularly strong for women and accompany narrowing gender gaps in labor force participation in Western countries. We discuss the implications for understanding the evolution of assortative mating over time.

JEL codes: J12, J16

Keywords: family, marriage, preferences

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1 Introduction

Human needs arrange themselves in hierarchies of pre-potency. That is to say, the appearance of one need usually rests on the prior satisfaction of another, more pre-potent need. Man is a perpetually wanting animal.

A. H. Maslow

A Theory of Human Motivation, 1943

What do people look for in a potential partner? A vast literature spanning different fields of the social sciences has shown that economic, personality, physical and taste criteria are all valued in a potential partner.¹ It has established these findings using different methods and data sets. Yet, while we know a lot on whether each of these criteria matters, we know little on where and when they matter.

Existing research has mainly described the evolution of characteristics of couples once they are formed. It has documented the increasing importance of assortative matching over time (Mare, 1991, Greenwood *et al.*, 2014, 2016, Eika *et al.*, 2019a, Chiappori *et al.*, 2020b) and its consequences on inequality and child rearing (Barth *et al.*, 2020, Falk *et al.*, 2021). However, our understanding of the reasons explaining these trends is still limited. Because of data limitations, it is difficult to distinguish whether these evolution are due to preferences - whom one wants to meet - or marriage market characteristics - whom one can meet (Kirkeboen *et al.*, 2021).

In this paper, we shed new lights on the evolution of partner preferences. We assemble a novel data set that includes more than a million matrimonial ads (Section 2).² These ads consist in describing oneself and the desired partner. They are known as the predecessors of dating websites. To document how partner preferences have evolved over time, we collect data from major newspaper outlets published in Canada, France and India over the period 1950-1995. To examine the extent to which preferences may differ over space, we collect ads published in 1995 in 46 English-speaking newspaper outlets from multiple parts of Canada and 43 American States. Using dictionary-based methods, we classify the words used in the ads into four distinct preference criteria: economic, personality, physical and

¹For instance Waynforth and Dunbar (1995), Fisman *et al.* (2006), Hitsch *et al.* (2010), Chiappori *et al.* (2012), Belot and Francesconi (2013), Banerjee *et al.* (2013), Dupuy and Galichon (2014), Bapna *et al.* (2016), Egebark *et al.* (2021).

²Also known as personal ads or lonely heart ads.

taste (Section 3).

Our principal finding concerns the difference in trajectory between the two Western countries and India (Section 4). In both Canada and France, we show that stated preferences for economic aspects of an ideal partner have fallen sharply, offset by a strong increase in the demand for personality traits. This shift is particularly apparent after the late 1960s and more marked for women than for men. By contrast, the trends in India do not exhibit the same pattern. If anything, economic criteria seem to have become more common over the second half of the 20th century while those related to personality criteria have remained stable. These results are robust to various methodological choices, dictionaries, and alternative specifications.

While our time-series data show that stated preferences for economic criteria have fallen in both Canada and France, a concern remains that the trends could be unique to the specific regions within these countries. To provide evidence on the regional variations of partner preferences, we analyze cross-sectional data from various regions in both the US and Canada in 1995. In all the 46 regional newspapers from the US and Canada, we find that the distribution of criteria strongly resonates with those found at the end of the period in the time series of the two Western countries. Personality traits are consistently ranked among the most sought for criteria, occupying 30 to 40% of the demand side, while economic criteria are the least mentioned. The analysis also highlights inter-country differences in marital preferences, with race (a taste criterion) playing a significantly more important role in the US than in other countries. Additionally, we use our cross-sectional data to assess whether the choice of newspaper introduces selection bias. As our data includes ads from a diverse range of regional newspapers, varying in political orientation, circulation, and readership, we can rule out the choice of newspaper as the underlying mechanism for the observed trends.

What could explain the shift from the predominance of economic criteria to the rise of personality traits in Western countries? We explore several potential mechanisms (Section 5). As the data do not originate from a repeated representative survey, we first investigate the influence of composition effects. Characteristics of ad writers could have changed in ways that would explain the patterns in the data. We implement a Oaxaca-Blinder decomposition through time using information from the supply side of matrimonial ads to construct variables related to characteristics of ad writers. We show that these changing characteristics over time explain only a minor portion of the results.

Next, we study the influence of parents in the matchmaking process. We compute the evolution of the proportion of ads that mention parents or family in the supply side. The results suggest that parents have been involved consistently more in the Indian marriage markets than in the Western marriage markets but that this has not changed over the period. This suggests that the changing role of parents is unlikely to drive the evolution of partner preferences.

Finally, we discuss whether the trends are likely to reflect an effective change in partner preferences or the emergence of a social norm in Western countries, whereby individuals would be inclined to hide their true economic-based preferences. We provide three pieces of evidence pointing towards a change in preferences and suggesting that the social norm mechanism is unlikely to explain entirely the findings. First, using data from Google N-Grams, we show that the occurrence of economic-related words remained stable in daily language over time. This suggests that this norm does not seem to have appeared at the societal level. Second, we find little evidence indicating that individuals are using more subtle ways to mention economic criteria. Variables correlated with higher earnings such as specific personality traits or tastes do not appear to become more prevalent over time. Third, we compare results obtained with matrimonial ads with those from the literature on partner selection. We find that the ads can replicate well-established stylized facts, suggesting that ad writers are on average at least partly truthful in their stated preferences.

We argue that the trends are most consistent with theories describing the profound changes affecting the family in Western countries during the second part of the 20th century. Over this period, marriage rates dropped while divorce and cohabitation rates surged. Social scientists from various disciplines have argued that these changes partly reflect a shift in partner selection, which is increasingly based on the notion of companionship and love rather than financial assistance ([Becker, 1981](#) in economics, [Van De Kaa, 1986](#) or [Van De Kaa and Lesthaeghe, 1987](#) in demography, [Cherlin, 2004](#) in sociology). This would have mirrored the rise of post-materialist values in Western societies ([Inglehart, 1977](#)). At the heart of these theories lies the idea that needs are arranged in a hierarchical form ([Maslow, 1943](#)), whereby the demand for non-material ones such as personality criteria rests on the satisfaction of material ones such as economic criteria. The contrast between the Indian evolution and the two Western countries supports this interpretation of the results.

What could have caused these evolution? Several factors have been advanced such as the legalization of birth control methods or the rising participation of women in the

labor market. While the setting of our analysis does not allow to precisely establish the causality between these determinants and the changes in the ads, we show that the decline of economic-related words in the two Western countries is particularly apparent after the mid-1960s and coincides with a narrowing gender gap in labour force participation. By contrast, while the usage of economic criteria in India increased over time, the gender gap in labour force participation shows no diminishing signs.

This paper contributes to a vast literature studying who marries whom. A large part of this literature has focused on documenting the evolution of assortative mating and shown how the characteristics of couples evolved in the 20th century (Mare, 1991, Fernández *et al.*, 2005, Schwartz and Mare, 2005, Greenwood *et al.*, 2014, 2016, Eika *et al.*, 2019a, Chiappori *et al.*, 2020b). Understanding the reasons underlying these changes has important implications due to the impact of marital sorting on inequality across households (Fernández and Rogerson, 2001, Ermisch *et al.*, 2006, Breen and Salazar, 2011, Ciscato and Weber, 2020, Frémeaux and Lefranc, 2020) and the intergenerational transmission of inequality (Barth *et al.*, 2020, Falk *et al.*, 2021, Kirkebøen *et al.*, 2021). Yet, as most studies focus on couples once they are formed, it is unclear whether changes in preferences or changes in the characteristics of marriage markets drive the evolution of assortative mating (Kalmijn, 1998, Kirkebøen *et al.*, 2021). To our knowledge, most papers identifying partner preferences focus at one point in time (see, e.g., Fisman *et al.*, 2006, Hitsch *et al.*, 2010, Ong and Wang, 2015, Bergström, 2018, Afridi *et al.*, 2023). Fewer papers have attempted to document the evolution of preferences over time, certainly because of the lack of data to consistently measure preferences over time.³ In a closely related paper, Lippmann (2021) analyzes matrimonial ads published in a single magazine to study the evolution of partner preferences in France. A first crucial difference with the current paper is that we significantly broaden the analysis by examining ads from multiple countries (both Western and non-Western) and various news outlets. This is crucial given the evidence of increased assortative mating in Western countries, which raises the question of whether Lippmann (2021)’s findings are unique to France or the data source. We show that trends similar to those observed in France are also evident in Canada and the U.S. (in 1995), but not in India.⁴ Next, we are able to conduct a cross-country comparison of sub-criteria trends

³Buss *et al.*, 2001 is an exception and documents the evolution of preferences in the U.S. using surveys from different American universities.

⁴We remark that while it is generally acknowledged that economic criteria play a more significant role in the Indian marriage market compared to Western ones, our focus is on relative changes in the importance

within various preference categories. We show that although Canada and France exhibit similar broad trends, the specific preference categories driving these changes differ. For example, in France, the largest factor behind the decline in economic criteria is related to labor, whereas in Canada, it is linked to wealth. Finally, our cross-country comparison allows us to investigate the mechanisms driving changes in partner preferences. We explore the roles played by composition effects, shifts in parental involvement in the matchmaking process, and changing social norms. Our results suggest that the main mechanism behind these changes is the rise of female labor market participation.

The results are also related to a literature studying the evolution of culture and preferences. This literature has attempted to understand whether and to what extent preferences and culture can evolve (Voigtländer and Voth, 2012, Falk *et al.*, 2018, Giavazzi *et al.*, 2019, Desmet and Wacziarg, 2020, Giuliano and Nunn, 2021). It has also identified determinants of these evolution such as institutions (see Alesina and Giuliano, 2015 for a review), globalization (Ritzer and Dean, 2019), macroeconomic shocks (Giuliano and Spilimbergo, 2013) or specific public policies (Bau, 2021). We contribute to this literature in two ways. First, we show that the family transformations of the late 1960s in Western countries (Lundberg and Pollak, 2007, Stevenson and Wolfers, 2007, Lesthaeghe, 2014, Frémeaux and Leturcq, 2018) have been accompanied by an evolution of stated partner preferences. We show that these evolution coincide with the rise of female labor market participation and post-materialistic values (Inglehart, 1977). Second, we use an innovative method to quantify preferences by analyzing classified ads in newspapers.

Finally, this paper also contributes to a growing literature in economics using text analysis and data from newspapers (see Gentzkow *et al.*, 2019 or Ash and Hansen, 2022 for reviews on text analysis and Beach and Hanlon, 2022 on the use of historical newspapers). Newspapers have been used recently in various fields of economics to document the evolution of the labour market (Atalay *et al.*, 2020), measure economic policy uncertainty (Baker *et al.*, 2016), predict economic fluctuations (Larsen and Thorsrud, 2019), collect data on conflict events (Fetzer, 2020), measure anti-German sentiment (Ferrara and Fishback, 2020), quantify technology adoption (Caprettini and Voth, 2020), study support for slavery (Masera and Rosenberg, 2021), analyze visual stereotypes (Ash *et al.*, 2021), or

of these criteria, rather than their absolute levels. It is not immediately clear whether the significance of economic criteria in India would have continued to rise relative to its 1955 level, given the context of a growing economy.

construct an index of geopolitical risk ([Caldara and Iacoviello, 2022](#)). We expand this literature to the analysis of classified ads and the study of partner selection by assembling and analyzing, to our knowledge, the largest data set of matrimonial ads.

2 Data

2.1 Time-Series: 1950-1995

Our goal is to study the evolution of partner preferences in major world economies with different cultural contexts and stages of economic growth. To that end, we assembled and digitized a novel data set of matrimonial ads. To select the newspapers, we searched through the main online sources of digitized archives of newspapers (see [Beach and Hanlon, 2022](#) for a list) and complemented them with self-digitized newspapers. We focus on the years 1950 to 1995, as the emergence of online dating is considered to start after 1995 ([Rosenfeld and Thomas, 2012](#)) and because data constraints were difficult to overcome before 1950. We obtained data from two developed countries and one developing country - Canada, France and India. Our data set contains 694,683 matrimonial ads, out of which 100,462 are from Canada, 276,308 from France and 317,913 from India.⁵

Canada. The data for Canada consist of all the matrimonial ads published in the daily newspaper *The Vancouver Sun* from 1950 to 1995. In terms of circulation, this newspaper is the main one in Vancouver and the British Columbia area.

France. The French data consist of all the matrimonial ads published in the monthly French magazine *Le Chasseur Français* from 1950 to 1995. This magazine is the only one in France to have continuously published matrimonial ads across the twentieth century and the main supplier of such ads (see [de Singly, 1984](#)).

India. The Indian data consist of all the matrimonial ads published in the daily newspaper, *the Times of India* from 1953 to 1995. In terms of circulation, this is the third largest newspaper in India and the main one in English.

⁵Figures [A1](#), [A2](#) and [A3](#) display examples of ads collected from respectively Canada, India and France.

2.2 Cross-Sectional Data in 1995

To study regional variations in partner preferences, we searched for matrimonial ads published in different regional newspapers in a given country in 1995. The United States and Canada represent ideal settings to study within country differences. First, these two countries contain substantial regional variations. Second, they allow us to compare our results with those obtained in developed countries in the time series. We chose the year 1995 for comparability with the time series and also because online dating became popular after that date.

To select regional newspapers, we searched through newspapers.com which contains the largest collection of historical newspapers (Beach and Hanlon, 2022). Whenever several newspapers were available for a given region, we collect the data from the most widely circulated newspaper that published matrimonial ads. Overall, this data set contains 530,425 matrimonial ads from 46 newspapers (see Table A3 for details on the number of ads by location).

Canada. The data consist of 16,392 matrimonial ads published in the year 1995 in three Canadian provinces - British Columbia, Ontario and Alberta.

United States. The data consist of 514,033 matrimonial ads published in the year 1995 in 43 American states.

2.3 Using Matrimonial Ads to Study Partner Preferences

Studies aiming to identify partner preferences often rely on either survey data of final matches (e.g., Eika *et al.*, 2019a; Chiappori *et al.*, 2020b) or experimental data on dating behavior (e.g., Fisman *et al.*, 2006; Belot and Francesconi, 2013 on speed dating, Hitsch *et al.*, 2010; Ong and Wang, 2015; Afridi *et al.*, 2023 on online dating). Both approaches present empirical challenges in isolating partner preferences. Final match data reflect outcomes of a process involving preferences, search, and matching, making it difficult to disentangle preferences from the search process without relying on functional form assumptions that are hard to validate. In contrast, experimental data on dating behavior offer a more controlled setting, but individuals may still select potential partners based on what they perceive as achievable, complicating the identification of true preferences. In addition, experimental studies often focus on a narrow set of characteristics and typically cover a limited time frame. If we wish to analyze the evolution of partner preferences over

a longer period, survey data on final matches would be required, which suffer from the empirical difficulties mentioned earlier.

The use of matrimonial ads to identify partner preferences is part of an approach that consists in analyzing preferences before individuals match with their partners. Although the usage of such ads has declined over time, due to the rise of online dating websites, matrimonial ads have been analyzed in several studies, spanning different fields of the social sciences.⁶ There are several features of matrimonial ads that make them ideal for the study of partner preferences. First, matrimonial ad services allow individuals to freely express their preferences. This is similar to eliciting preferences using open-ended questions. It allows to avoid the limitations of survey questions that may prime individuals towards an answer or omit some important attributes (Ferrario and Stantcheva, 2022). Second, matrimonial ads correspond to real situations which may have a consequence on the users' lives. Third, matrimonial ads provide a historical dimension that other sources of data on partner preferences lack.

Despite the many advantages that matrimonial ads offer, they are not without limitations. For example, stated preferences in matrimonial ads may be partly influenced by individuals' beliefs about whom they can meet. As a result, they may choose to state only those preferences that maximize their chances of finding a match. Another limitation in documenting the evolution of preferences is the possibility of a selection bias. The data do not come from a repeated representative survey of the population and it may be questioned how this influences the results. We discuss both of these issues in Section 5.

3 Method

3.1 Disentangling Demand and Supply

Matrimonial ads are usually characterized by a demand side and a supply side (Coupand, 1996). The supply side comprises of the part of the matrimonial ad where the ad placer describes himself/herself. The demand side is the part where the individual describes what the ideal partner looks like. To illustrate this structure, the following sentence is an example of a matrimonial ad written by a woman and published in May 1955 in France.

⁶See for instance Harrison and Saeed, 1977 and Waynforth and Dunbar, 1995 in psychology, Martin, 1980 in history, de Singly, 1984 in sociology and Dugar *et al.*, 2012 and Banerjee *et al.*, 2013 in economics.

Single, 38, secretary, 1m62, thin, brown hair would answer to man 40-45, good situation.

This matrimonial ad has three parts. The first part (from “single” to “hair”) is the supply side. The woman describes herself and specifies her matrimonial status, age, job, and some physical attributes (height, corpulence, hair). The second part (“would answer”) is a delimiter between supply and demand. The last part (from “man” to “situation”) is the demand side. She is looking for a man aged 40 to 45 years and with a good economic situation.

In our main results, we focus on the demand side of the ads as this is where individuals express their preferences. To disentangle the demand and supply sides, we computed a list of delimiters for each country (see Table B1). These delimiters allow us to identify the demand side in 90 to 95% of all matrimonial ads. Unless otherwise specified, the focus of this study is on the demand side of matrimonial ads.

3.2 Main Outcomes

To extract the information present in the text, we use a dictionary-based approach. This consists in regrouping words into criteria that convey similar meanings related to partner preferences.⁷

To a large extent, individual marital decisions are driven by gains from marriages. The source of such gains can be based on both economic and non-economic aspects of the partner. We know from the literature that economic-based criteria such as income, education and profession are critical in marital search behavior. Similarly, it has been shown that non-economic aspects such as personality traits (e.g. the Big-5 personality traits), physical attractiveness (e.g. height, body mass index, health), socio-demographic attributes (e.g. race, ethnicity, caste, religion) and idiosyncratic tastes (e.g. hobbies, habits) all play an important role when choosing a partner.⁸ We consider all these aspects in our analysis.

Practically, we create a list of words and classify each word into four exclusive criteria:

⁷We do not use unsupervised methods for two reasons. First, unsupervised methods are usually suited for long documents and allow to reduce their dimensionality whereas, in our context, ads are short and often contain less than 10 words in the demand side (see Table A2). Second, unsupervised methods could allow to understand how different the ads have become over time. Here, our focus is to understand in which way ads have become different over time. Unless we manually interpret the words (as in dictionary-based methods), unsupervised methods cannot answer this question.

⁸Table B2 provides a summary of the key criteria studied in the marriage market literature.

economic, personality, taste/cultural, and physical. To prepare the list of words that we use for the classification, we extract the 500 most recurrent words in the ads for each year in the sample. Next, we manually classify each word into one of the four preference criteria. We leave out the words that did not relate to any category. The list of words classified for Canada is provided in Table 1. The lists for France, India and the US are described in the Appendix (Tables B3, B4 and B5). Below we discuss the four criteria that we use to study partner preferences.

Economic. To create a list of words that exhibit preference toward economic aspect of a partner, we adapt the classifications of Waynforth and Dunbar (1995) and de Singly (1984), who analyzed samples of matrimonial ads published respectively in an American and French outlet.⁹ We expand the dictionary further by including four sub-criteria. These are general, labor, wealth, and education.

Personality. We describe preference for a certain type of personality by considering the Big-5 personality traits as the sub-categories. They are often labeled agreeableness, extroversion, conscientiousness, emotional stability, and intellect/imagination. We complement these five subcategories with a “general” subcategory that captures words that explicitly mention personality in a general sense (such as “personality” and “character”). To categorize words into personality traits, we rely on existing works of psychologists who mapped lexicons into the Big-5 personality traits. We follow Goldberg (1990) and Boies *et al.* (2001), who respectively developed a classification of the English and French lexicon into the Big-5 personality categories.

Tastes/Cultural. An individual may also desire to match with someone with specific tastes, hobbies, or cultural preferences. To reflect such preferences, we consider habits, hobbies, religion and demographics (ethnicity and caste) as subcategories within this criterion.

Physical. Finally, the last set of characteristics relates to physical attributes. Along with economic criteria, they are the most discussed in the literature. The sub-criteria are age, height, attractiveness, and general. We discuss the inclusion of age as a physical criterion in Section D.7.2.

Unclassified Words. We present the main unclassified words using word clouds.¹⁰ Additionally, we vary the number of classified words in the robustness checks.

⁹de Singly, 1984 studied a sample of matrimonial ads published in *Le Chasseur Français* in 1978–1979.

¹⁰Figures B1, B2, B3, B4 for respectively Canada, France, India and the US.

3.3 Empirical Specification

Our aim is to document how partner preferences have evolved over time and how they vary across regions. We quantify the degree to which a given dimension of partner preference is expressed in an ad by computing the share of words in the demand side of the ad that reflect that criterion. Formally, we use our dictionary to count the number of words used in the ad that describe the four aspects (economic, personality, taste/cultural, and physical) of an ideal partner. The proportion of words used for a category measures the extent to which that preference category is expressed in the ad.

To investigate how partner preferences have changed over time, we consider the following specification

$$y_i = \alpha + \sum_{\substack{t=1950 \\ t \neq 1955}}^{t=1995} \beta_t \text{year}_{it} + X_i' \gamma + \epsilon_i, \quad (1)$$

where i is the subscript for ad i . The outcome variable, y_i , is measured as the share of words used in ad i for a given criteria. year_{it} is an indicator variable that takes a value 1 if ad i was placed in year t . We omit the year 1955 to use it as a reference year. X_i includes controls for the number of words used in ad i and the month in which the ad was published in order to control for changes in ads' length and seasonality over the year. We estimate Equation (1) with ordinary least squares using subsamples from each country and gender. The estimated coefficients β_t capture the degree to which the share of words used for the given preference criteria have changed with respect to the reference year 1955.

4 Main Results

In this section, we first use the time series data to document the evolution of stated preferences. Next, we study the regional variations using the cross-sectional data from 1995. Finally, we present various robustness checks.

4.1 The Evolution of Partner Preferences over Time

We start by describing the evolution of economic criteria. Figure 1 displays the trends in estimated β_t for women (graph (a)) and men (graph (b)) from 1950 to 1995 for India, Canada and France.

Looking at graph (a) restricted to women, we observe that the share of economic-related words used to describe a potential partner decreased substantially for ads published in France and Canada by respectively 30.90 p.p. and 18.27 p.p. (baseline of 48.44% and 28.19% in 1955). This decline is particularly apparent after the late 1960s. Indian matrimonial ads display a different trajectory. The share of economic-related words remained stable up until the 1970s and then started increasing by about 23.88 p.p. (baseline of 33.11% in 1955).

In graph (b) restricted to men, we observe similar trajectories although the extent of variation of economic criteria remains lower. Compared to the share used in the year 1955, by 1995 the share of words related to economic criteria in the demand side of matrimonial ads decreased by 17.26 p.p. in France and 10.94 p.p. in Canada (baseline of 26.48% and 15.66% in 1955). At the same time, it increased in India by 12.84 p.p. (baseline of 27.22% in 1955).

Next, we examine which sub-components of the economic criteria can explain the aggregate trends. The results for Canada are displayed in Figure 2. We observe that words related to economic criteria in a general way, as well as those referring to labor declined to the same extent. Wealth-related terms seem to have experienced the most significant drop. As for education-related terms, they have remained about as prevalent over the century which can be explained by the fact that they were less mentioned than the other sub-components at the beginning of the period (about 1% of classified words in 1960). In the appendix, we observe that, in contrast to Canada, the usage of wealth-related terms declined marginally in France. The decline in economic criteria is driven by a reduction in the use of words related to labor and economic criteria in a general way (Figure C3). As for India, we observe a strong increase in the use of words mentioning jobs and labor (Figure C5).

What replaced economic criteria? Figure 3 reports the evolution of the share of words used for personality criteria over time. Overall, we observe a significant increase in the use of words describing this criterion in both French and Canadian ads. In these two countries, relatively to 1955, the share of words describing the personality of an ideal partner in ads written by women (graph (a)) increased by 21.92 p.p. in France and 13.89 p.p. in Canada in 1995. As for India, the importance of this criterion stagnated over the entire period. The study of the sub-components in Section C.1.2 shows that, for the two Western countries, there is no sub-component of personality criteria that declined. The personality traits

that seem to experience an increased demand over time are Agreeableness, Extroversion as well as Emotional stability. As for India, there are no apparent changes in any of the sub-components of the personality traits.

Regarding physical and taste-related criteria, Figures C1 and C2 show that the shares of words describing these aspects have remained roughly stable over the second half of the century in the two Western countries. The trends in the Indian data indicate that the increase in the share of economic criteria is explained by small declines in the share of words used for physical and taste criteria.

Finally, we study the evolution of the content of the supply side. Although the demand side is arguably where we are most likely to observe preferences, the supply side includes information that was mentioned strategically in order to attract potential partner. If economic criteria were still valued, individuals would have kept mentioning their economic situation. Figure 4 displays the trajectory of economic criteria in the supply side of matrimonial ads. We see that there was a significant decline in the usage of economic-related words in both Canada and France particularly after the late 1960s. As for India, the usage of economic-related words also seems to have remained stable. These findings are consistent with the evolution of the demand side and suggest that economic criteria have become less important in Canada and France.

4.2 Regional Variations in Partner Preferences

In the previous section, we examined whether and how partner preferences evolved over the second half of the 20th century in three major economies. But to what extent do these trends vary over space in a given country? Answering this question is important to understand whether the time-series can be thought as representative of their countries. To that end, we use cross-sectional data of matrimonial ads collected from 46 English-speaking regional newspapers published across different US states and three Canadian provinces in 1995.

We compute the mean values of the shares of words used for the four criteria among all ads within a region. The results are depicted in Figure 5. We find that across all the regions considered and for both men and women, personality traits are among the most sought for criteria in a potential partner. Looking at graph (a), about 40-45% of the words used by women to describe their ideal partner are related to personality criteria. Economic criteria

are the least mentioned occupying about 10% of the demand side. Similarly, in graph (b), we observe that, across all the regions, personality criteria are among the most prevalent criteria mentioned by men, occupying 30 to 40% of the demand side while economic-related words are the least used (roughly 5%). These findings resonate with the patterns in the matrimonial ads from Canada and France, where we found that by the end of the 20th century individuals used the largest share of words to describe personality of their ideal partner.

The main difference between the US and Canada relates to the importance of taste criteria which appear to be slightly more prevalent than personality ones in the US for both women (graph (a)) and men (graph (b)). In Figure C18, we show that this greater prevalence of taste criteria is due to the increased importance of race in the US. Without this criterion, the demand side for the US look strikingly similar to those of Canada and France (Figure C19).

4.3 Robustness Checks

In this section, we test the robustness of our findings. A key methodological challenge is distinguishing between changes in the intensity of partner preferences and evolution in signaling practices. For instance, identifying high-value partners through economic characteristics may have required more detailed descriptions in 1950 compared to 1995, even if the underlying preference for economic attributes remained stable. To disentangle changes in preferences from changes in signaling strategies, we construct two alternative measures: (i) the absolute number of words used to describe each criterion, and (ii) a binary indicator for the mere presence of each criterion. The results, presented in Section C.4.1, reveal distinct patterns across countries. For Canada and France, all three measures (word shares, word counts, and presence indicators) exhibit similar temporal trends, reinforcing our main findings. The Indian case offers an intriguing contrast as the share of economic-related words increased over time, suggesting that signaling practices may have evolved.

Second, we check whether our conclusions would change if we modify our dictionary to contain more complex linguistic terms (e.g. by including two-words expressions). When defining our outcome variables, we used a dictionary that contained one-word expressions. However, ads can include two-words expressions to refer to a criterion (e.g., "*very wealthy*" instead of solely "*wealthy*"). To account for this possibility, we use a syntactic dependency

parser that allows us to reweigh the criteria by adding words referring to a criterion (the method is explained in Section C.4.2). Figure C25 shows the evolution of the share of words used for economic criteria in the demand side of the ad with and without these weights. We find that the two trends are essentially the same, suggesting that the results are not driven by these two-word expressions.

Third, we study whether the lengths of dictionaries affect the results. We show that the results are robust to using alternative cutoffs such as 100 and 250 for the list of most common words. The results are described in Section C.4.3 and are essentially similar to the main findings. This could be expected as the distribution of words within a text usually follow a Zipf’s law whereby their frequency is proportional to their rank.

Fourth, we display the evolution of the share of words related to economic criteria and personality criteria in levels rather than relatively to 1955 (Section C.4.4). The trends are consistent with the relative evolution. Canada and France show a decline in the share of words related to economic criteria and an increase in the share of words related to personality criteria. Compared to the relative evolution, the actual levels inform us of a higher level of economic criteria in France relative to Canada. As for India, the trends are consistent with the relative evolution: the share of words related to economic criteria increase while the share of words related to personality ones remain stable.

5 Mechanisms

The previous results indicate that stated preferences for economic aspects of an ideal partner have fallen sharply in favour of personality traits in the two Western countries while they increased in India. Additionally, the demand for personality traits increased in the two Western countries. What explains these evolution?

5.1 Composition Effects

5.1.1 Over Time

We study whether the results can be explained by a changing pool of ad writers over time. The data sets used in this paper do not stem from repeated representative surveys of a given country. They originate from ads sent by individuals at different points in time.

This raises the possibility of composition effects, whereby the type of individual posting ads would change over time in a way that explains the changing demand for each criterion.

Alternatives to matrimonial ads - The period studied in this paper (1950-1995) predates the technological revolution in matchmaking. During these decades, the match-making market remained stable in terms of available technologies and social practices. The first online dating website emerged only at the very end of our study period in 1995, while speed-dating was introduced even later in 1996.¹¹ Prior to these innovations, individuals seeking partners had limited formal options: matrimonial ads, matchmakers, and social networks such as family or friends. Unlike later periods where multiple technological platforms competed for different demographic segments, the pre-1995 matchmaking market was characterized by institutional continuity. This technological stability reduces concerns about composition effects, as individuals could not self-select into alternative matching technologies that did not exist.¹²

Moreover, changes in the characteristics of ad writers over this period are likely to be the product of two channels: (i) the pool of individuals using matrimonial ads within society, and (ii) the structure of society. Therefore, changes in the characteristics of ad writers are likely to provide an upper bound of the "true" composition effects caused by the nature of the data.

Oaxaca-Blinder Decomposition. To quantify composition effects over time, we exploit the supply side of matrimonial ads to construct variables related to the characteristics of individuals. The variables are: age, age squared, job, mention of children, mention of education, matrimonial status, explicit mention of marriage, ethnicity, religion and caste (for India).¹³ Using these variables, we perform a Oaxaca-Blinder decomposition through time using the year 1955 as a reference and the share of words related to economic criteria in the demand side as the main outcome variable. This method allows to identify the unexplained component of the trends that is not driven by composition effects. If they play a minor role, we expect the unexplained trends to be essentially similar to the overall trends.

The results are displayed in Figure 6. Overall, the composition effects seem to explain a minor part of the findings as the unexplained trends are essentially similar to those

¹¹Rosenfeld and Thomas, 2012 argue that online dating became popular after 1995.

¹²In France, the share of marriage originating from matrimonial ads appeared low but relatively stable over the 20th century and ranged from 1 to 3% (Bozon and Héran, 1987).

¹³The construction of each variable is described in Section D.1.

presented in Section 4.1. For women (graph (a)), we observe a decline of the importance of economic criteria by about 25 p.p. over time in the two Western countries. The decline is particularly apparent after the 1970s. Similarly, for men (graph (b)), we observe a decline of the demand for economic criteria by about 20 p.p. in France and Canada. On the opposite, in India, we observe a slight increase in the importance of economic criteria for both women and men.¹⁴

Sub-Sample analysis. As the information in the supply side is self-reported, individuals may strategically omit, reveal or approximate some of their characteristics. The implicit assumption for our decomposition is that these strategies do not vary over time. For instance, older individuals would consistently under-report their age over time. If these individuals changed their strategy, the decomposition would underestimate the explained component. To circumvent this issue, we also perform a sub-sample analysis for all the above-mentioned characteristics in order to study whether the trends are visible for all the subgroups. The results are displayed in Section D.2. We find that the trends are essentially similar in all the sub-samples studied which suggests that the decrease of words related to economic criteria is common to the groups defined by the variables mentioned above.

The role of economic criteria in the supply side. The economic situation of individuals writing ads could also have deteriorated over time. This could lead them to lower their expectations related to the economic aspects of the ideal partner and demand less economic criteria over time. To study this possibility, we control for the share of economic criteria in the supply side. The results are described in Figure D9. They are essentially similar, suggesting that the presence of economic criteria in the supply side does not appear to be correlated with lower expectations related to economic criteria.

Controlling for marital intentions. Over the period considered, marriages rates have declined and age at first marriage have increased in Western countries. One could wonder whether ads have increasingly been used by individuals looking for less serious relationships. In order to account for this possibility, we perform a robustness check controlling

¹⁴As the Indian data comes from matrimonial ads written in English, the sample likely represents urban, educated, and relatively affluent segments of Indian society. This sample selection likely yields conservative estimates of the growing importance of economic criteria in partner preferences. The reasoning is twofold: first, our sampled population had greater economic security throughout the study period, potentially making them less sensitive to economic considerations. Second, if increasing emphasis on economic criteria is detected even within this economically privileged group, it suggests an even more pronounced trend in the broader population, where economic mobility and security concerns may be more acute. Thus, while our estimates may not be fully representative of the overall Indian population, they likely establish a lower bound for the increasing salience of economic criteria in partner preferences.

for the explicit mention of marital intentions. The results are described in Figure D8 and remain essentially similar, suggesting that the stated marital intentions do not influence our results.

5.1.2 Choice of Newspaper Outlets

Another potential source of composition effects stems from the selection of newspapers used to constitute the data set. Individuals could self-select and pick a newspapers depending on several factors such as their partner preferences or the content related to the primary activity of these news outlets (as in Gentzkow and Shapiro, 2010). If that was the case, ads could differ significantly between newspapers. The previous results would not reflect overall trends on the matrimonial ads market but simply those related to newspapers we study.

To investigate this possibility, the first best solution would be to obtain ads from several newspapers over the long term in the same country and compare the results. Unfortunately, to our knowledge, there are very few newspapers that have continuously published matrimonial ads over such a long period of time. Most of them have published these ads sporadically or have gone bankrupt.¹⁵

Therefore, we exploit the cross-sectional component of our data set collected in 1995 from newspapers published in different parts of the US and Canada. As indicated in Section 2, these newspapers have in common to be widely circulated in a given region but also vary in several dimensions such as their region of origin, diffusion, political inclination, readerships, etc. While we cannot distinguish between these components, their study can give us an indication on the extent of the variations between newspapers. In particular, if the choice of newspapers was unlikely to drive the results, we expect that ads would be more similar between newspapers than within them.

We use two alternative methods. The first one decomposes the variance of the demand for each criterion within and between newspapers. It consists in measuring whether two randomly drawn ads are more likely to differ across newspapers or within them. The second method directly quantifies the explanatory power of newspapers fixed-effects to explain the demand for each criterion, using the R^2 resulting from a standard OLS specification

¹⁵For instance, in the US, the New York Times used to publish matrimonial ads in the late 19th century. In the UK, the Matrimonial Times published ads from the late 19th century to the mid 1950s and stopped being published afterwards.

where the outcome is the share of words related to a specific criterion and the explanatory variables are newspapers fixed-effects (46 categories) in 1995.

The results related to the variance decomposition are displayed in Table 2. In Panel A, we observe that the variance within newspapers in the demand for personality criteria is about 7 times higher than the variance between newspapers, suggesting that ads are more likely to differ within than between newspapers. The magnitude is similar for ads written by both men and women. In Panel B, we observe a similar pattern for the demand for economic criteria. If anything the decomposition of the variance indicates that the within variance explains a larger part of the overall variance. Additionally, in Table D2, we also display the explanatory power of newspapers fixed-effects using the R^2 . We find that they explain less than 2% of the variance of the demand for each criterion, comforting the findings from the variance decomposition. Therefore, both methods suggest that ads are more dissimilar within than between newspapers and that the selection of newspapers is unlikely to explain the relative importance of each criterion in the matrimonial ads.

5.2 The Role of Parents

Another possibility explaining the diverging evolution of the share of words related to economic criteria between the two Western countries and India relies on the role of parents. The existing literature has suggested that parents may emphasize the role of economic criteria when searching a potential partner for their children (Adams and Andrew, 2019, Raiber *et al.*, Forthcoming). This could drive the trends if ads written in Western countries had been decreasingly sent by parents while their presence had increased in India.

To investigate this mechanism, we computed the evolution of the share of ads mentioning the words "*parents*" or "*family*" in the supply side.¹⁶ The results are displayed in Figure 7. We observe that the mention of parents is consistently higher in Indian ads than in their Western counterparts where it is nearly non-existent and consistently below 5%. In India, about 30% of ads written by women have mentioned parents (graph (a)) and this share has risen from less than 20 to about 25% in ads written by men (graph (b)). Therefore, there is little evidence suggesting that the role of parents has evolved differently between the three countries. The level of the mention of parents has been con-

¹⁶As ads in Indian newspapers are often written by parents, presence of the words "*son*" or "*daughter*" might also indicate that parents are involved in the matchmaking process. Figure D13 in Section D.6 shows the evolution of share of ads containing one of these words. Our conclusions remain the same.

sistently higher in India but the variation in the presence of parents does not appear to have changed throughout the second part of the 20th century.

5.3 The Emergence of a Social Norm?

A possible mechanism explaining our findings could be that stated preferences have diverged from actual preferences over time. A social norm could have emerged in Western countries prescribing that economic criteria should not be explicitly mentioned in partner preferences. This would lead individuals to increasingly hide their true preferences regarding economic criteria. We discuss this mechanism in this section.

5.3.1 Have economic topics become less prevalent over time in daily language?

We first consider whether a norm related to the mention of economic topics has emerged at the societal level. It would apply to the marriage market as well as to other fields and lead to a lower prevalence of economic topics in daily language. As a consequence, the trends observed in the ads would simply accompany the evolution of the prevalence of economic subjects at the societal level.

To investigate this channel, we exploited data from the English corpus of Google N-Grams.¹⁷ It is based on a data set that contains about 6% of books ever published in English (Michel *et al.*, 2011). We use exactly the same set of words for each criterion (as described in Section 3.2) and plot the evolution of these criteria over time. If a norm had emerged at the societal level, we should observe a declining prevalence of economic-related words in favor of those related to personality traits.

Figure 8 depicts the evolution of the prevalence of each criterion. It shows that the ranking of these criteria appears to have remained relatively stable over the period. Economic criteria occupied nearly 50% of words in 1950 and this share had slightly decreased to about 45% in 1995 while personality criteria remained at about 30% over the entire period. These results suggest that the trends observed in the matrimonial ads are not a simple product of a societal norm and changes in everyday vocabulary.

Relatedly, a possibility is that a larger share of economic words with negative connotations were used in 1950, while the use of those words has decreased over time. To investigate this, we conduct a robustness check focusing on the evolution of words with

¹⁷<https://books.google.com/ngrams>

positive meanings. The results are shown in Figure D15. When comparing the trend of this subset of words to the full set of economic-related words, we find that the decline in economic criteria is slightly smaller. However, our main conclusion remains unchanged.

5.3.2 Indirect ways to demand economic criteria

The previous findings do not rule out the possibility that the social norm is specific to the marriage market. This norm would prescribe that economic topics should not be mentioned in stated partner preferences while their importance would remain intact in actual partner preferences. As we cannot observe actual preferences, it is difficult to settle this question. Nevertheless, we can assume that individuals may comply with this norm by using indirect ways to demand economic criteria.

Decomposing Personality Criteria. A first possibility could be to mention characteristics correlated with economic criteria. To investigate, we first decompose the evolution of personality criteria in Section C.1.2. In both Western countries, we observe that stated preferences related to "Emotional Stability" have increased, as well as "Agreeableness" for France which remained at a high but stable level in Canada, and "Extroversion" for Canada. Are these personality traits used as indirect ways to demand economic criteria? Findings from the existing literature suggest that it is unlikely. First, "Conscientiousness" is considered to be the key criterion positively correlated with achievement and earnings (Hogan and Holland, 2003, Almlund *et al.*, 2011, Gensowski, 2018) whereas its mention does not change over the period. Second, the influence of "Extroversion" on achievement remains controversial in the literature.¹⁸ Finally, "Agreeableness" has been shown to be negatively associated with earnings.¹⁹

Age Gap. Another possibility to express an indirect preference for economic criteria could rely on age. In the main results, we categorized age as a physical criterion but it could be argued that searching for someone older indicates a preference for someone with higher earnings. To investigate, we study the evolution of the age gap in Figure D16. We

¹⁸Gensowski, 2018 finds a positive association between "Extroversion" and earnings while earlier work by Goldberg *et al.*, 1998 and Van Eijck and De Graaf, 2004 find a negative correlation with educational attainment.

¹⁹We also studied the evolution of taste-based criteria in Section C.1.4. In Canada, only the category related to demographics seems to be increasingly more mentioned. A closer look at the ads suggests that the increase in demographic-related words in Canada is driven by the increasing mention of race. In France, the category related to hobby increases slightly over time and cannot compensate the decline in economic criteria.

show that the age gap does not seem to evolve for men while women are less and less looking for partners older than them. Therefore, if anything the evolution of the age gap also suggests a decreasing demand for economic criteria.

5.3.3 Are stated preferences aligned with actual preferences?

Stated preferences in the matrimonial ads published in the two Western countries mention directly and indirectly economic criteria significantly less over time. This does not rule out the existence of a social norm that may prevent individuals from expressing *any* of their preferences in the ads. As a consequence, stated preferences would reflect how individuals should describe the ideal partner rather than what they are actually looking for, consciously or unconsciously. To provide evidence on this question, we examine how stated preferences in the ads differ from well-established facts on partner preferences.

The literature on partner preferences has established a set of facts considered to be common to nearly all societies (Buss, 1989, Fisman *et al.*, 2006). These facts are that: (i) men value physical attractiveness more than women do, (ii) men have a preference for younger partners whereas women tend to prefer older partners and (iii) women value cues to resource acquisition such as income or financial prospects more than men do.

In Section D.7.3, we show that our data are able to replicate these stylized facts for the entire period (1950-1995) and all the three countries (Canada, France and India).²⁰ Women consistently put a greater emphasis on the demand for economic attributes in the three countries (Figure D17) while men attach more importance to physical attributes (Figure D18). Finally, we see that women express the desire to find an older partner more often than men do (Figure D19). Arguably, these findings do not completely rule out the existence of a social norm. Yet, they provide additional supporting evidence that the preferences stated in the matrimonial ads partly correspond to the actual preferences in society.

²⁰In the Appendix, we also replicate these stylized facts using cross-sectional data from 1995 to test for the presence of these gender differences across regions in the US and Canada. The results, shown in Figure D20, confirm that the data support these established trends across all regions sampled. This analysis provides additional support for the use of ads to study marital preferences.

5.4 A Change in Partner Preferences?

Why would partner preferences evolve over the second half of the 20th century? In this section, we discuss and provide evidence on the potential mechanisms leading to a change in partner preferences.

5.4.1 The transformations of the 1970s in Western countries

In the second half of the 20th century, the Western family underwent profound changes. Economists have described the radical alteration of the family in Western countries (Becker, 1981), demographers have advanced the concept of "*Second Demographic Transition*" (Van De Kaa, 1986; Van De Kaa and Lesthaeghe, 1987) while sociologists advanced the idea of the "*deinstitutionalization of marriage*" (Cherlin, 2004). At the heart of these theories and descriptions lie observations common to many Western countries such as the drop in marriage rates, the surge of divorce rates, the normalization of cohabitation and the postponement of fertility occurring at the turn of the 1970s.

The timing of these evolution coincides with the timing of the evolution of partner preferences expressed in the matrimonial ads. Therefore, the mechanisms explaining the evolution of partner preferences could be found in the same determinants explaining the transformations of family. The existing literature has suggested that these determinants include the rising participation of women to the labor market, the legalization of birth control methods and a shift in cultural values. Hence, if these mechanisms should explain the evolution of partner preferences, we would expect them to be influential in the two Western countries but not in India.

The rising participation of women to the labor market fits this criterion. In Figure 9, we depict the evolution of the share of words related to economic criteria along with the gender gap in labor market participation. We observe that in both France and Canada, the decrease in the demand for economic criteria coincides with a decreased gender gap, particularly after the 1960s. On the opposite, in India, the demand for economic criteria increases while the female labour force participation rate in India is known to have stagnated at low levels and even fallen in recent years (Fletcher *et al.*, 2017). To formally test this relationship, we exploit our data. We estimate the following specification: $\bar{Y}_{ct} = \beta_0 + \beta_1 LaborForceParticipationGap_{ct} + country_c + year_t + \epsilon_{ct}$, where \bar{Y}_{ct} represents the average share of personality or economic criteria on the demand side. The country

and year fixed effects allow us to isolate within-country variation over time and control for global trends or shocks (such as technological changes or global recessions) that might affect all countries similarly. Additionally, we include further controls for key economic and development indicators, such as the Gini coefficient, GDP per capita, the GDP per capita growth rate, and government spending. The results are presented in Table 3. They confirm the patterns observed in the graphical analysis. A relative increase in female labor force participation is correlated with an increase in the demand for personality criteria (columns (1) and (2)) and a decrease in the demand for economic criteria (columns (3) and (4)). While this exercise is informative, we acknowledge that it presents correlations rather than causal relationships.²¹

What could lie behind the correlation between partner preferences and female labor market participation? It could reflect a causal relationship, whereby women gained economic independence leading them to search less for economic criteria in a potential partner (Eagly and Wood, 1999). Men would adjust to the declining demand of women. This would also explain why the decline in the demand for economic criteria is larger for women than for men. This correlation could also be partly caused by another variable explaining both the increased female labor force participation and the decreased demand for economic criteria. This variable could be the shift in values described in Western countries. This would explain partly why men decreased their demand for economic criteria. With the data at hand, we are unable to settle this question.

5.4.2 A hierarchy of partner preferences?

Observing the changes in the family in Western societies at the turn of the 1970s, social scientists have hypothesized that they may reflect a greater individualization of society and an aspiration towards a need for fulfillment and self-actualization. Individuals would be increasingly looking for partners with whom they can share their lives (Lesthaeghe, 2014). The theoretical basis for this interpretation is Maslow’s theory of needs (Maslow, 1943) which postulates that, as individuals satisfy first order needs such as physiological and

²¹Similarly, we conducted an analysis correlating the demand for economic and personality criteria with labor force participation gaps (women - men) at the state level using the cross-sectional data from 1995 in the US. The results are displayed in Table D3. Although the estimates are imprecise, we observe a negative (positive) correlation between the labor force participation gap and the demand for economic (personality) criteria suggesting that the more gender equal a labor market is, the less economic (more personality) criteria are prevalent in the matrimonial ads which is consistent with our time series analyses.

security needs, they develop other less material needs related to individual fulfillment and self-actualization. Needs are arranged in a hierarchical form where the demand of one rests on the satisfaction of the previous one.

Our results bring empirical support for these theories which help us understand why personality traits are increasingly mentioned in the two Western countries. Individuals would first seek to satisfy first-order economic needs directly related to physiological and security needs. Then, as societies develop, individuals' needs would shift away from materialistic needs and focus on partner's personality, related to individual's needs of fulfillment and self-actualization. This evolution could thus be characterized as a hierarchy of partner preferences.

A well-known application of this theory lies in the concept of postmaterialism popularized by [Inglehart, 1977](#). It argues that, in the 1970s, Western societies have placed greater importance on non-material goals such as self-expression, autonomy and freedom. To test whether we observe this difference between the two Western countries and India, we use data from the World Values Survey in 2006.²² In Figure 10, we observe that individuals from Canada and France declare significantly more post-materialist values than those from India. The Inglehart index is respectively of 2.77 and 2.67 for France and Canada while it is at 2.05 for India. In fact, some studies have found that India is the only exception where young are less likely to have postmaterialist values than their elders ([Inglehart and Abramson, 1994](#)).²³

The increased relative importance of economic criteria in India could reflect a complex relationship between economic development and partner preferences. While India experienced significant changes after independence in 1947, with a growing industrial sector, emerging service jobs, and a rising middle class, the continued emphasis on economic criteria suggests that basic financial security remained crucial for marriage decisions. Indeed, we see that the rise of economic criteria is primarily driven by words related to labor market outcomes (see Figure C5). This pattern differs from France and Canada, where economic criteria declined as these societies became wealthier. Recent refinements of Maslow's hier-

²²2006 is the only year where the three countries are present in the data set. As values evolve slowly, this can approximate the differences in attitudes towards the end of the period in 1995.

²³The World Values Survey contains information on India for 5 different waves from 1989 to 2014. A closer look at the data indicates that the post-materialistic index declined between 1989 and 1995 which is consistent with the increased importance of economic criteria in the ads. In more recent waves, the index seems to have remained stable which could suggest a stable demand for economic criteria. Unfortunately, we cannot test this prediction with our data as it ends in 1995.

archy of needs (Kenrick *et al.*, 2010) can help us understand this pattern. They suggest that later developing motivational systems may coexist with those that developed earlier. The importance of economic criteria can persist or even increase based on environmental pressures. In India’s case, factors like high inequality, limited social safety nets, and cultural expectations could have kept economic considerations important, even as average incomes rose. This suggests that rather than simply moving up Maslow’s hierarchy as societies develop, different needs can remain active and their importance depends on the specific challenges people face in their environment.

5.5 Discussion on the Implications for Assortative Mating

A related literature seeks to quantify the evolution of couples’ characteristics over the long term. Existing evidence on the evolution of educational marital sorting is inconclusive. While several studies have demonstrated that educational assortativeness has strengthened during the period of our study (Qian and Preston, 1993; Greenwood *et al.*, 2014; Chiappori *et al.*, 2017), others argue that it has remained constant or declined (Liu and Lu, 2006; Fu and Heaton, 2008; Eika *et al.*, 2019b; Chiappori *et al.*, 2020a). A key difficulty relates to the fact that existing methods rely on data from final matches, which poses serious empirical challenges in disentangling the effects of preferences from those of search and matching. Specifically, measuring changes in assortativeness is difficult when marginal distribution of education changes, and differentially for men and women (Chiappori *et al.*, 2020c). How can our results be used to interpret these developments?

As our results point towards a decreasing role of economic criteria, a first possibility could be that the changes in the degree of assortative mating are not due to changing preferences but to a changing role of marriage markets. In recent decades, there has been a remarkable reduction in gender inequalities, leading to an increasing number of women pursuing the same education and occupations as men. These two places - school and work - are part of main meeting places for spouses (Rosenfeld and Thomas, 2012). Thus, changes in the degree of assortative mating could be the result of spouses meeting more frequently either at school or at work (or through friends from these places), i.e. within a pool of individuals sharing similar characteristics. This interpretation is in line with studies that highlight the importance of the role played by college as a marriage market (Kirkebøen *et al.*, 2021, Artmann *et al.*, 2021).

A second possibility lies in what it means to value the personality traits of a partner. Individuals might be increasingly looking for someone with whom they get along and mention personality traits as a proxy for this preference. This hypothesis is suggested by several social scientists ([Becker, 1981](#), [Van De Kaa and Lesthaeghe, 1987](#), [Cherlin, 2004](#)). It is also consistent with our data as we observe in both Western countries that the taste-based criteria have also increased. One implication of this hypothesis is that homogamy in terms of education is an indirect consequence of finding a spouse with whom one gets along. It would not be sought as such but correlated with the desired characteristic. In this context, we also examine the decomposition of sub-components within economic criteria to determine whether the decline in economic criteria is driven by all or only a few sub-components. From Figures [C3](#) and [C4](#), we find that the decline in economic criteria is mainly driven by labor, wealth, and general economic factors, while education criteria remained stable. This result aligns with the structural matching estimates of [Ciscato and Weber, 2020](#), who found that in the U.S., despite an increase in educational assortativeness, the relevance of other socio-economic characteristics (such as wages and labor supply) diminished.

6 Conclusion

This paper studies the evolution of partner preferences over the second part of the 20th century. We constituted a new data set that consists of over one million matrimonial ads published in Canada, France, India and the US. Using these data, we document that the demand for economic criteria significantly decreased in the two Western countries while it remained stable in India. The decrease in economic criteria was offset by a large increase in the demand for personality ones in Canada and France. As for other criteria, such as physical and taste-based ones, their importance seems to have remained stable over time. Using cross-sectional data in 1995 from multiple regional newspapers published in the US and Canada, we show that personality criteria are consistently ranked among the most sought for criteria in a potential partner while economic criteria are the least mentioned.

Investigating the mechanisms, we show that our results are unlikely to be driven by composition effects or the changing role of parents in the matchmaking process. We study the possibility of the emergence of a social norm leading stated preferences to diverge from actual preferences. We provide evidence suggesting that this norm cannot entirely explain

the evolution in the matrimonial ads. Finally, we discuss why partner preferences could have evolved over the second part of the 20th century. In the two Western countries, the timings of the changes observed in the ads coincides with profound transformations of the family and the rise of female labor market participation. We argue that the evolution of partner preferences could have accompanied these changes. This is consistent with the existence of a hierarchy of partner preferences, whereby the demand for non-material needs such as personality ones rests on the satisfaction of material needs such as economic ones.

Methodologically, the main contribution of this paper is to exploit classified ads published in historical newspapers to document the evolution of partner preferences. These data come with limitations, discussed in the paper, but also have certain advantages such as allowing us to quantify the historical evolution of partner preferences, a topic on which data limitations are pervasive. Future research could thus attempt to expand the data set to more contexts and countries in order to better understand the extent of the changes described in this paper. It could also try to collect data from other parts of newspapers. Classified ads related to the supply and demand of jobs could be a fruitful extension.

The main takeaway from our findings is that partner preferences have evolved in the second part of the 20th century differently for Western countries and India. This suggests that partner preferences can partly be seen as cultural traits that respond to evolution of society. The early 1970s in Western countries seem to have been a turning point. This period coincides with profound social transformations, particularly the dramatic rise in female labor force. While our data pinpoints when these preferences shifted, it does not allow us to precisely identify what caused these changes. Future research could attempt to bridge this gap.

References

- Adams, A. and Andrew, A. (2019). ‘Preferences and beliefs in the marriage market for young brides’, Institute for Fiscal Studies.
- Afridi, F., Arora, A., Dhar, D. and Mahajan, K. (2023). ‘Women’s work, social norms and the marriage market’, IZA Discussion Papers.
- Alesina, A. and Giuliano, P. (2015). ‘Culture and institutions’, *Journal of Economic Literature*, vol. 53(4), pp. 898–944.
- Ammlund, M., Duckworth, A.L., Heckman, J. and Kautz, T. (2011). ‘Personality psychology and economics’, in (E. A. Hanushek, S. Machin and L. Woessmann, eds.), *Handbook of The Economics of Education*, pp. 1–181, vol. 4 of *Handbook of the Economics of Education*, Elsevier.
- Artmann, E., Ketel, N., Oosterbeek, H. and van der Klaauw, B. (2021). ‘Field of study and partner choice’, *Economics of Education Review*, vol. 84, p. 102149.
- Ash, E., Durante, R., Grebenshikova, M. and Schwarz, C. (2021). ‘Visual stereotypes in news media’, .
- Ash, E. and Hansen, S. (2022). ‘Text algorithms in economics’, .
- Atalay, E., Phongthiengtham, P., Sotelo, S. and Tannenbaum, D. (2020). ‘The evolution of work in the united states’, *American Economic Journal: Applied Economics*, vol. 12(2), pp. 1–34.
- Baker, S.R., Bloom, N. and Davis, S.J. (2016). ‘Measuring economic policy uncertainty’, *The quarterly journal of economics*, vol. 131(4), pp. 1593–1636.
- Banerjee, A., Duflo, E., Ghatak, M. and Lafortune, J. (2013). ‘Marry for what? caste and mate selection in modern india’, *American Economic Journal: Microeconomics*, vol. 5(2), pp. 33–72.
- Bapna, R., Ramaprasad, J., Shmueli, G. and Umyarov, A. (2016). ‘One-Way Mirrors in Online Dating: A Randomized Field Experiment’, *Management Science*, vol. 62(11), pp. 3100–3122.
- Barth, D., Papageorge, N.W. and Thom, K. (2020). ‘Genetic endowments and wealth inequality’, *Journal of Political Economy*, vol. 128(4), pp. 1474–1522.
- Bau, N. (2021). ‘Can policy change culture? government pension plans and traditional kinship practices’, *American Economic Review*, vol. 111(6), pp. 1880–1917.

- Beach, B. and Hanlon, W.W. (2022). ‘Historical newspaper data: A researcher’s guide and toolkit’, National Bureau of Economic Research.
- Becker, G. (1981). *A Treatise on the Family*, Harvard University Press.
- Belot, M. and Francesconi, M. (2013). ‘Dating preferences and meeting opportunities in mate choice decisions’, *Journal of Human Resources*, vol. 48(2), pp. 474–508.
- Bergström, M. (2018). *Revue française de sociologie*, vol. 59(3), pp. 395–422.
- Boies, K., Lee, K., Ashton, M.C., Pascal, S. and Nicol, A.A.M. (2001). ‘The structure of the french personality lexicon’, *European Journal of Personality*, vol. 15(4), pp. 277–295.
- Bozon, M. and Héran, F. (1987). ‘La découverte du conjoint: I. Évolution et morphologie des scènes de rencontre’, *Population (French Edition)*, vol. 42(6), pp. 943–985.
- Breen, R. and Salazar, L. (2011). ‘Educational assortative mating and earnings inequality in the united states’, *American Journal of Sociology*, vol. 117(3), pp. 808–843.
- Buss, D.M. (1989). ‘Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures’, *Behavioral and Brain Sciences*, vol. 12(1), p. 1–14.
- Buss, D.M., Shackelford, T.K., Kirkpatrick, L.A. and Larsen, R.J. (2001). ‘A half century of mate preferences: The cultural evolution of values’, *Journal of Marriage and Family*, vol. 63(2), pp. 491–503.
- Caldara, D. and Iacoviello, M. (2022). ‘Measuring geopolitical risk’, *American Economic Review*, vol. 112(4), pp. 1194–1225.
- Caprettini, B. and Voth, H.J. (2020). ‘Rage against the machines: Labor-saving technology and unrest in industrializing england’, *American Economic Review: Insights*, vol. 2(3), pp. 305–20.
- Cherlin, A.J. (2004). ‘The deinstitutionalization of american marriage’, *Journal of Marriage and Family*, vol. 66(4), pp. 848–861.
- Chiappori, P.A., Costa-Dias, M., Crossman, S. and Meghir, C. (2020a). ‘Changes in assortative matching and inequality in income: Evidence for the uk’, *Fiscal Studies*, vol. 41(1), pp. 39–63.
- Chiappori, P.A., Dias, M.C. and Meghir, C. (2020b). ‘Changes in assortative matching: Theory and evidence for the us’, National Bureau of Economic Research.
- Chiappori, P.A., Dias, M.C. and Meghir, C. (2020c). ‘Changes in assortative matching: Theory and evidence for the us’, National Bureau of Economic Research.
- Chiappori, P.A., Oreffice, S. and Quintana-Domeque, C. (2012). ‘Fatter attraction: An-

- thropometric and socioeconomic matching on the marriage market', *Journal of Political Economy*, vol. 120(4), pp. 659–695.
- Chiappori, P.A., Salanié, B. and Weiss, Y. (2017). 'Partner choice, investment in children, and the marital college premium', *American Economic Review*, vol. 107(8), pp. 2109–2167.
- Ciscato, E. and Weber, S. (2020). 'The role of evolving marital preferences in growing income inequality', *Journal of Population Economics*, vol. 33(1), pp. 307–347.
- Coupland, J. (1996). 'Dating advertisements: Discourses of the commodified self', *Discourse & Society*, vol. 7(2), pp. 187–207.
- de Singly, F. (1984). 'Les manœuvres de séduction : une analyse des annonces matrimoniales', *Revue française de sociologie*, vol. 25(4), pp. 523–559.
- Desmet, K. and Wacziarg, R. (2020). 'The Cultural Divide', *The Economic Journal*, vol. 131(637), pp. 2058–2088.
- Dugar, S., Bhattacharya, H. and Reiley, D. (2012). 'Can't buy me love? a field experiment exploring the trade-off between income and caste-status in an indian matrimonial market', *Economic Inquiry*, vol. 50(2), pp. 534–550.
- Dupuy, A. and Galichon, A. (2014). 'Personality traits and the marriage market', *Journal of Political Economy*, vol. 122(6), pp. 1271–1319.
- Eagly, A.H. and Wood, W. (1999). 'The origins of sex differences in human behavior: Evolved dispositions versus social roles.', *American psychologist*, vol. 54(6), p. 408.
- Egebark, J., Ekström, M., Plug, E. and van Praag, M. (2021). 'Brains or beauty? causal evidence on the returns to education and attractiveness in the online dating market', *Journal of Public Economics*, vol. 196, p. 104372.
- Eika, L., Mogstad, M. and Zafar, B. (2019a). 'Educational assortative mating and household income inequality', *Journal of Political Economy*, vol. 127(6), pp. 2795–2835.
- Eika, L., Mogstad, M. and Zafar, B. (2019b). 'Educational assortative mating and household income inequality', *Journal of Political Economy*, vol. 127(6), pp. 2795–2835.
- Ermisch, J., Francesconi, M. and Siedler, T. (2006). 'Intergenerational Mobility and Marital Sorting', *The Economic Journal*, vol. 116(513), pp. 659–679.
- Falk, A., Becker, A., Dohmen, T., Enke, B., Huffman, D. and Sunde, U. (2018). 'Global evidence on economic preferences', *The Quarterly Journal of Economics*, vol. 133(4), pp. 1645–1692.

- Falk, A., Kosse, F., Pinger, P., Schildberg-Hörisch, H. and Deckers, T. (2021). ‘Socioeconomic status and inequalities in children’s iq and economic preferences’, *Journal of Political Economy*, vol. 129(9), pp. 2504–2545.
- Fernández, R., Guner, N. and Knowles, J. (2005). ‘Love and Money: A Theoretical and Empirical Analysis of Household Sorting and Inequality’, *The Quarterly Journal of Economics*, vol. 120(1), pp. 273–344.
- Fernández, R. and Rogerson, R. (2001). ‘Sorting and Long-Run Inequality*’, *The Quarterly Journal of Economics*, vol. 116(4), pp. 1305–1341.
- Ferrara, A. and Fishback, P. (2020). ‘Discrimination, migration, and economic outcomes: evidence from world war i’, *The Review of Economics and Statistics*, pp. 1–44.
- Ferrario, B. and Stantcheva, S. (2022). ‘Eliciting people’s first-order concerns: Text analysis of open-ended survey questions’, National Bureau of Economic Research.
- Fetzer, T. (2020). ‘Can Workfare Programs Moderate Conflict? Evidence from India’, *Journal of the European Economic Association*, vol. 18(6), pp. 3337–3375.
- Fisman, R., Iyengar, S.S., Kamenica, E. and Simonson, I. (2006). ‘Gender Differences in Mate Selection: Evidence From a Speed Dating Experiment’, *The Quarterly Journal of Economics*, vol. 121(2), pp. 673–697.
- Fletcher, E., Pande, R. and Moore, C.M.T. (2017). ‘Women and work in india: Descriptive evidence and a review of potential policies’, .
- Frémeaux, N. and Lefranc, A. (2020). ‘Assortative mating and earnings inequality in france’, *Review of Income and Wealth*, vol. 66(4), pp. 757–783.
- Frémeaux, N. and Leturcq, M. (2018). ‘Prenuptial agreements and matrimonial property regimes in france, 1855-2010’, *Explorations in Economic History*, vol. 68, pp. 132–142.
- Fu, X. and Heaton, T.B. (2008). ‘Racial and educational homogamy: 1980 to 2000’, *Sociological Perspectives*, vol. 51(4), pp. 735–758.
- Gensowski, M. (2018). ‘Personality, iq, and lifetime earnings’, *Labour Economics*, vol. 51, pp. 170–183.
- Gentzkow, M., Kelly, B. and Taddy, M. (2019). ‘Text as data’, *Journal of Economic Literature*, vol. 57(3), pp. 535–74.
- Gentzkow, M. and Shapiro, J. (2010). ‘What drives media slant? evidence from u.s. daily newspapers’, *Econometrica*, vol. 78(1), pp. 35–71.
- Giavazzi, F., Petkov, I. and Schiantarelli, F. (2019). ‘Culture: Persistence and evolution’, *Journal of Economic Growth*, vol. 24(2), pp. 117–154.

- Giuliano, P. and Nunn, N. (2021). ‘Understanding Cultural Persistence and Change’, *The Review of Economic Studies*, vol. 88(4), pp. 1541–1581.
- Giuliano, P. and Spilimbergo, A. (2013). ‘Growing up in a Recession’, *The Review of Economic Studies*, vol. 81(2), pp. 787–817.
- Goldberg, L.R. (1990). ‘An alternative" description of personality": the big-five factor structure.’, *Journal of personality and social psychology*, vol. 59(6), p. 1216.
- Goldberg, L.R., Sweeney, D., Merenda, P.F. and Hughes, J.E. (1998). ‘Demographic variables and personality: the effects of gender, age, education, and ethnic/racial status on self-descriptions of personality attributes’, *Personality and Individual Differences*, vol. 24(3), pp. 393–403.
- Greenwood, J., Guner, N., Kocharkov, G. and Santos, C. (2014). ‘Marry Your Like: Assortative Mating and Income Inequality’, *American Economic Review*, vol. 104(5), pp. 348–353.
- Greenwood, J., Guner, N., Kocharkov, G. and Santos, C. (2016). ‘Technology and the changing family: A unified model of marriage, divorce, educational attainment, and married female labor-force participation’, *American Economic Journal: Macroeconomics*, vol. 8(1), pp. 1–41.
- Harrison, A. and Saeed, L. (1977). ‘Let’s make a deal: An analysis of revelations and stipulations in lonely hearts advertisements’, *Journal of Personality and Social Psychology*, vol. 35(4), pp. 257–264.
- Hitsch, G.J., Hortaçsu, A. and Ariely, D. (2010). ‘Matching and sorting in online dating’, *American Economic Review*, vol. 100(1), pp. 130–63.
- Hogan, J. and Holland, B. (2003). ‘Using theory to evaluate personality and job-performance relations: a socioanalytic perspective.’, *Journal of applied psychology*, vol. 88(1), p. 100.
- Inglehart, R. (1977). *The Silent Revolution: Changing Values and Political Styles Among Western Publics*, Princeton University Press.
- Inglehart, R. and Abramson, P.R. (1994). ‘Economic security and value change’, *American political science review*, vol. 88(2), pp. 336–354.
- Kalmijn, M. (1998). ‘Intermarriage and homogamy: Causes, patterns, trends’, *Annual Review of Sociology*, vol. 24, pp. 395–421.
- Kenrick, D.T., Griskevicius, V., Neuberg, S.L. and Schaller, M. (2010). ‘Renovating the

- pyramid of needs: Contemporary extensions built upon ancient foundations’, *Perspectives on psychological science*, vol. 5(3), pp. 292–314.
- Kirkebøen, L., Leuven, E. and Mogstad, M. (2021). ‘College as a marriage market’, National Bureau of Economic Research.
- Larsen, V.H. and Thorsrud, L.A. (2019). ‘The value of news for economic developments’, *Journal of Econometrics*, vol. 210(1), pp. 203–218.
- Lesthaeghe, R. (2014). ‘The second demographic transition: A concise overview of its development’, *Proceedings of the National Academy of Sciences*, vol. 111(51), pp. 18112–18115.
- Lippmann, Q. (2021). ‘From material to non-material needs? the evolution of mate preferences through the twentieth century in france’, *The Journal of Economic History*, vol. 81(3), p. 831–871.
- Liu, H. and Lu, J. (2006). ‘Measuring the degree of assortative mating’, *Economics Letters*, vol. 92(3), pp. 317–322.
- Lundberg, S. and Pollak, R.A. (2007). ‘The american family and family economics’, *Journal of Economic Perspectives*, vol. 21(2), pp. 3–26.
- Mare, R.D. (1991). ‘Five decades of educational assortative mating’, *American Sociological Review*, vol. 56(1), pp. 15–32.
- Martin, M. (1980). ‘Images du mari et de la femme au xxe siècle : les annonces de mariage du chasseur français’, *Revue d’histoire moderne et contemporaine*, vol. 27.
- Masera, F. and Rosenberg, M. (2021). ‘Slavocracy: Economic elite and the support for slavery’, .
- Maslow, A.H. (1943). ‘A theory of human motivation.’, *Psychological review*, vol. 50(4), p. 370.
- Michel, J.B., Shen, Y.K., Aiden, A.P., Veres, A., Gray, M.K., null null, Pickett, J.P., Hoiberg, D., Clancy, D., Norvig, P., Orwant, J., Pinker, S., Nowak, M.A. and Aiden, E.L. (2011). ‘Quantitative analysis of culture using millions of digitized books’, *Science*, vol. 331(6014), pp. 176–182.
- Ong, D. and Wang, J. (2015). ‘Income attraction: An online dating field experiment’, *Journal of Economic Behavior & Organization*, vol. 111, pp. 13–22.
- Qian, Z. and Preston, S.H. (1993). ‘Changes in american marriage, 1972 to 1987: Availability and forces of attraction by age and education’, *American Sociological Review*, pp. 482–495.

- Raiber, E., Ren, W., Bovet, J., Seabright, P. and Wang, C. (Forthcoming). ‘What do parents want? parental spousal preferences in china’, *Economic Development and Cultural Change*.
- Ritzer, G. and Dean, P. (2019). *Globalization: the essentials*, John Wiley & Sons.
- Rosenfeld, M.J. and Thomas, R.J. (2012). ‘Searching for a mate: The rise of the internet as a social intermediary’, *American Sociological Review*, vol. 77(4), pp. 523–547.
- Schwartz, C.R. and Mare, R.D. (2005). ‘Trends in educational assortative marriage from 1940 to 2003’, *Demography*, vol. 42(4), pp. 621–646.
- Stevenson, B. and Wolfers, J. (2007). ‘Marriage and divorce: Changes and their driving forces’, *Journal of Economic Perspectives*, vol. 21(2), pp. 27–52.
- Van De Kaa, D. (1986). ‘Twee demografische transitities.’, *Bevolking: groeien krimp*, pp. 9–24.
- Van De Kaa, D. and Lesthaeghe, R. (1987). ‘Europe’s second demographic transition’, *Popul Bull.*, vol. 42(1), pp. 1–59.
- Van Eijck, C. and De Graaf, P.M. (2004). ‘The big five at school: The impact of personality on educational attainment’, *Netherlands’ Journal of Social Sciences*, vol. 40(1), pp. 24–40.
- Voigtländer, N. and Voth, H.J. (2012). ‘Persecution Perpetuated: The Medieval Origins of Anti-Semitic Violence in Nazi Germany*’, *The Quarterly Journal of Economics*, vol. 127(3), pp. 1339–1392.
- Waynforth, D. and Dunbar, R.I.M. (1995). ‘Conditional mate choice strategies in humans: Evidence from ‘lonely hearts’ advertisements’, *Behaviour*, vol. 132(9/10), pp. 755–779.

Tables

Table 1: Details on Topic Classification - Canada

Topic	Keywords
<i>Panel A: Economic Criteria</i>	
Education	educ, school, student, university (4)
General	background, financially, income, means, money, rich, wage (7)
Labor	business, career, employment, engineer, executive, farmer, fisherman, homemaker, house-keeper, job, logger, nurse, pension, position, prof, profession, retired, superintendent, teacher, tradesman, work, worker (23)
Wealth	asset, car, home, house, property, wealthy (6)
<i>Panel B: Personality Criteria</i>	
Agreeableness	affect, affectionate, agreeable, amiable, casual, charming, considerate, easygoing, friendly, gentle, helpful, honest, honesty, humor, humour, informal, kind, laugh, laughter, moral, natural, nice, pleasant, polite, reasonable, respectful, sensitive, simple, sincere, smiling, understanding, warm, warmhearted (33)
Conscientiousness	careful, dependable, hardworking, loyal, purposeful, reliable, responsible, sober, steady, steadily (10)
Emotional Stability	emotional, independent, peaceful, secure, stable (5)
Extraversion	active, adventurous, ambitious, assured, cheerful, communicative, confident, energetic, fun, funny, happy, joy, loving, outgoing, playful, quiet, romance, romantic, shy, social, sociable, spirited, spiritual, spontaneous, vivacious, witty (26)
General	character, personality (2)
Intellect	artistic, bright, broadminded, creative, cultured, intel, intellectual, intelligent, refined, smart, sophisticated, worldly (12)
<i>Panel C: Physical Criteria</i>	
Age	20s, 30s, 40s, 50s, 60s, age, elder, old, older, young, younger (11)
Attractiveness	attr, attrac, attractive, beautiful, cute, goodlooking, handsome, pretty, sensual, sensuous (10)
General	athletic, blond, brunette, eyes, fit, hair, handicap, health, healthy, lbs, look, physical, plump, plumpish, slender, slim, weight (17)
Height	height, petite, tall (3)
<i>Panel D: Taste-Based Criteria</i>	
Demographics	american, asian, black, british, canadian, caucasian, chinese, danish, dutch, european, french, german, hispanic, hungarian, indian, irish, japanese, norwegian, orient, polish, race, racial, scandinavian, ukrainian, white (25)
Habit	drink, drinker, drug, habit, nondrinker, nonsmoker, smoke, smoker, taste, vegetarian (10)
Hobbies	animal, art, bike, boat, book, bowl, camp, chess, concert, cook, cycle, dance, disco, dog, drawing, fish, garden, golf, hike, hobby, hockey, holiday, hunt, jazz, music, read, sail, show, ski, sport, swim, tennis, theater, theatre, travel (35)
Religion	catholic, christian, jewish, protestan, religion, sikh (6)

Notes: these words are used to classify ads published in the *Vancouver Sun* in Canada. Out of the 1550 most recurrent unique words, the numbers of words classified is 280 (18.06%).

Table 2: Variance Decomposition Within and Between newspapers in 1995

Variance	Women	Men
<i>Panel A: Demand for Personality criteria</i>		
Overall	0.373	0.371
Between	0.055	0.047
Within	0.369	0.368
<i>Panel B: Demand for Economic criteria</i>		
Overall	0.189	0.142
Between	0.031	0.016
Within	0.187	0.142

Notes: the data come from matrimonial ads published in 46 English-speaking newspapers from the US and Canada in 1995. The Table shows the variance decomposition within and between newspapers in the demand for personality (Panel A) and economic (Panel B) criteria.

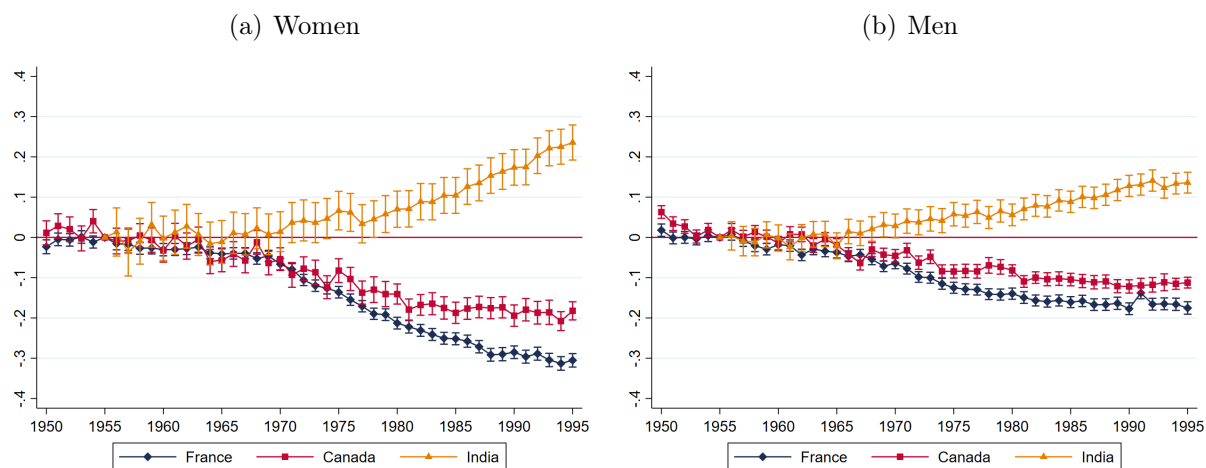
Table 3: Time Series Correlations

Demand for	Personality		Economic	
	(1)	(2)	(3)	(4)
Labor Force Participation Gap (Women - Men)	0.006*** (0.001)	0.009** (0.003)	-0.006*** (0.001)	-0.012** (0.004)
Country Fixed Effect	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes
Observations	59	46	59	46

Notes: Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The outcome variables are, respectively, the mean share of personality criteria on the demand side (columns (1) and (2)) and the mean share of economic criteria on the demand side (columns (3) and (4)). Controls include the Gini coefficient, $\log(\text{GDP per capita})$, the GDP per capita growth rate, and government spending (as a percentage of GDP).

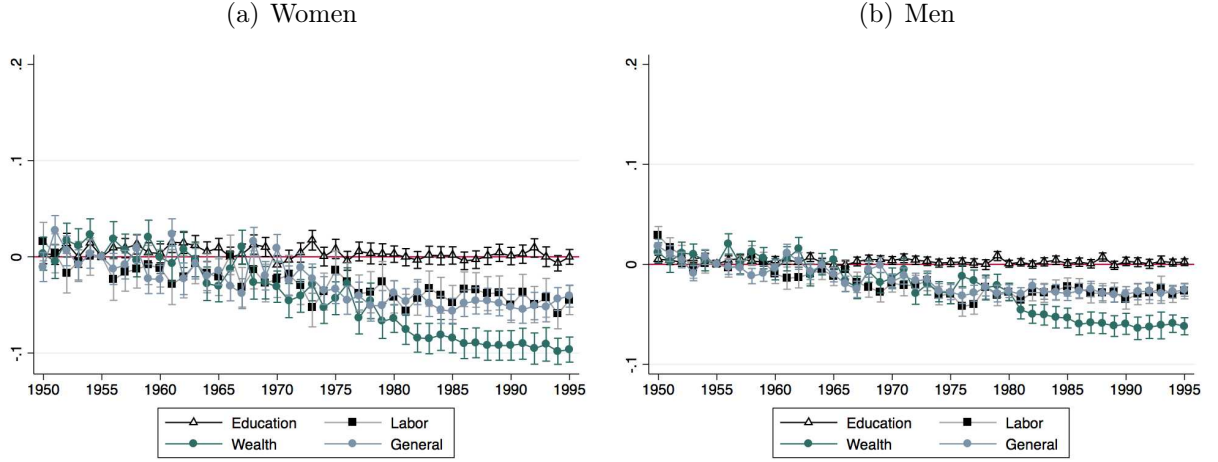
Figures

Figure 1: Evolution of the Demand for Economic Criteria



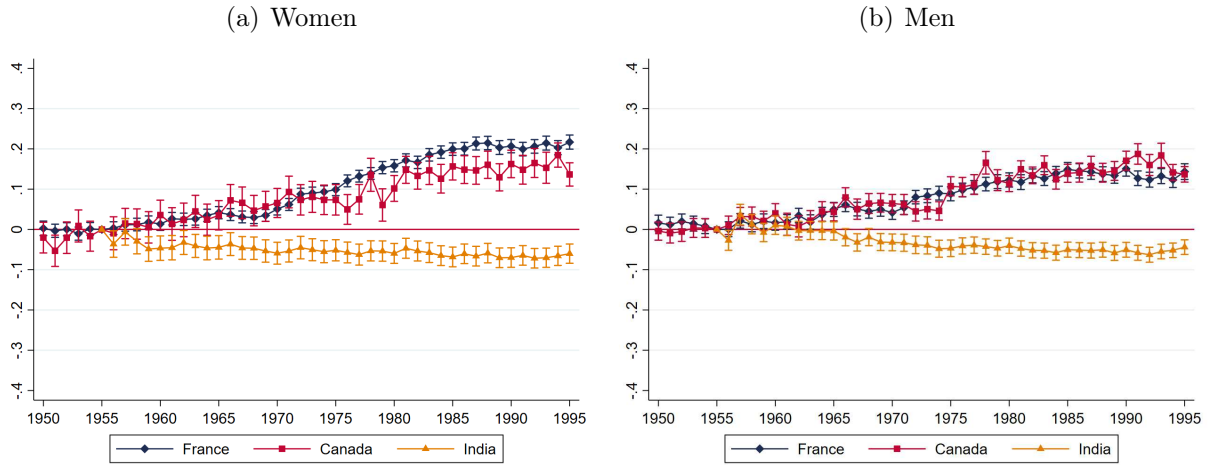
Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to economic criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

Figure 2: Decomposing the Evolution of Economic Criteria - Canada



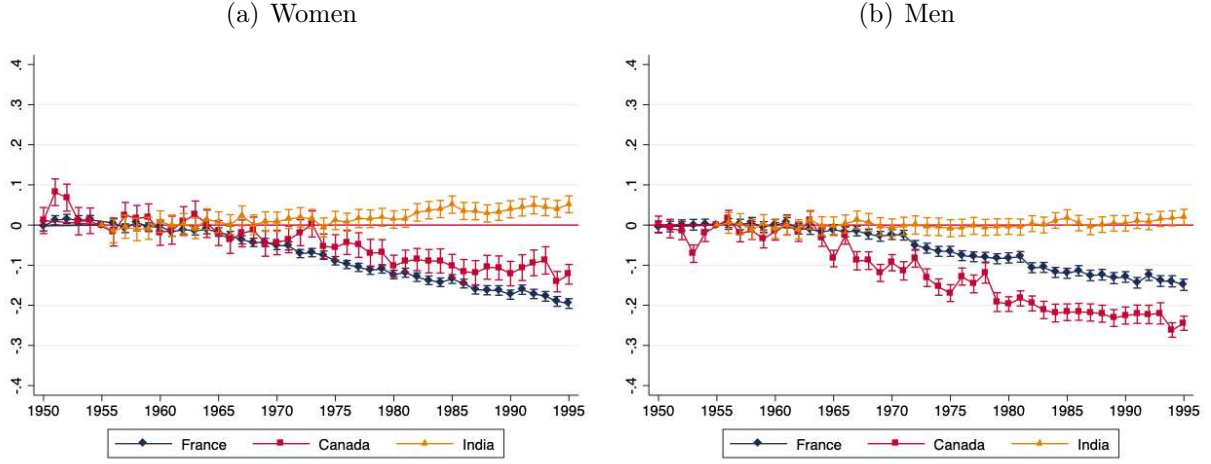
Notes: the data come from matrimonial ads published in Canada. The outcome is the share of words related to a sub-criterion in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

Figure 3: Evolution of the Demand for Personality Criteria



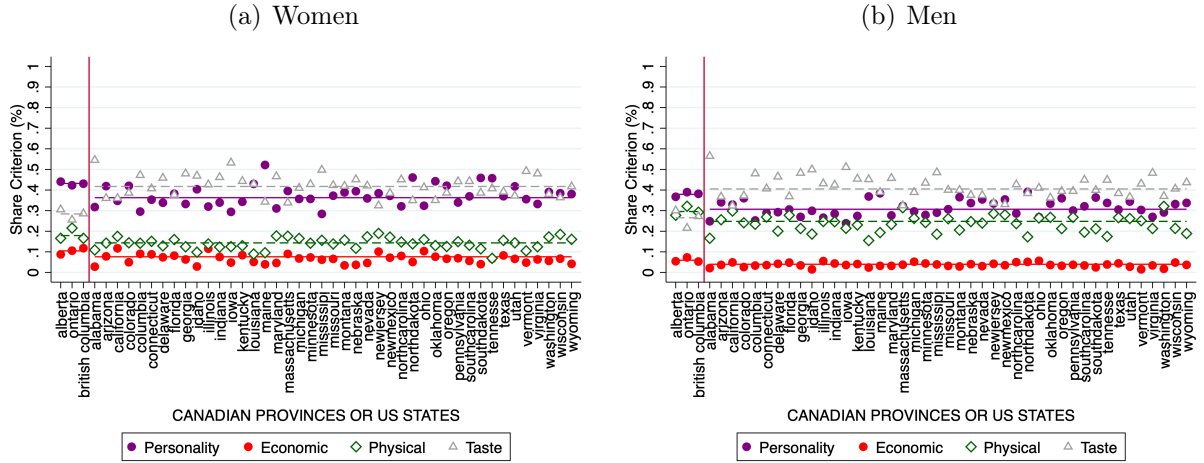
Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to personality criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

Figure 4: Evolution of the Supply for Economic Criteria



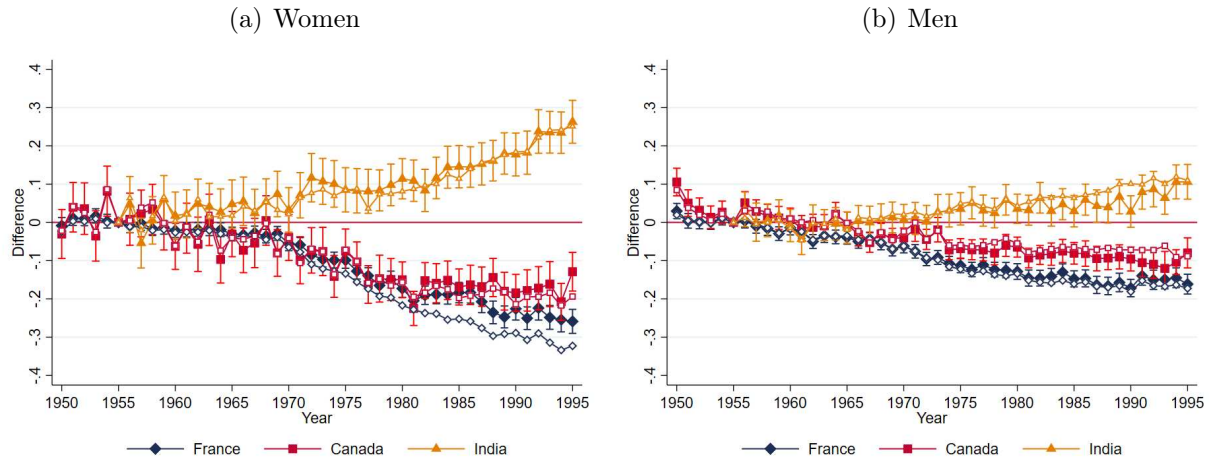
Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to economic criteria in the supply side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

Figure 5: Demand - Prevalence of Each Criterion in 1995 in the American and Canadian Newspapers Ads



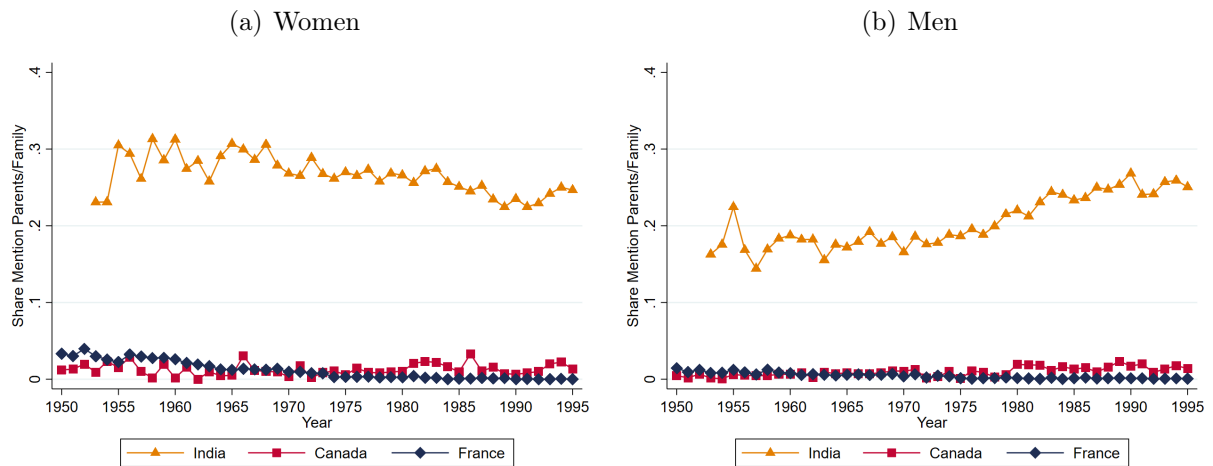
Notes: the data come from American and Canadian Newspapers in 1995. The y-axis depicts the average share of words related to each criterion in the matrimonial ads published in a given newspaper. The x-axis represents the regional area covered by the newspapers (Canadian Province or US State). Graphs (a) and (b) respectively include ads written by women and men.

Figure 6: Estimating the Influence of Composition Effects - Oaxaca-Blinder Decomposition



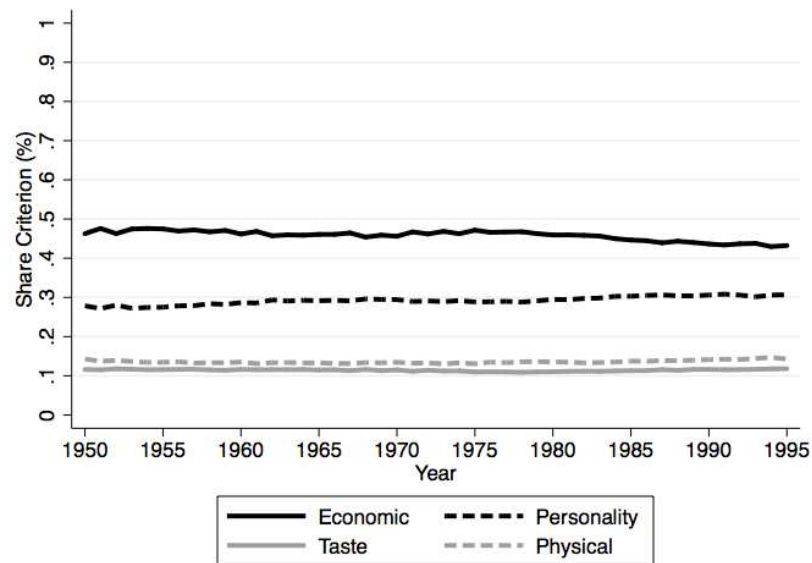
Notes: the data come from matrimonial ads published in France, Canada and India. Confidence intervals at the 95% level are represented. The outcome variable is the share of words related to economic criteria in the demand side. Colour filled (white filled) markers correspond to the unexplained (overall) difference between one given year and 1955. Controls include age, age squared, job, mention of children, mention of education, matrimonial status, explicit mention of marriage, ethnicity, religion and caste (for India). The construction of each variable is described in Section D.1. Graphs (a) and (b) respectively include ads written by women and men.

Figure 7: Mechanism - The Influence of Parents



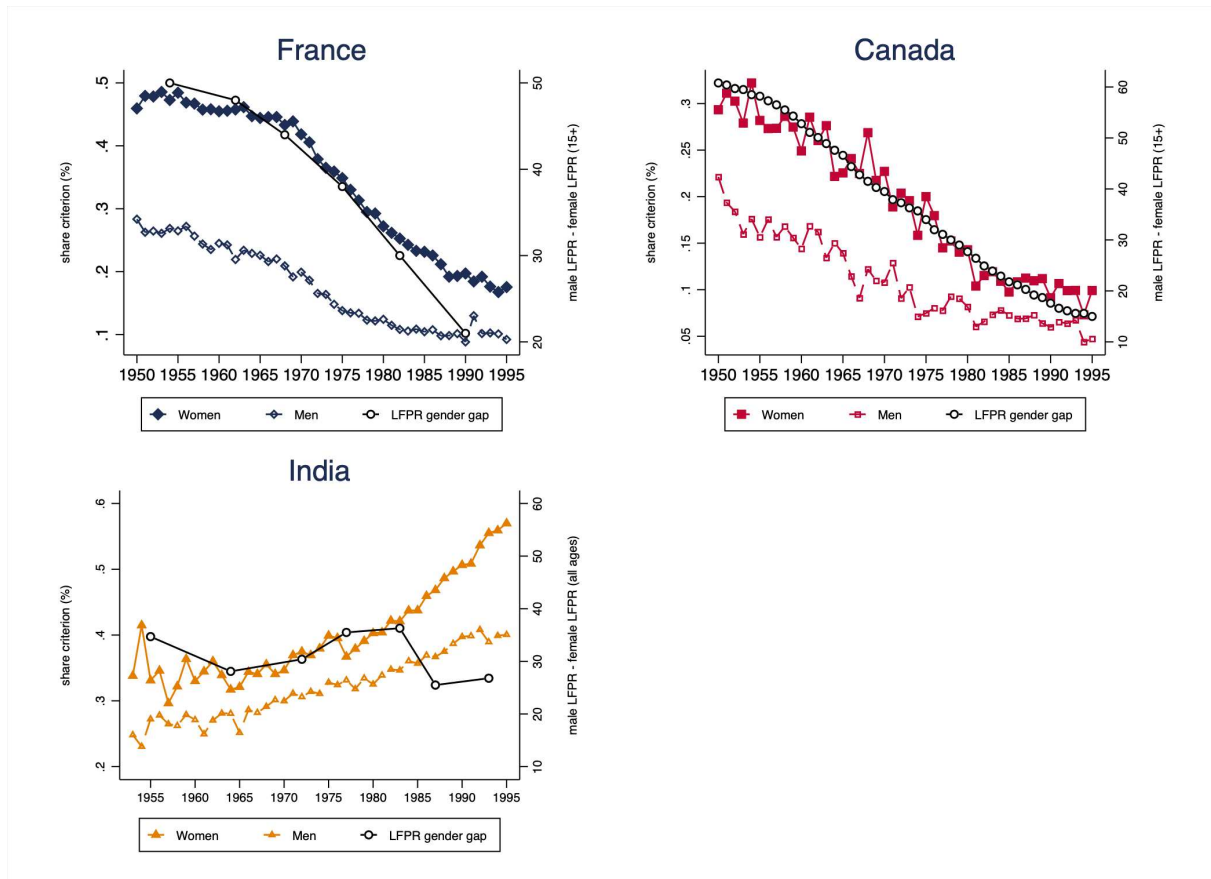
Notes: the data come from matrimonial ads published in Canada, France and India. The y-axis represents the share of ads that mention parents in the supply side. Graphs (a) and (b) respectively include ads written by women and men.

Figure 8: Mechanism - Are the Trends Due to Transformations of the language?



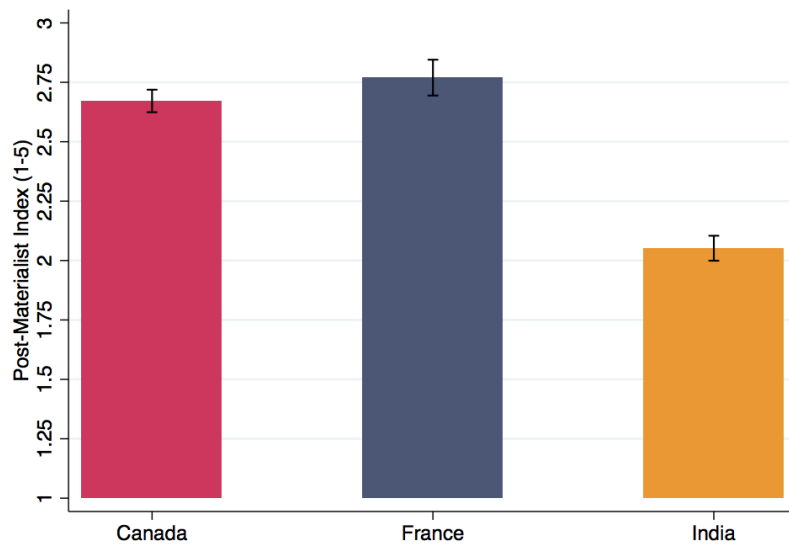
Notes: the data come from the English corpus of the Google N-Grams Viewer. The dictionaries used to compute the prevalence of each criterion are identical to those used to compute the prevalence of each criterion in the matrimonial ads. The y-axis represents the share of words related to a criterion in the entire corpus for a given year.

Figure 9: Mechanism - Evolution of the Share of Economic Criteria and Labour Force Participation Gap



Notes: the data come from matrimonial ads published in Canada, France and India as well as censuses to compute the Labor Force Participation Gap. The y-axis on the left represents the share of words related to economic criteria in the demand side. The y-axis on the right represents the labor force participation gap for a given year (men - women)

Figure 10: Mechanism - Post-Materialist Index



Notes: the data come from the World Values Survey in 2006. The y-axis depict the average post-materialist index (scale 1-5) for each country.

Online Appendix

A Data

A.1 Additional Information on the Time-Series Data

Table A1: List of Newspapers and number of ads from 1950 to 1995

Country	Newspaper	Source	Number of Ads
Canada	Vancouver Sun	newspapers.com	100,462
France	Chasseur Français	digitized by the authors	276,308
India	Times of India	proquest.com	317,913

Notes: List of newspapers used to compute the time-series and number of matrimonial ads per newspapers over the period 1950-1995 (1953-1995 for India).

Table A2: Descriptive Statistics on the Matrimonial Ads

	<i>Canada</i>		<i>France</i>		<i>India</i>	
	(1) Mean	(2) S.D.	(3) Mean	(4) S.D.	(5) Mean	(6) S.D.
Ad Without Demand Side (1=Yes)	0.06	0.25	0.04	0.19	0.07	0.25
N Words Demand	19.58	17.53	9.90	12.52	8.66	7.39
N Words Supply	14.00	11.25	12.08	7.29	15.59	7.81
Observations	100462		276308		317809	

Notes: The data come from matrimonial ads published in Canada, France and India. Standard errors are given in parentheses.

Figure A1: One page of matrimonial ads in May 1995 in the Vancouver Sun - Canada

[illegible]

Figure A3: One page of matrimonial ads in May 1995 in the Chasseur Français - France

LES PETITES ANNONCES DU CHASSEUR FRANÇAIS

• **13-LIMITROPHES** - Divorcée 41 ans, bonne situation, aimant la vie, l'humour, dynamique, affectueuse, cherche compagnon 50 ans (mais) grand, même profil pour complément et peut être Grand Amour. CF1164

• **PARIS** - Très jolie femme, 1m71, 51 kg, brune, excellente éducation, études Anglisme, Allemagne, artiste, musique, danse, sportive, plusieurs diplômes, maîtresse maison accomplie, avoir inoubliable important, aimant de l'intime, recherche union solide, Monsieur cinquantaine, éducation, moralité, communicant, amoureux, sensuel, situation équivalente, pour mener une existence aisée, harmonieuse, région indifférente. CF1160

• **Toutes régions** - Femme 50 ans, 1m64, sériuse, affectueuse, rencontrerait homme 50-60 ans, veuf ou divorcé, attentionné, sûr, sûr, pour bonheur à deux. CF1388

• **Féminine, sensible, élégante, sensuelle**, sachant recevoir, attachée aux valeurs morales, rencontrerait Monsieur, mariage 50-60 ans, profession libérale, sécurisant, élégant, bilingue. CF1403

• **33 - Célibataire, 35 ans, 1m60, physique agréable, situation, qualités de cœur, cherche homme 35-40 ans, situation stable, sérieux, désirant créer foyer heureux avec enfants.** CF1140

• **PARIS** - Secrétaire, 45 ans, divorcée, petite, féminine, romantique, sensible, cultivée, appréciant soleil, foyer chaleureux, confort l'attire, passionnée d'art lyrique, épouserait tendre Monsieur 50 ans (mais), distingué, courtis, franc, spirituel, situation aisé, qualités cœur, attentionné, même profil, non fumeur, attaché valeurs traditionnelles. CF1139

• **19-LIMITROPHES** - Écrivaine célibataire, 40, physique jeune, sérieuse, souhaite 45 maximum, réfléchi, attentionné, sérieux, pour fonder un foyer. CF1137

• **78-95-PARIS** - 35 ans, célibataire, féminine, gentille, sérieuse, 1m60, 50 kg, fonctionnaire, rencontrerait Monsieur cultivé, sérieux, charmant, 35-45, aimant nature, situation stable. CF1134

• **Divorcée, 46 ans, secrétaire, gaie, sensuelle, souhaite union heureuse avec homme loyal 41-46 ans Antillais bienvenus.** Annonce sérieuse. CF1131

• **PARIS** - Célibataire, ingénieur 33 ans, 1m75, brune, gaie, équilibrée, tendre, aimant nature, sport, voyages, souhaite rencontrer son mariage Monsieur même profil 30-36, grand, savie, viril, sincère, humour, non fumeur. CF1075

• **R.P.** - Femme célibataire, 42, sens moral, 1m58, chétain, calme, bonne situation, musique classique, cinéma, montagne, nature, recherche compagnon libre, doux 1m75+, cadre, max 47 ans, non fumeur. CF1104

• **Profession libérale, études supérieures, célibataire, quarantaine, qualités morales, excellent milieu, physique agréable, aimant sorties, voyage, facile à vivre, recherche Monsieur 45-50 ans, même profil.** CF1113

• **Francilienne, 38 ans, 1m75, sympathique, dynamique, études supérieures, rencontrerait homme max 45 ans, humour, dialogue, plus d'affinités.** CF1114

• **Jeune femme malgache, quarante ans, résidente à Madagascar, expérience restauration et hôtellerie, excellente présentation, coquette, affectueuse, efficace, marquant parfaitement le français, sachant tenir une maison, cherche correspondance avec Monsieur sérieux pour union sincère et durable.** CF1115

• **Existe-t-il cet homme qui désirerait refaire une existence enfin heureuse auprès d'une IF divorcée, quarantaine, 1m66, mince, jolie, distinguée ?** CF1121

• **49 ans, jeune grand-mère, libre, indépendante, active, souhaite homme même situation, bonne moralité, humour, sensibilité, culture pour parfaire éducation enfants, voyager, former un couple uni durable si affinités.** CF1125

«Dames» «de plus de 50 ans»

• **PARIS** - Jolie femme, jolies sourires, 59 ans, paraissant 45/47, 1m70, élégante, allurée, désirable, féminine, chaleureuse, passionnée, fraîcheur d'âme, position sociale élevée, aisé, épouserait homme haut niveau de vie. CF1269

• **BASSE NORMANDIE** - Femme 62, 1m70, divorcée, fumeuse, très motivée, pour vie couple, rencontrerait Monsieur, bon niveau socio-culturel, gai, sincère et bien dans ses baskets. CF1504

• **R.P.** - Femme brune, yeux bleus, 50 ans, séparable, souhaite trouver une épau solide pour y passer la vie. CF1491

• **Dame 51 ans, paraissant moins, B.C.B.G., recherche Monsieur très aisé, aimant arts, voyages, opera, mariage blanc accepté.** CF1499

• **Veuve éducation bourgeoise, catholique, 1m65, mince, sentimentale, douce, aimant la vie, le soleil, la joie, souhaite rencontrer Monsieur 70 à 80 ans, bon, cultivé, même profil pour partager une fin de vie heureuse, à Paris et au soleil.** CF1483

• **31, limitrophes** - Dame 55 ans, 1m74, moralité humaine, calme, ex-commerçante, revenus modestes, recherche point d'appui chaleureux 53-60 ans, grand, pour partager douce joie de vivre. CF1476

• **55 ans, paraissant moins, brune, caractère jeune, aimant musique, sorties, voyages souhaite rencontrer Monsieur sérieux pour sorties, activités ou si affinités, 60 ans maximum.** CF1489

• **32 - La cinquantaine, moderne, féminine, 1m65, 56 kg, pas moche, pas sotte, souhaite compagnon 50-60 ans, positif, sportif, attentionné, pour réussir dernier parcours.** CF1468

• **Antillaise, 53 ans, divorcée, fonctionnaire, vété, sérieuse, rencontrerait homme sérieux, situation, pour bonheur tranquille aux Antilles.** CF1453

• **PARIS-TOUTES RÉGIONS** - Jolie femme, 51 a, 1m72, enrobée, douce, sensuelle, féminine, enjouée, enthousiaste, chaleureuse, propriétaire, études supérieures, active, partagerait infinie tendresse, projets, avec compagnon libre, solide, éducation, profil similaire. CF1445

• **63 - Célibataire la cinquantaine, 1m72, sportive, aimant voyages, sorties, musique, art, recherche compagnon, goûts en rapport pour union sincère.** Tél. souhaite. Régions indifférentes. CF1444

• **31-50-53 ans, élégante, dynamique, indépendante, charme, cher.** Mr 62 ans max, cultivé, humour, gai, chaleureux, sécurisant, aimant arts, musique, voyages. CF1436

• **95 - Veuve pré-retraitee Market, 56 ans, 1,60, brune, enfants indépendants, féminine, traditionnelle, activités manuelles, artist, jardin, voyages, recherche complicité, chaleur, sincérité, joie de vivre dans vie couple.** Provenance possible. CF1433

• **78, limitrophe** - Veuve 60 ans, féminine, affectueuse, souhaite rencontrer Monsieur sérieux, non fumeur, pour vie couple si affinités. Ecrire journal. CF1431

• **LANGUEDOC-ROUSSILLON** - Professeur 60 ans, sans charge, agréable, élégante, maison vacances, sports, voyages culturels, animaux, souhaite rencontrer Monsieur 65 max, 1m80 max, bien physiquement, cultivé, sobre, sportif, courtis. MARIAGE EXCLUSIVEMENT. CF1418

• **48 - Veuve 70 ans, retr. com. de désirer renc. Mr même âge, retr. com. ou fonc., sobre, gai, santé, am. vie fun, sorties, aimant, pas sér. s'abat.** Ecrire journal. CF1409

• **PARIS - Cinquantaine, blonde, yeux verts - mince - très féminine - éprouve - profession scientifique (physiologie, cadre supérieur), aime? nager, courir, skier, danser (sui, bris invitée), respirer la nature en vélo. - Également : humour, calme, musique classique, beauté dans environnement (meubles anciens...)- Valeurs? courage, enthousiasme, s'attire aux autres, auteurs préférés? Arnaud Desjardins, Dale Carnegie, ouvrages pensée positive, nouvel âge - souhaite? - Pas rôle aide ménagère, tellement mieux tendresse cœur et corps, échanges profonds, nouvel élan de vie.** CF1404

• **Veuve, directrice d'école, retraitée, très bien physiquement, distinguée, aime voyages, attachée valeurs morales, rencontrerait Monsieur, mêmes aspirations, situation équivalente.** CF1395

• **R.P. Ouest.** Jeune cinquante, autonome, rousse yeux dorés, souriante la plus belle, partage autonome dynamique avec ami tête bien construite et cœur intelligent. CF1381

• **Correspondants première semaine février** suis annonce 11-370 (Blonde, Saint-Eupéry...) recontacte-moi, très navrée, s'acorde courtois volée dans météo Desprez, 32 rue du Mont Thabor, 75001 Paris.

• **30 - 34.** Veuve, sans enfant, 63 ans 1m68, cadre retraitée, physique caractère jeunes agréables, recherche compagnon 65 ans max, baveux fumeur exclus. Résidences alternées possible. CF1375

• **58 - 505 Perdue, seule, à lancé message** que celui à qui il est destiné ne lira peut-être pas - ou trop tard ! Divorcée 65 désire mariage célibataire seul, sensible, doux, 61-68 ans. Locataire ville, jamais chazé. «Suis abandonnée du genre humain». CF1373

• **PARIS - Femme 54 ans d'origine Malgache, courageuse, sincère, fidèle, cherche homme 50 à 65 ans, pour rompre solitude.** CF1374

• **Paris - Dame 68 ans, physique et caractère jeunes, agréable, souhaiterait rencontrer Monsieur 67 / 75 ans affectueux, sincère, bonne moralité.** CF1372

• **Vie physique allure jeunes, belle femme, moderne, 1,64m 67 kg, aisé, sportive, tendre, naturelle, éducation, propriété Touraine.** Rencontrerait Monsieur 69 - 75 max, grand, soigné, santé, tendre, courtis, optimiste, aisé. Partager ensemble loisirs, tendresse, complicité. Alternance domicile envisageable. CF1371

• **Française, cinquantaine, classe, paraissant très jeune, blonde, yeux bleus, mince, en activité, artiste, désire vie couple harmonieuse avec homme asiatique, libre, très motivé, décidé ou cadre supérieur, parlant français.** Annonce très sérieuse. CF1369

• **38.** Dame sérieuse, gentille, femme d'intérieur, 70 ans, 1,65m, 65 kg, désire rencontrer Mr 70 et +, sobre, sécurisant. CF1368

• **Bretagne, veuve alerte, gaie, santé, aime voyages, nature, promenades, rencontrerait Mr 72-75, non fumeur, mêmes goûts.** CF1367

• **69. Limitrophes.** Veuve 57 ans 1m56, 55 kg, employée, goûts simples, physique agréable, rencontrerait Monsieur sobre, sérieux, pour rompre solitude, goûts similaires. CF1356

• **96-autres.** Cinquantaine, divorcée, féminine, blonde, 1m60, bon niveau, revenus confortables, aimant sorties, voyage, musique, peinture, animaux, rencontrerait Monsieur 50/56, même profil, bien physiquement, min, 1m73, libre, sobre, sincère, valeurs morales pour relation de qualité. CF1348

• **37 et limitrophes.** 54 ans, veuve, blonde, yeux bleus, corpulente, ressources modestes, qualités et défauts, donnerait affection, sincérité, compréhension contre amitié, sécurité, pour mariage si affinités. CF1348

• **Région Parisienne.** Dame la cinquantaine, loyale, authentique, sensible, souhaite construire relation solide, non fumeur, profil identique, 60 ans max. CF1345

• **Toutes régions.** Veuve, jeune septuagénnaire, chétain, yeux verts, 1m52 / 53kg, retraitée, excellent milieu, rencontrerait Monsieur sérieux 70/80, vie commune. CF1339

• **69, toutes régions.** Dame divorcée, 53 ans, libre, sans charge, santé, sérieuse, éducation, aimant nature, voyages, vie saine, souhaite compagnon profil identique. CF1331

• **71, 69, 61.** Jolie, cinquantaine, seule, sans enfant, saine, naturelle, sensible, sociable, goûts simples, aimant peinture, voyages, lectures, sports, cherche homme libre (soixantaine), pour partager les plaisirs de la vie. CF1329

• **PARIS.** Petite femme 60 ans, fine corps esprit, moderne, épanouie, passion vie arts, souhaite homme tendre, gai, niveau intellectuel, sensuel, sensibilité, pour relation de qualité. CF1328

• **28 -** Veuve fin soixantaine, retraite, excellent milieu, éducation, simplicité, allure, mince, santé, maison près mer, aimant nature, peinture, rencontrerait Monsieur 70 ans, sérieux, affectueux, valeurs morales, pour rompre solitude. CF1320

• **TOULOUSE.** - Suiv de celle pour qui quand on aime, il faut toujours beau-sagittaire, fin, quarantaine, 1m68, mince, yeux verts, jolies, élégantes, très féminine, situation, rencontrerait Monsieur 50-60, réellement hors du commun, moralité, raffiné, niveau et milieu social élevés, pour partager durablement amour-humour, fumeurs, caractéristiques d'étonner. CF1311

• **PAYS-DE-LOIRE.** Retraitée partagerait avec Monsieur courtis 60-70 ans, vie saine, sereine, dialogue, valeurs morales. CF1309

• **Veuve, 58 ans, 1m78, élégance, charme, féminine, sensible, qualités cœur/morales, maison, rencontrerait Monsieur, beauté intérieure, souhaite mariage.** 05-58-73-31.

• **Message PERSONNEL à Jean-Pierre Portiers, de «DOULOUREUSEMENT SEULE».** Lorsque reçu second courrier, suite accident, ne marchais plus. Pas osé le lui dire. Suis guérie, remarche normalement, ai gardé poèmes, fleur de fusilie. Si Jean-Pierre n'a pas trouvé âme-cœur, suis toujours «TELLEMENT ABANDONNÉE!» CF1302

• **TOUTES RÉGIONS.** - Dame 57 ans, très seule, cherche compagnon 58-65 ans, grand, sérieux, pour rompre solitude. CF1294

• **45 et autres.** - Veuve 55 ans, grande, mince et dynamique, sincère, désire rencontrer Monsieur 55-60 ans, bon niveau socio-culturel, courtis et tendre pour partager un grand bonheur. CF1285

• **Soixantaine, gaie, sentimentale, propriétaire Var, rencontrerait Monsieur sérieux, aimant voyages, danse, non fumeur, grand, 1m70, pour liaison durable, accepte résidences alternées.** CF1281

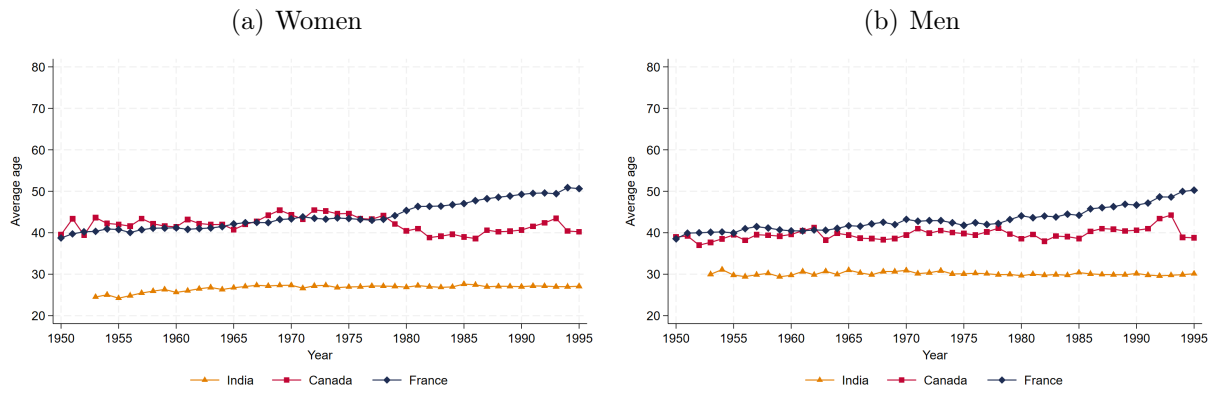
• **66-83-64.** - Dame retraitée agréable, caractère jeune, 1m56, 53 kg, recherche compagnon physique agréable, bon milieu, bonne retraite. CF1286

• **R.P.** - Belle femme, 52 ans, cadre, gaie, dynamique, rencontrerait Monsieur grand, distingué, privant, HUMOUR, aimant voyages, nature, BON NIVEAU SOCIAL, AMORCE SÉRIEUSE. CF1277

• **91-77.** - F. 53 ans, brune, 52 kg, physique, allure agréables, sérieuse, affectueuse, indép. financ. désire continuer sa vie avec amour, confiance, sérénité et sincérité avec M. 50-58 ans, min, 1m74, même profil, mêmes desirs. CF1274

• **66 ans, veuve, cadre fonction publique, retraitée, dynamique, aimerait rencontrer homme âge correspondant, sérieux, libre, Nord Picardie, Ile-de-France.** CF1269

Figure A4: Average reported age



Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the mean reported age among those mentioning this criteria. Graphs (a) and (b) respectively include ads written by women and men.

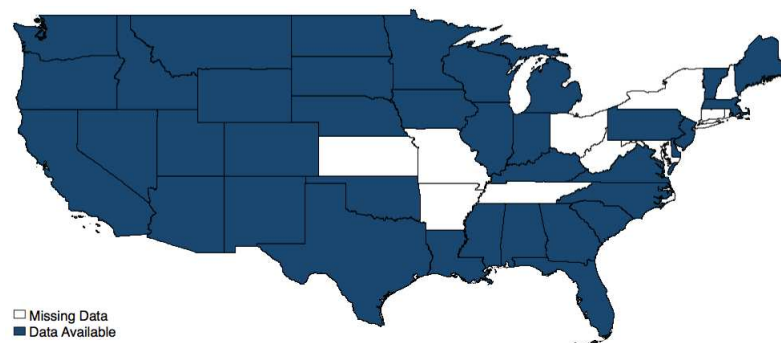
A.2 Additional Information on the Cross-Sectional Data

Table A3: List of Canadian Provinces and US States and Newspapers in 1995

Region	Newspaper	Number of Ads
<i>Panel A: Canadian Provinces</i>		
Alberta	Calgary Herald	5,455
British Columbia	Vancouver Sun	6,127
Ontario	The Ottawa Citizen	4,810
Total		16,392
<i>Panel B: US States</i>		
Alabama	The Anniston Star	2,058
Arizona	Arizona Daily Star	10,087
California	Los Angeles Times	45,260
Colorado	Fort Collins	6,045
Columbia	Washington Post	7,944
Connecticut	Hartford Courant	10,172
Delaware	The News Journal	12,017
Florida	Orlando Sentinel	32,313
Georgia	The Atlanta Constitution	18,852
Idaho	Times News	3,270
Illinois	Chicago Tribune	19,556
Indiana	The Indianapolis Star	14,459
Iowa	The Des Moines Register	1,214
Kentucky	The Courier Journal	16,653
Louisiana	The Times	9,954
Maine	Bangor Daily News	6,702
Maryland	The Baltimore Sun	3,818
Massachusetts	Boston Globe	27,672
Michigan	Lansig State Journal	3,755
Minnesota	Star Tribune	24,744
Mississippi	Clarion Ledger	10,221
Missouri	The Kansas City Star	12,088
Montana	Billing Gazette	6,444
Nebraska	Lincoln Journal Star	7,468
Nevada	Reno Gazette Journal	4,026
New Jersey	The Record	15,772
New Mexico	Albuquerque Journal	12,584
North Carolina	The Charlotte Observer	24,233
North Dakota	Bismarck Tribune	1,015
Ohio	Cincinnati Enquirer	17,608
Oklahoma	The Daily Oklahoman	8,160
Oregon	Statesman Journal	3,054
Pennsylvania	Pittsburgh Post Gazette	14,498
South Carolina	The Greenville News	9,673
South Dakota	Argus Leader	5,002
Tennessee	Johnson City Press	11,826
Texas	Austin American Statesman	12,574
Utah	The Salt Lake Tribune	12,187
Vermont	The Brattleboro Reformer	4,218
Virginia	Daily Press	18,852
Washington	Longview Daily News	2,753
Wisconsin	Winsconsin State Journal	2,490
Wyoming	Casper Star Tribune	1,001
Total		514,033

Notes: list of Canadian and American newspapers used in the cross-sectional analysis in 1995. All the data come from the website *newspapers.com*.

Figure A5: Geographical Location US Newspapers



Notes: the figure depicts the geographical location of newspapers from which we collected data on matrimonial ads in the US. Dark Blue (White) corresponds to States with (without) data.

B Method

B.1 Disentangling Demand and Supply

To identify the demand side in each matrimonial ad, we use a list of delimiters for each newspaper. The list is described in Table B1. Additionally, Table A2 shows the share of ads that were unsuccessfully split for each country. Over the entire period, these shares are roughly in between 2 and 12% for the three countries.

Table B1: List of Delimiters Used to Disentangle Demand and Supply

Country	Delimiter	Delimiter (French)
Canada	wish, seek, iso (in search of), would like, meet, desir, share, correspond, look for, want, need, hope to find, you, is there a	
India	matrimonial correspondence, matrimonial proposal, matrimonial offer, match, alliance, desire, seek, wish, request, need, invite, look for, for, from, want, require, correspond, intend matrimony, solicit, to marry, expect, may contact	
France	marry, meet, desire, wish, correspond (x2), looks for (x2), assist, share, found, wants, asks, know, offer, enter, hope, wed, accept, answer, like, wait	epous, rencontr, desir, souhait, correspond, correspondr, recherch, cherch, second, partag, fond, voudr, demand, connaitr, offre, entre, esper, mari, accept, repond, aime, attend (22)

Notes: List of delimiters

B.2 Dictionaries

Table B2: Previous Literature on Criteria Studied in the Literature

Paper	Method	Criteria
Egebark et al. (2021)	online dating	Education and attractiveness
Almas et al. (2020)	survey data and vignette experiment	Income
Chiappori et al. (2017)	census data	Education and demographics
Ong and Wang (2015)	online dating	income
Dupuy and Galichon (2014)	survey data	Socio-economic variables (education, age), anthropometric measures (height and body mass index, self-assessed health) and psychometric attributes (Big Five personality traits and risk aversion)
Belot and Francesconi (2013)	speed-dating	Age, education, profession, height, body mass index and smoking
Banerjee et al. (2013)	matrimonial ads	Caste, education
Hitsch et al. (2010)	online dating	Age, height, body mass index, income, education, and looks rating
Fisman et al. (2006)	speed-dating	Ambition, attractiveness, intelligence, fun, sincere and shared interests
Buss et al. (2001)	survey data	18 characteristics including personality traits, health, income/status/ambition, family commitment, religion and physical attractiveness
Kalmijn (1998)	literature review	Socio-economic resources (income, status or education) and cultural resources (values, opinions, tastes)
Waynforth and Dunbar	matrimonial ads	Physical attractiveness, wealth/status, family commitment, sexual fidelity, age, personality traits
Buss (1989)	survey data	Earning capacity, ambition-industriousness, youth, physical attractiveness and chastity
De Singly (1984)	matrimonial ads	Economic (profession, wealth, education and general), psychological and physical criteria

Notes: List of papers studying partner preferences.

Table B3: Details on Topic Classification - France

Topic	Keywords (Translated)	Original Keywords (Stemmed French)
<i>Panel A: Economic Criteria</i>		
General	situation, franc, distinguished, refined, better-off, income, money	situat, franc, distingu, raffin, aisé, revenu, argent (7)
Labor	civil servant, executiv, retired, merchant, job, engineer, teacher, secretary, industrialist, physician, schoolmaster, farmer, worker, seller, musician, pharmacist, technician, employee, accountant, non-commissioned officer, craftsman, dentist, veterinary, notary	fonctionnair, cadre, retrait, commerc, profess, ingénieur, enseign, secretair, industriel, médecin, institutric, agriculteur, ouvri, commercial, musicien, pharmacien, technicien, employe, comptable, sous-officier, artisan, dentiste, veterinaire, notair (24)
Education	education, study, educated, bachelor, academic	educ, etud, instruit, bachelier, universitaire (5)
Wealth	asset, owner, car, house, expected inheritance, dowry, property, wealth, savings, bourgeois, pension, annuity, annuitant, immovable, nobility, capital	avoir, propriétaire, voitur, maison, espérance, dot, propriété, fortun, économi, bourgeois, pension, rente, rentier, immeubl, nobless, capital (16)
<i>Panel B: Personality Criteria</i>		
General	likes, affinity, personality, character, taste	aim, affinit, personnalit, caractere, gout (5)
Agreeableness	affectu, agreabl, simpl, sweet, cheerful, happy, tender, kind, comprehens, courteous, romant, cuddly, tactful	affectueux, agreabl, simpl, dou, gai, heureux, tendr, gentil, comprehens, courtois, romant, calin, delicat (13)
Extraversion	serious, sober, dynamiqu, energ, charm, humour, calm, enthusiast, reserve, shy, spontaneous	serieu, sobr, dynamiqu, energ, charm, humour, calm, enthousiast, reserve, timid, spontané (11)
Emotional Stability	sentimental, feminin, sensitiv, natural, secur, adventur, courag	sentimental, feminin, sensibl, naturel, securis, aventuri, courag (8)
Conscientiousness	hardworking, neat	travailleur, soigné (2)
Intellect	cultivated, intelligent, spirit, spiritus, passion	cultiv, intelligent, esprit, intellect, spirituel, passionne, intellectu (7)
Honesty	moralit, sincer, loyal, honest, frank, honorabil	moralit, sincer, loyal, honnet, franch, honorabilit (6)
<i>Panel C: Physical Criteria</i>		
General	physical thin, athletic, slim, kilo, health, handicap, blond, brown, dark blond, hair, eyes	physiqu, taille, metre, minc, sportif, svelt, sant, handicap, blond, brun, chatain, cheveux, yeux (13)
Age	year, young, age, sixty, fifty, fourty, thirty	an, jeun, age, soixantain, cinquaintain, quarantain, trentain (7)
Size	size, metre	taille, metr (2)
Attractiveness	pretty, sensual, beautiful, manly, cute, attractive, beautiful	jol, sensuel, beau, viril, mignon, seduis (6)
<i>Panel D: Taste-Based Criteria</i>		
Habit	smoke, smoking, taste	fumeur, fumant, gout (2)
Hobbies	travel, natur, hunter, art, music, sport, animal, cultur, artist, garden, reading, book, hunt, mountain, leisure, ski, cinema, handyman, fish, dog, paint, cook, drawing, theater, holiday, cultural, show	voyag, natur, chasseur, art, musique, sport, animal, cultur, artist, jardin, lectur, livre, chass, montagn, loisir, ski, cinema, bricoleur, pech, chien, peintur, cuisin, dessin, theatr, vacanc, culturel, spectacl (29)
Religion	cathol, christian, protestant, religi	cathol, chretien, protestant, religi (4)

Notes: these words are used to classify ads published in the *Chasseur Francais* in France.

Figure B1: Word Clouds of Unclassified Words - Canada



Notes: the data come from the *Vancouver Sun* in Canada. It represents unclassified words.

Figure B2: Word Clouds of Unclassified Words - France



Notes: the data come from the *Chasseur Francais* in France. It represents unclassified words.

Table B4: Details on Topic Classification - India

Topic	Keywords
<i>Panel A: Economic Criteria</i>	
Education	academic, BCom, BEd, BE MBA, BSc, BTech, college, degree, diploma, educated, graduate, IIM, IIT, LLB, matric, matric, MBA, MBBS, MCom, MPhil, MSc, MTech, PhD, postgraduate, scholar, school, student, study, undergraduate, university (29)
General	accomplished, affluent, background, class, dollar, finance, financial, income, means, rich, rupees, salary, settled (13)
Labor	accountant, advocate, architect, banker, business, career, clerk, consultant, designer, director, doctor, earning, employed, employee, engineer, executive, industrialist, job, lawyer, lecturer, manager, merchant, musician, nurse, officer, official, pensioner, position, practice, profession, professional, professor, retired, scientist, secretary, servant, service, sportsman, ssc, surgeon, teaching, teacher, technician, technologist, work (45)
Wealth	accommodation, aristocrat, asset, bungalow, car, dowry, estate, flat, home, house, landlord, millionaire, multimillionaire, owner, ownership, property, residence, wealth, wealthy (19)
<i>Panel B: Personality Criteria</i>	
Agreeableness	affectionate, caring, charming, considerate, demanding, helpful, kind, modest, natural, nice, pleasant, reasonable, respectful, simple, sincere, sober, sweet (17)
Conscientiousness	efficient, industrious, responsible, strictest (4)
Emotional Stability	independent, secure, stable (3)
Extraversion	active, ambitious, assured, cheerful, communicative, confident, direct, dynamic, enterprising, forceful, happy, influential, loving, quiet, sociable, social, spirited (17)
General	character, outlook, personality, temper, temperament (5)
Intellect	bright, brilliant, broadminded, complex, cosmopolitan, cultured, graceful, ignorant, intellectual, intelligent, knowledge, liberal, progressive, refined, smart, sophisticated, versatile, worldly (18)
<i>Panel C: Physical Criteria</i>	
Age	age, old, young, younger, youth (5)
Attractiveness	attractive, beautiful, handsome, pretty, stylish (5)
General	athletic, colour, complexion, deaf, fair, features, health, healthy, kilogram, look, physique, shaven, slim, weight, wellbuilt, wheat, wheatish, white (18)
Height	centimeter, feet, height, tall (4)
<i>Panel D: Taste-Based Criteria</i>	
Demographics	agarwal, amil, arora, athreya, bania, bansal, bengali, bharadwaja, bhatia, bisa, brahmin, caste, chitpavan, community, deshastha, ezhava, garg, gaur, goan, goel, gotra, gowd, goyal, gsb, gujrati, gupta, intercaste, iyengar, iyer, jat, kannada, kannadiga, kanyakubj, kapoor, kashyapa, kaundinya, kaushika, kayastha, keralaite, khatri, konkani, kshatriya, lohana, madhwa, maharashtrian, maheshwari, malayalee, mangalorean, maratha, marwari, mathur, menon, mittal, mysorean, naidu, nair, oswal, palghat, patel, patidar, porwal, punjabi, race, rajput, rehman, sahiti, saraswat, saxena, sindhi, smartha, srivatsa, subcaste, tamil, tamilian, telgu, thiyya, vadama, vaish, vaishnav, vaishya, vanik (81)
Habit	habit, nonsmoker, teetotaler, vegetarian (4)
Hobbies	art, artistic, book, cook, dance, draw, embroidery, hobby, music, reading, show, sport, tailoring, travel (14)
Religion	bohra, catholic, christian, creed, dawoodi, gurusikh, hindu, hindus, ismaili, jain, khoja, marthomite, murtipujak, muslim, parsi, protestant, religious, religion, roman, shia, sikh, sunni, swetamber, syrian (24)

Notes: these words are used to classify ads published in the *Times of India* in India. Out of the 1373 most recurrent unique words, the numbers of words classified is 349 (25.42%).

Figure B3: Word Clouds of Unclassified Words - India



Table B5: Details on Topic Classification - US

Topic	Keywords
<i>Panel A: Economic Criteria</i>	
Education	college, degree, educ, student (4)
General	financially (1)
Labor	business, employment, position, prof, professional, retired, work (7)
Wealth	car, home (2)
<i>Panel B: Personality Criteria</i>	
Agreeableness	affectionate, charming, easygoing, friendly, gentle, honest, honesty, humor, kind, laugh, laughter, moral, natural, nice, respectful, sensitive, simple, sincere, smiling, sweet, understanding, warm (22)
Conscientiousness	careful, dependable, responsible (3)
Emotional Stability	emotional, independent, secure, stable (4)
Extraversion	active, adventurous, communicative, confident, energetic, fun, funny, happy, loving, outgoing, playful, quiet, romance, romantic, shy, social, spirited, spiritual, spontaneous, witty (20)
General	personality (1)
Intellect	artistic, bright, creative, cultured, intelligent, smart (6)
<i>Panel C: Physical Criteria</i>	
Age	30s, 40s, 50s, age, old, young (6)
Attractiveness	attr, attractive, beauty, cute, handsome, pretty, sexy (7)
General	athletic, blond, body, brunette, eyes, fit, hair, health, healthy, lbs, look, muscular, physical, size, slender, slim, weight (16)
Height	height, petite, tall (3)
<i>Panel D: Taste-Based Criteria</i>	
Demographics	black, italian, orient, race, white (5)
Habit	drinker, drug, nondrinker, nonsmoker, smoke, smoker (7)
Hobbies	animal, art, bike, boat, book, camp, concert, cook, dance, fish, garden, golf, hike, horse, jazz, movie, music, read, ski, sport, swim, tennis, theater, theatre, travel (24)
Religion	christian, church, jew (3)

Notes: these words are used to classify ads published in the regional newspapers in the US and Canada. Out of the 500 most recurrent unique words, the numbers of words classified is 186 (37.20%). In many American newspapers, it is common for individuals to use abbreviations to indicate their situation. We include abbreviations in all the categories it indicate. For example, the abbreviation *wpm*, which stands for white professional male, is included in both demographics and labor.

Figure B4: Word Clouds of Unclassified Words - US

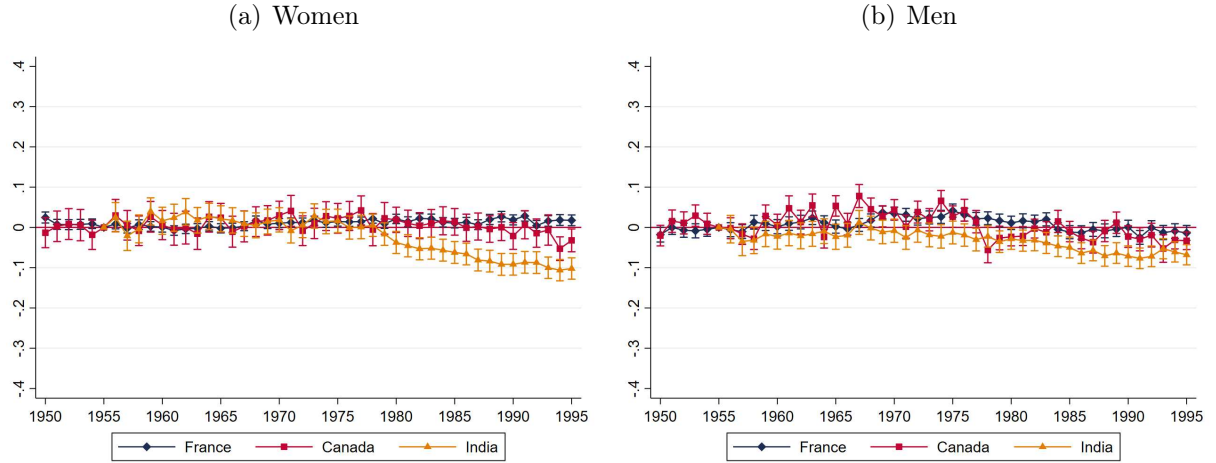


Notes: the data come from the regional newspapers in the US and Canada in 1995. It represents unclassified words.

C Additional Results

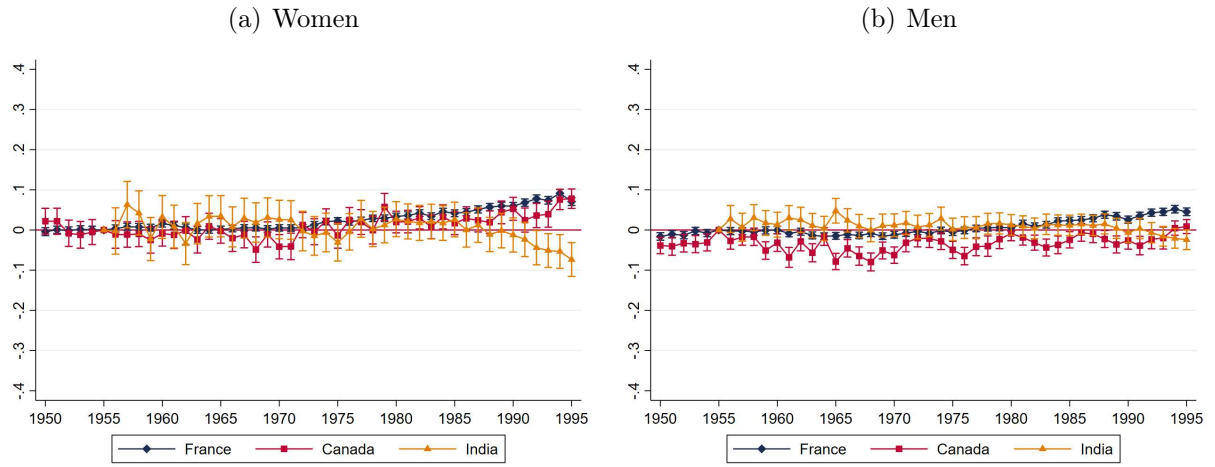
C.1 Evolution of the Demand Side

Figure C1: Evolution of the Demand for Physical Criteria



Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to physical criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

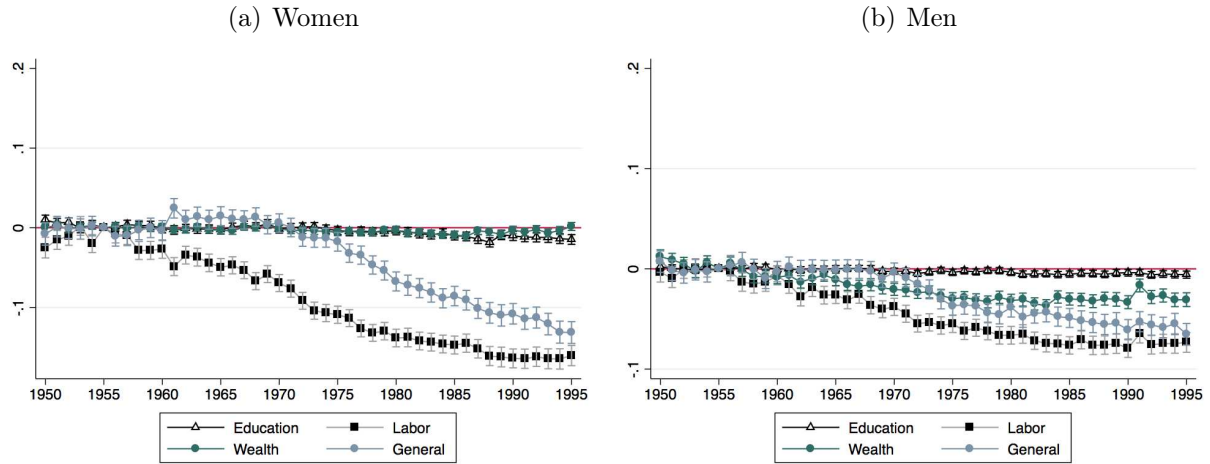
Figure C2: Evolution of the Demand for Taste Criteria



Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to taste criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

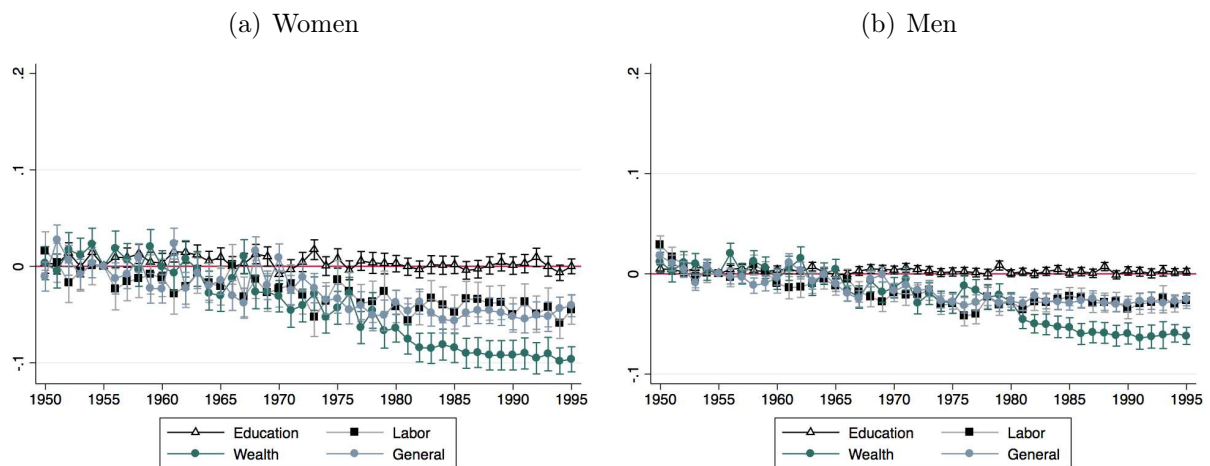
C.1.1 Decomposing the Evolution of the Demand for Economic Criteria

Figure C3: Decomposing the Evolution of Economic Criteria - France



Notes: the data come from matrimonial ads published in France. The outcome is the share of words related to a sub-criterion in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

Figure C4: Decomposing the Evolution of Economic Criteria - Canada



Notes: the data come from matrimonial ads published in Canada. The outcome is the share of words related to a sub-criterion in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

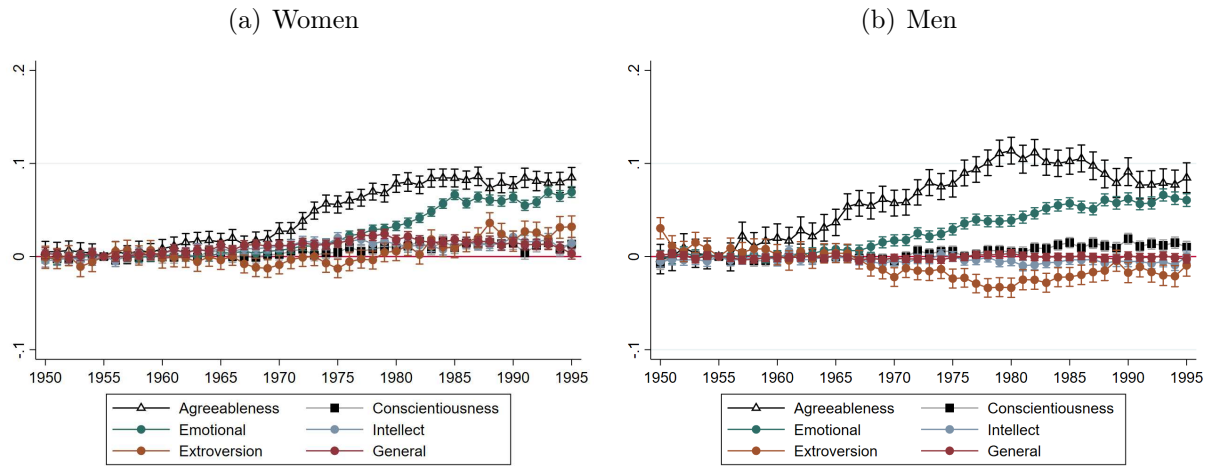
Figure C5: Decomposing the Evolution of Economic Criteria - India



Notes: the data come from matrimonial ads published in India. The outcome is the share of words related to a sub-criterion in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

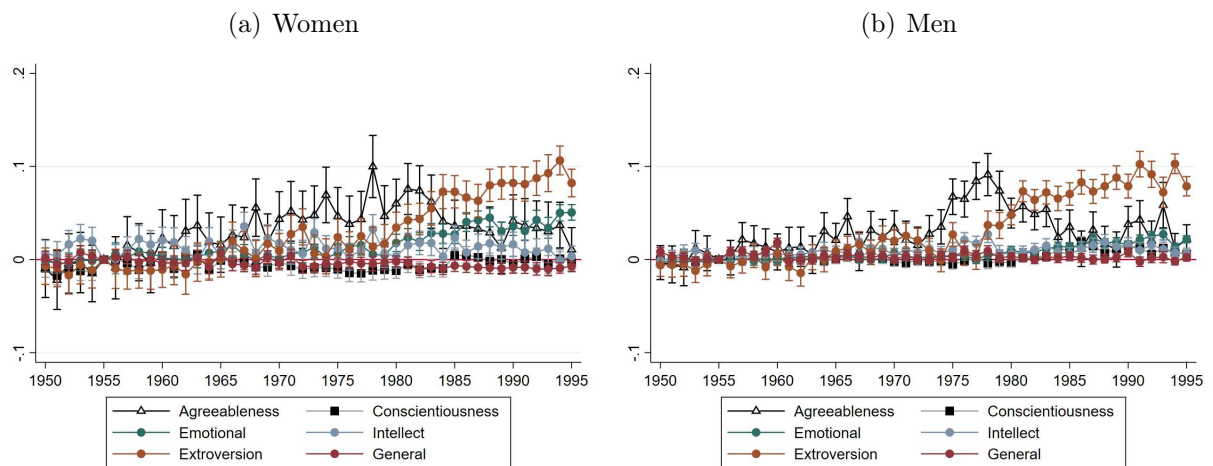
C.1.2 Decomposing the Evolution of the Demand for Personality Criteria

Figure C6: Decomposing the Evolution of Personality Criteria - France



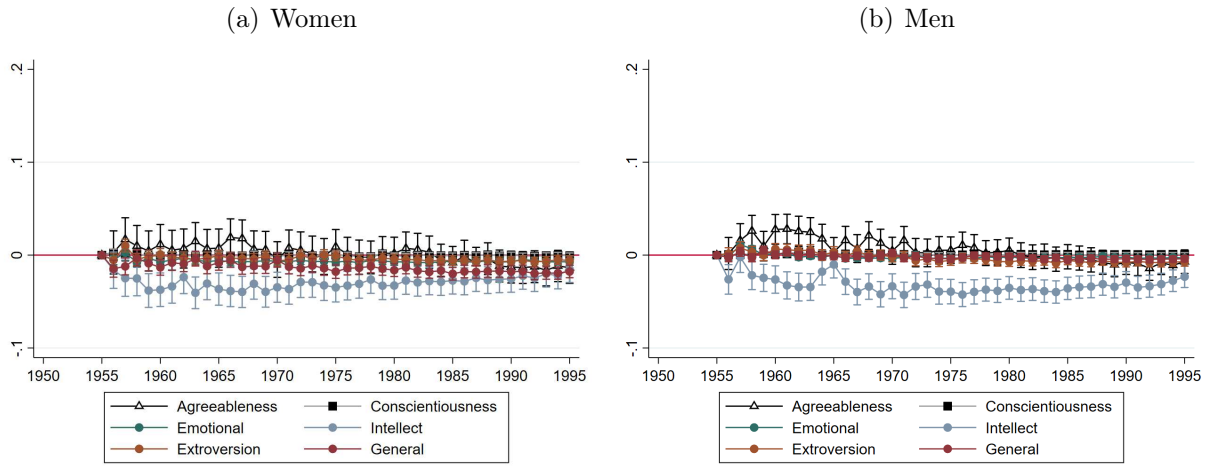
Notes: the data come from matrimonial ads published in France. The outcome is the share of words related to a sub-criterion in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

Figure C7: Decomposing the Evolution of Personality Criteria - Canada



Notes: the data come from matrimonial ads published in Canada. The outcome is the share of words in the demand side related to a sub-criterion. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

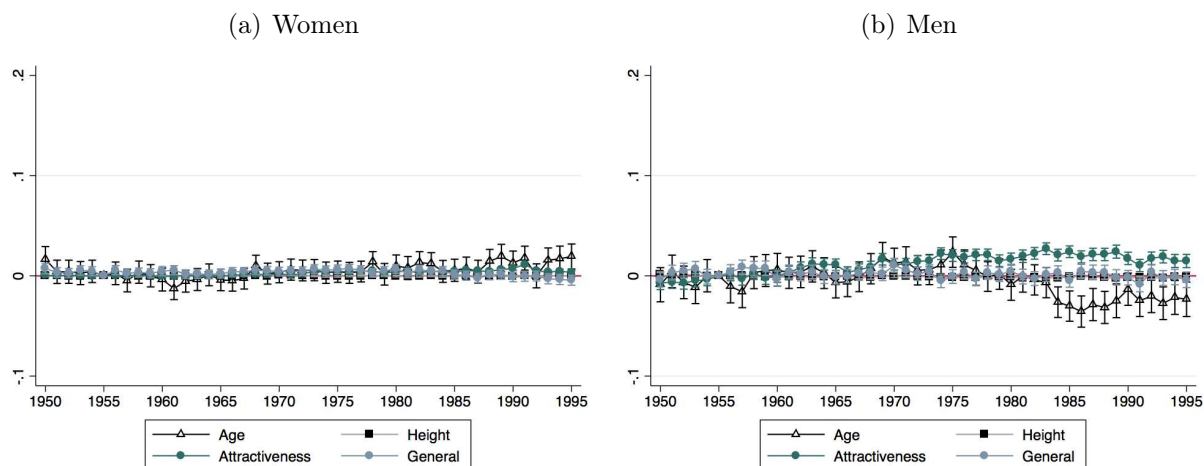
Figure C8: Decomposing the Evolution of Personality Criteria - India



Notes: the data come from matrimonial ads published in India. The outcome is the share of words related to a sub-criterion in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

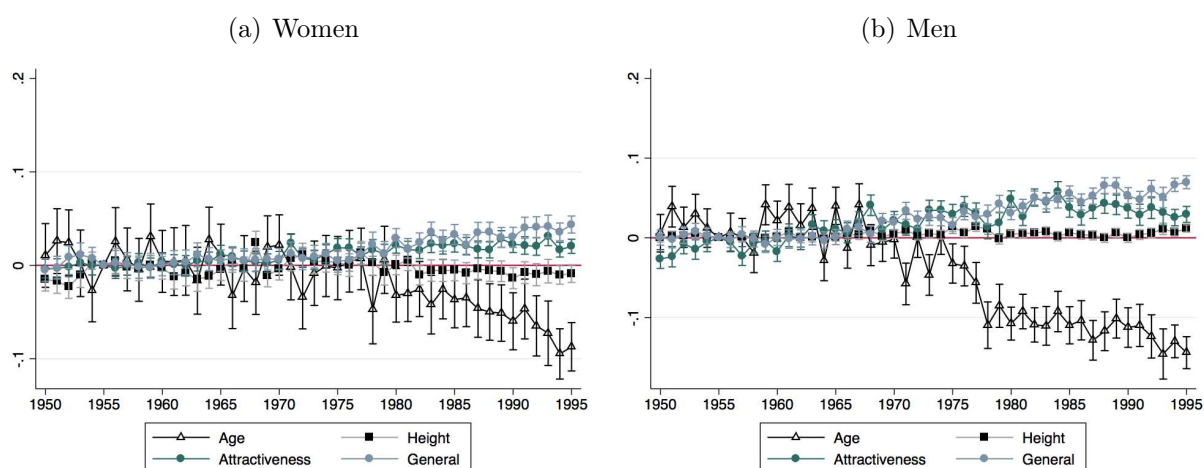
C.1.3 Decomposing the Evolution of the Demand for Physical Criteria

Figure C9: Decomposing the Evolution of Physical Criteria - France



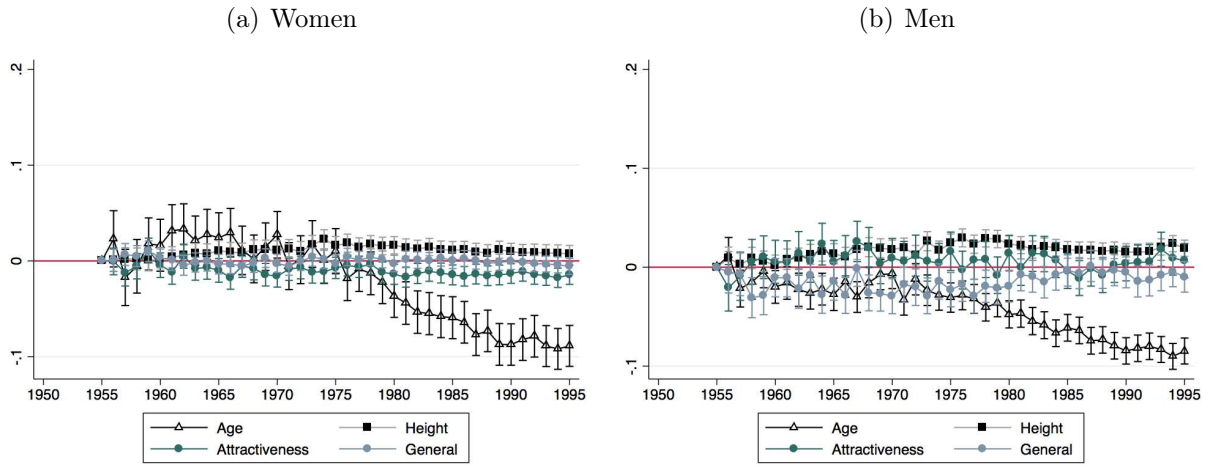
Notes: the data come from matrimonial ads published in France. The outcome is the share of words related to a sub-criterion in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

Figure C10: Decomposing the Evolution of Physical Criteria - Canada



Notes: the data come from matrimonial ads published in Canada. The outcome is the share of words related to a sub-criterion in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

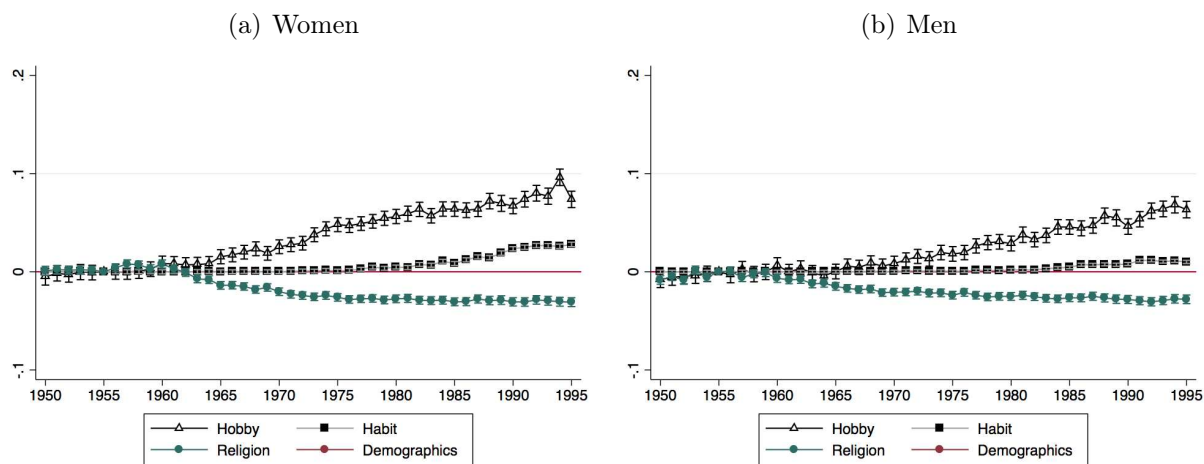
Figure C11: Decomposing the Evolution of Physical Criteria - India



Notes: the data come from matrimonial ads published in India. The outcome is the share of words related to a sub-criterion in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

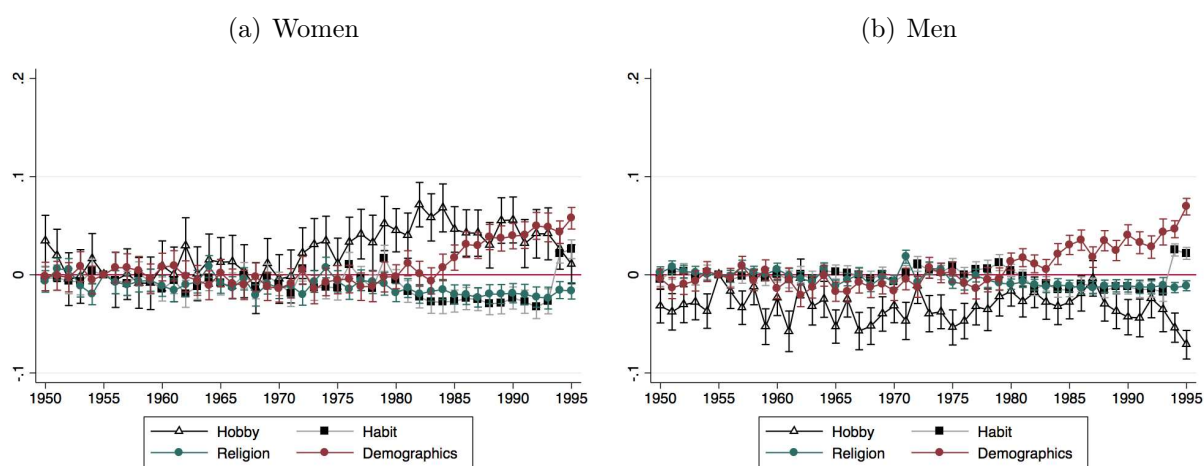
C.1.4 Decomposing the Evolution of the Demand for Taste Criteria

Figure C12: Decomposing the Evolution of Taste Criteria - France



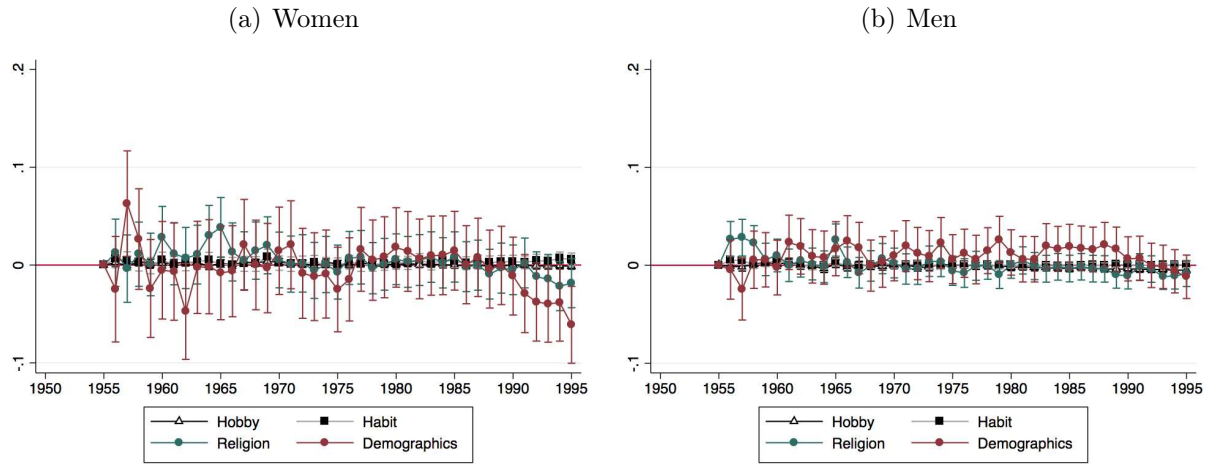
Notes: the data come from matrimonial ads published in France. The outcome is the share of words related to a sub-criterion in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

Figure C13: Decomposing the Evolution of Taste Criteria - Canada



Notes: the data come from matrimonial ads published in Canada. The outcome is the share of words related to a sub-criterion in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

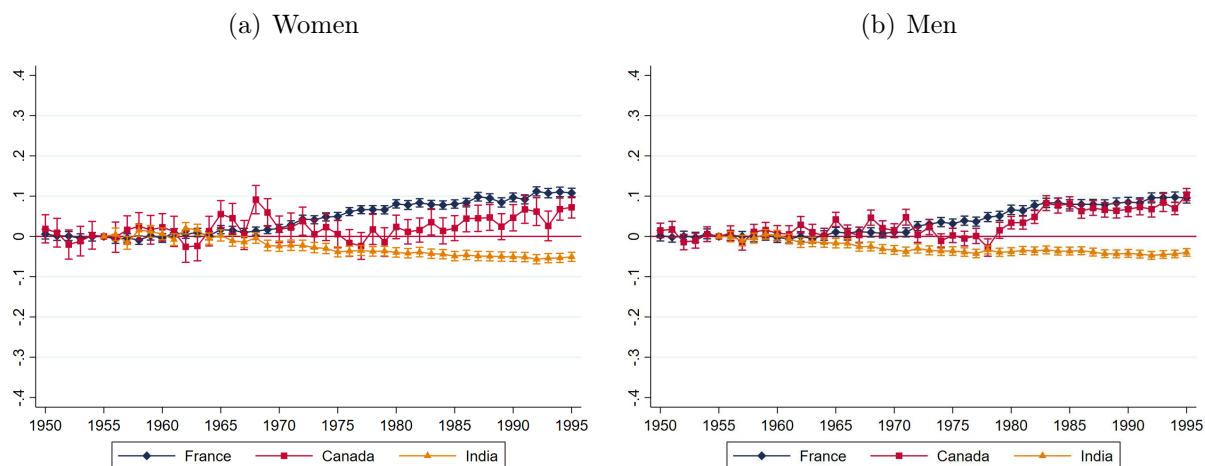
Figure C14: Decomposing the Evolution of Taste Criteria - India



Notes: the data come from matrimonial ads published in India. The outcome is the share of words related to a sub-criterion in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

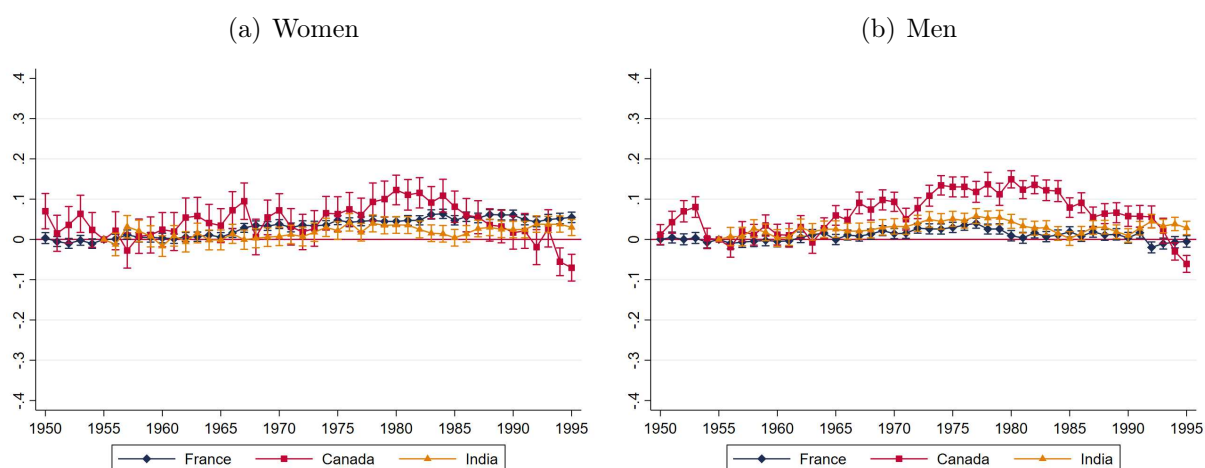
C.2 Evolution of the Supply Side

Figure C15: Evolution of the Supply for Personality Criteria



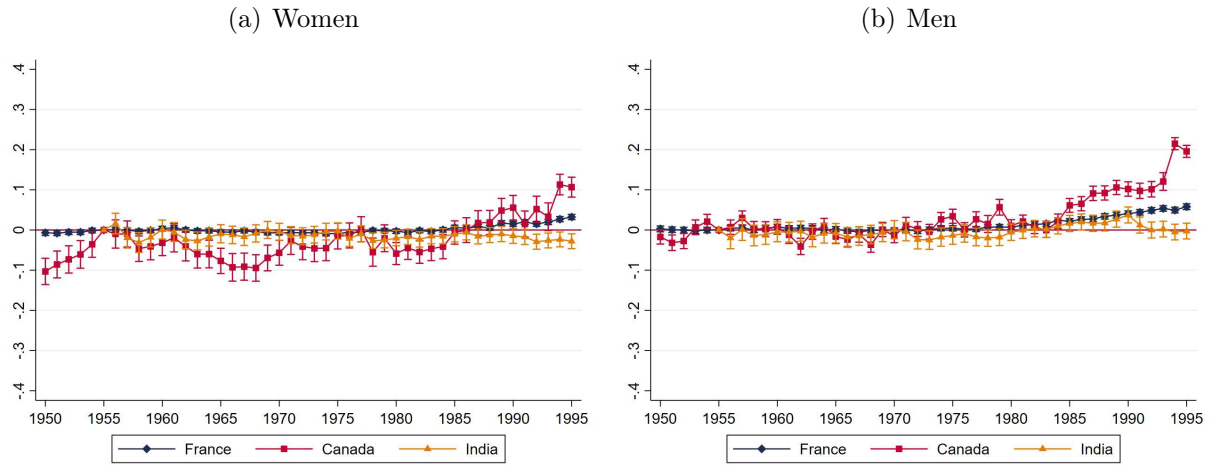
Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to personality criteria in the supply side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

Figure C16: Evolution of the Supply for Physical Criteria



Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to physical criteria in the supply side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

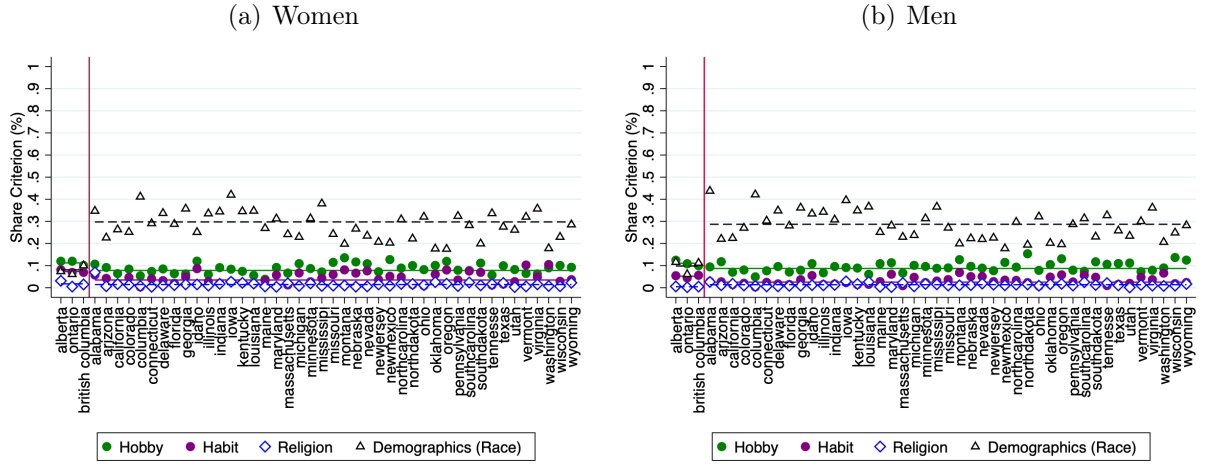
Figure C17: Evolution of the Supply for Taste Criteria



Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to personality criteria in the supply side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

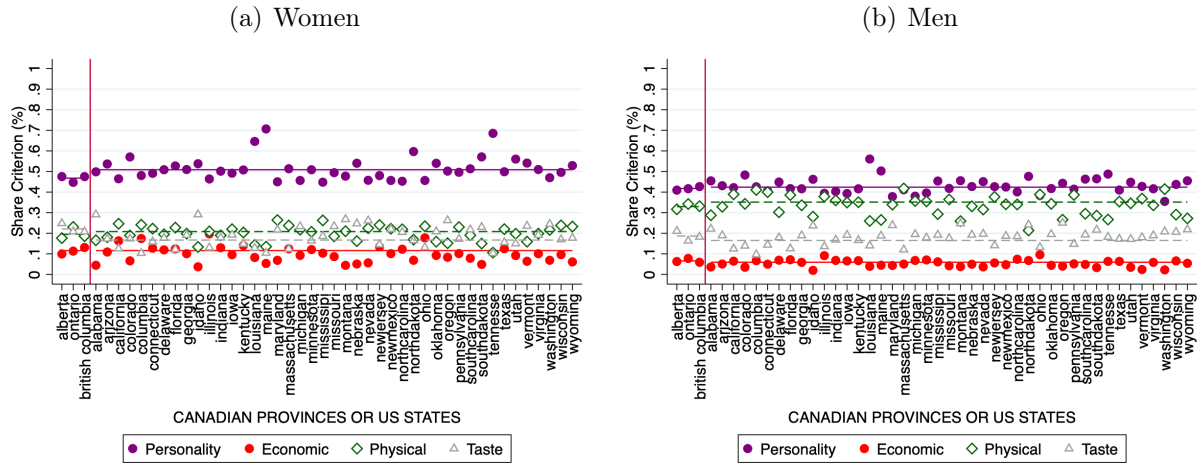
C.3 Regional Variations

Figure C18: Decomposing Taste Criteria



Notes: the data come from American and Canadian Newspapers in 1995. The y-axis depicts the average share of words related to each sub-criterion in the matrimonial ads published in a given newspaper. The sum of these criteria give the average share of words related to taste criteria in the demand side of matrimonial ads. The x-axis represents the regional area covered by the newspapers (Canadian Province or US State). Graphs (a) and (b) respectively include ads written by women and men.

Figure C19: Demand Without Race - Prevalence of Each Criterion in 1995 in the American and Canadian Newspapers Ads



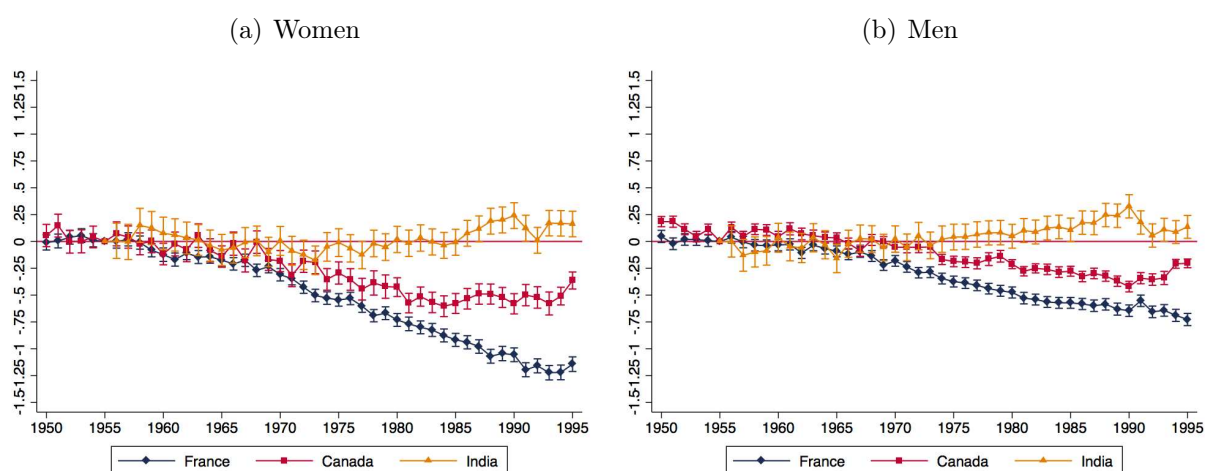
Notes: the data come from American and Canadian Newspapers in 1995. The y-axis depicts the average share of words related to each criterion in the matrimonial ads published in a given newspaper. The x-axis represents the regional area covered by the newspapers (Canadian Province or US State). Graphs (a) and (b) respectively include ads written by women and men. The taste criteria are computed without taking into account race.

C.4 Robustness Checks

C.4.1 Methodological Choices - Share/Count/Dummy

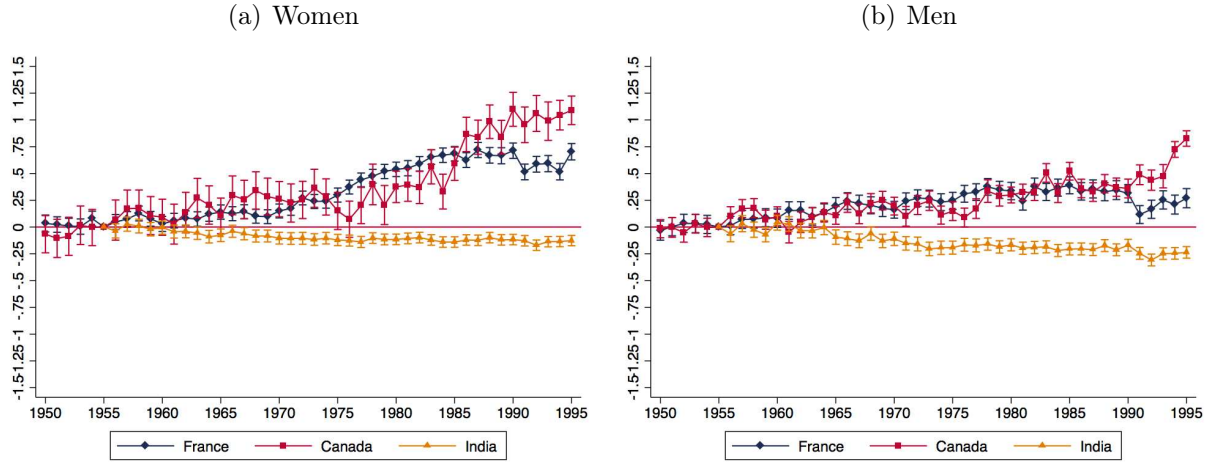
In the body of the article, the main outcome is the share of words related to a criterion. In this section, we present the results using two alternative outcomes: (i) the raw count of words related to a criterion and (ii) a dummy that equals one if a criterion is present inside the demand side of a matrimonial ad.

Figure C20: Evolution of the Demand for Economic Criteria - Count



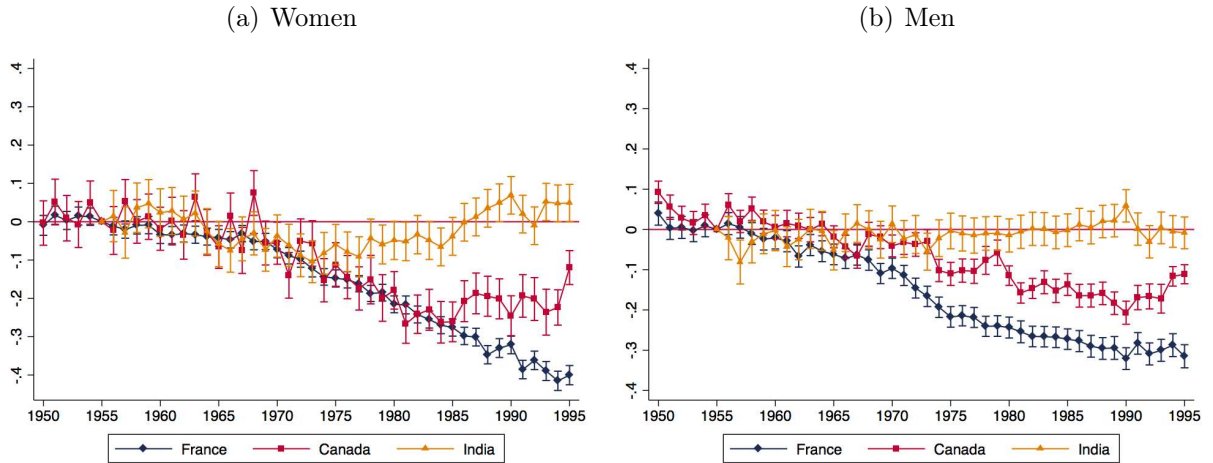
Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the number of words related to economic criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

Figure C21: Evolution of the Demand for Personality Criteria - Count



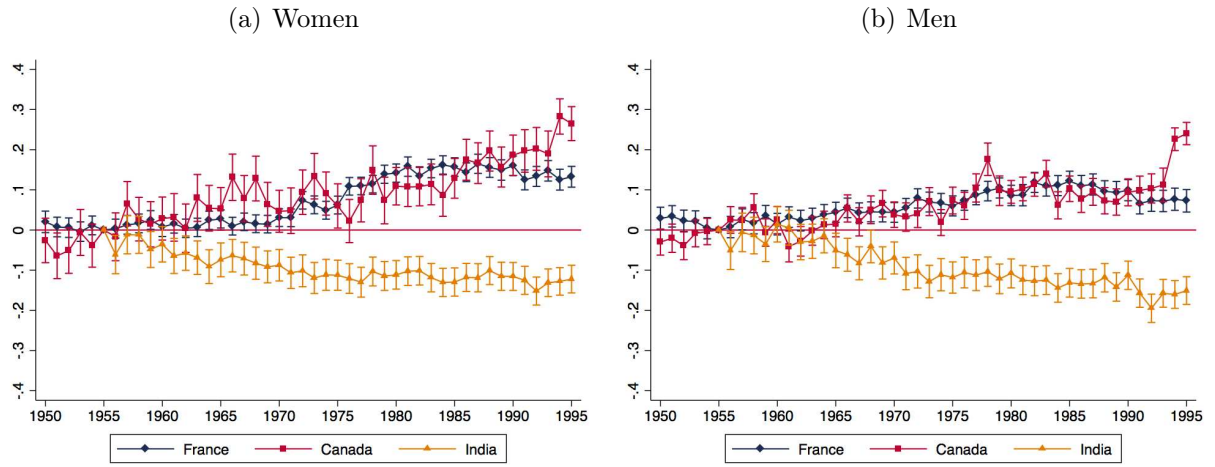
Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the number of words related to personality criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

Figure C22: Evolution of the Demand for Economic Criteria - Dummy



Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is a dummy that equals 1 if the demand side contains at least one word related to economic criteria. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

Figure C23: Evolution of the Demand for Personality Criteria - Dummy



Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is a dummy that equals 1 if the demand side contains at least one word related to economic criteria. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

C.4.2 Methodological Choices - Groups of Words

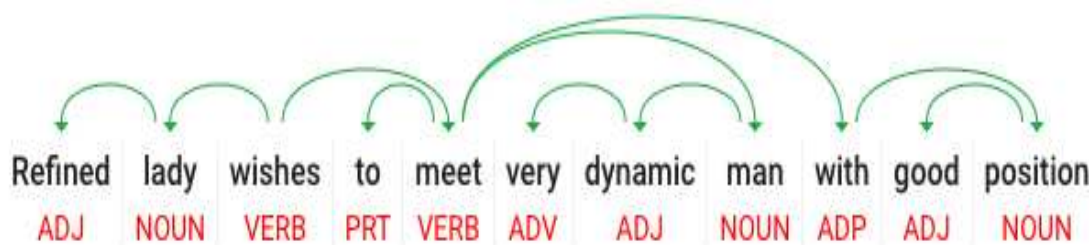
In the main text, we classified the information on the basis of individual words. For instance, we considered that a sentence such as "*very dynamic man with good position*" counted one word related to personality traits (dynamic) and one word related to economic criteria (position). However, in this sentence, two additional words are associated to these criteria. The word "*very*" and "*good*" respectively amplify *dynamic* and *position*.

To account for these dependencies, we used a syntactic tree dependency parser.²⁴ Figure C24 illustrates how this method works. The green arrows indicate the dependencies between the words.

We used this information to reweigh the criteria taking into account potential dependencies across words. Based on Figure C24, we consider that two words ("very", "dynamic") are associated to personality traits and two other words ("good", "position") refer to economic criteria.

Figure C25 displays the evolution of the demand for economic criteria using the main and the reweighed method. With the reweighed method, the importance of economic criteria increases but the trends remain essentially similar.

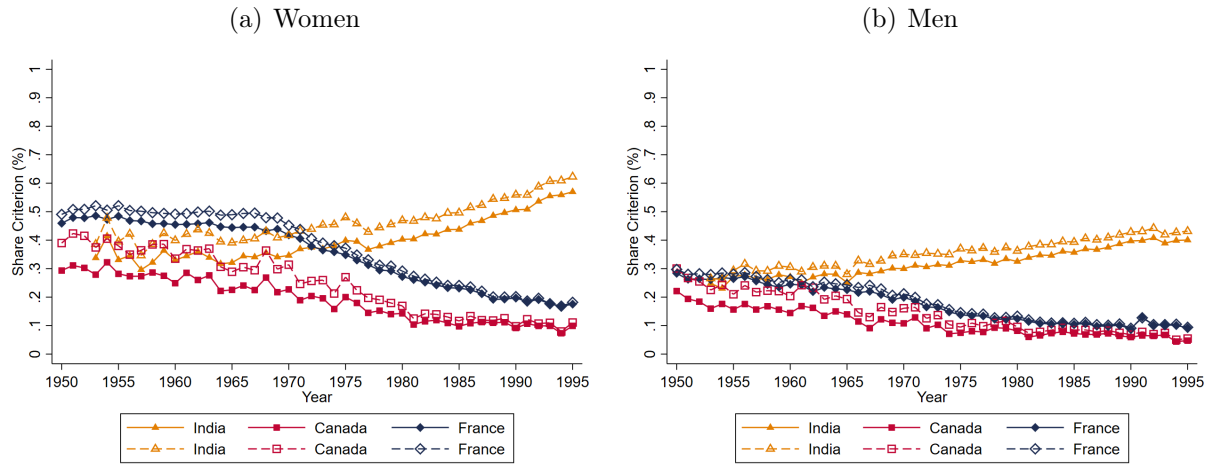
Figure C24: Illustration of the Syntactic Tree Dependency Parser from the Google NLP API



Notes: the Figure comes from the Google NLP API demo at <https://cloud.google.com/natural-language?hl=eng> using the sentence "*Refined lady wishes to meet a very dynamic man with good position*". Green arrows display the dependencies between the words.

²⁴Package *spacy* on Python.

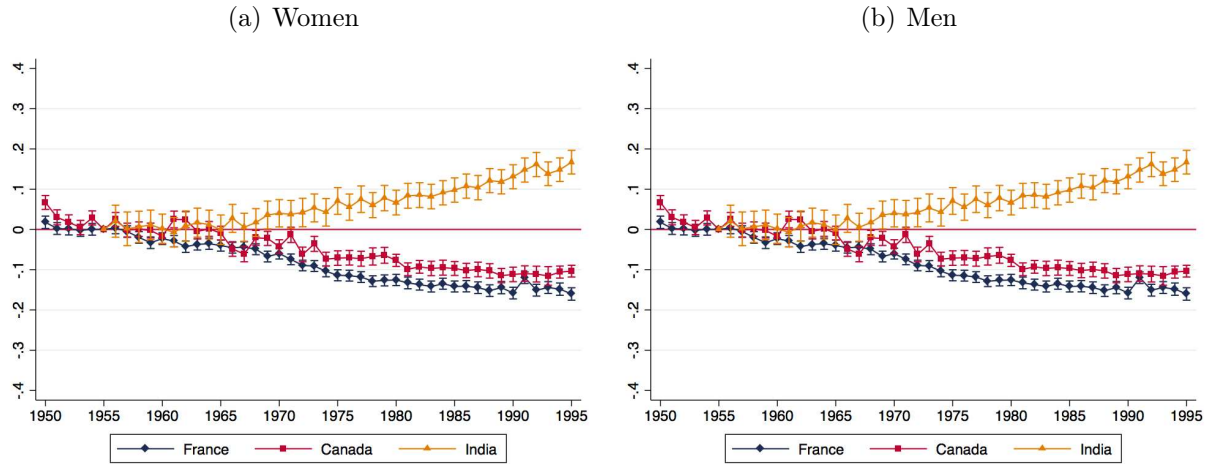
Figure C25: Evolution of the Demand for Economic Criteria - Single vs Reweighed



Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to economic criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men. White filled markers correspond to reweighted criteria using the Part-of-Speech tagger.

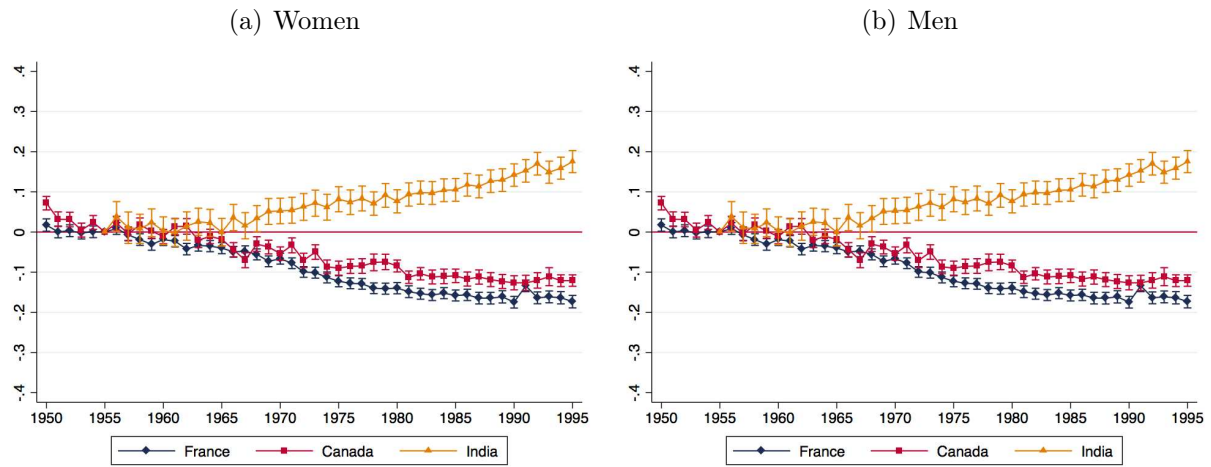
C.4.3 Methodological Choices - Cutoff for Dictionaries

Figure C26: Evolution of the Demand for Economic Criteria - Using top 100 words



Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to economic criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men. Dictionaries are computed using the top 100 words (instead of top 500 in the main results).

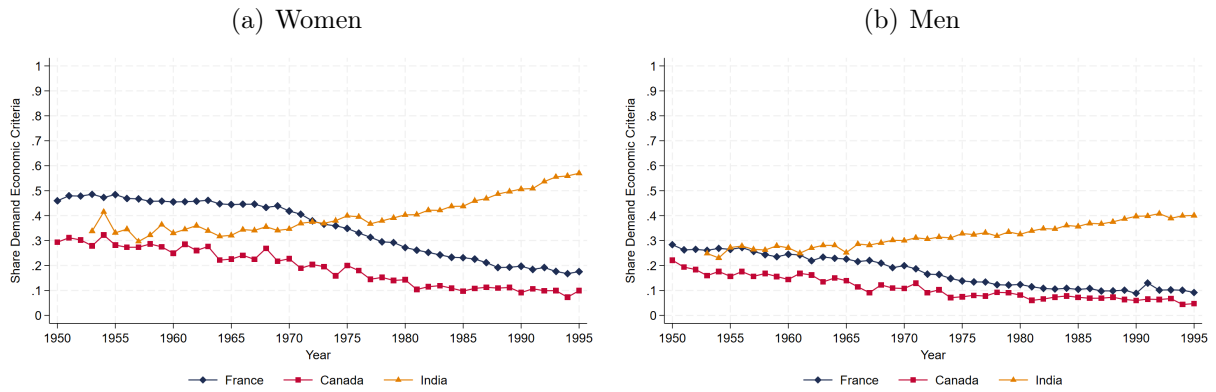
Figure C27: Evolution of the Demand for Economic Criteria - Using top 250 words



Notes: the data come from matrimonial ads published in Canada, France and India. Graphs (a) and (b) respectively include ads written by women and men. The outcome is the share of words related to economic criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men. Dictionaries are computed using the top 250 words (instead of top 500 in the main results)

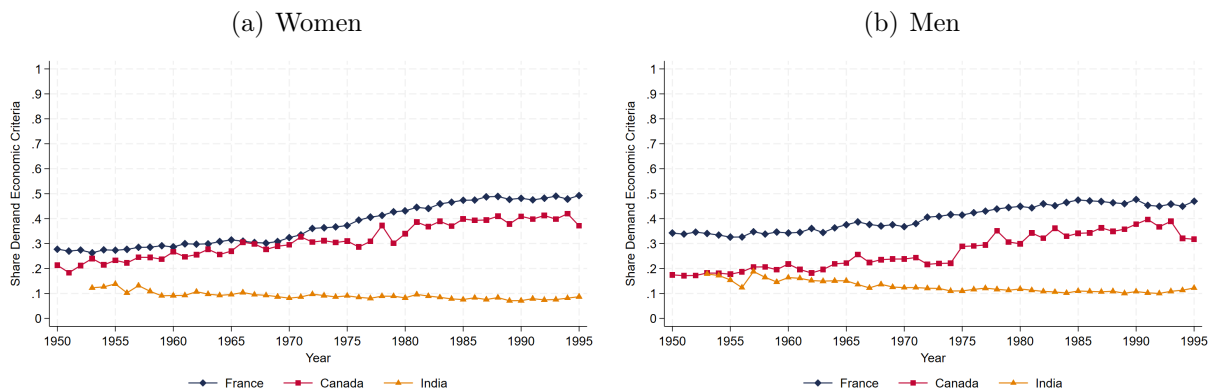
C.4.4 Methodological Choices - Evolution in Levels

Figure C28: Share of Words Related to Economic Criteria



Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to economic criteria in the demand side. Graphs (a) and (b) respectively include ads written by women and men.

Figure C29: Share of Words Related to Personality Criteria



Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to personality criteria in the demand side. Graphs (a) and (b) respectively include ads written by women and men.

D Mechanisms

D.1 Composition Effects: Oaxaca-Blinder Decomposition

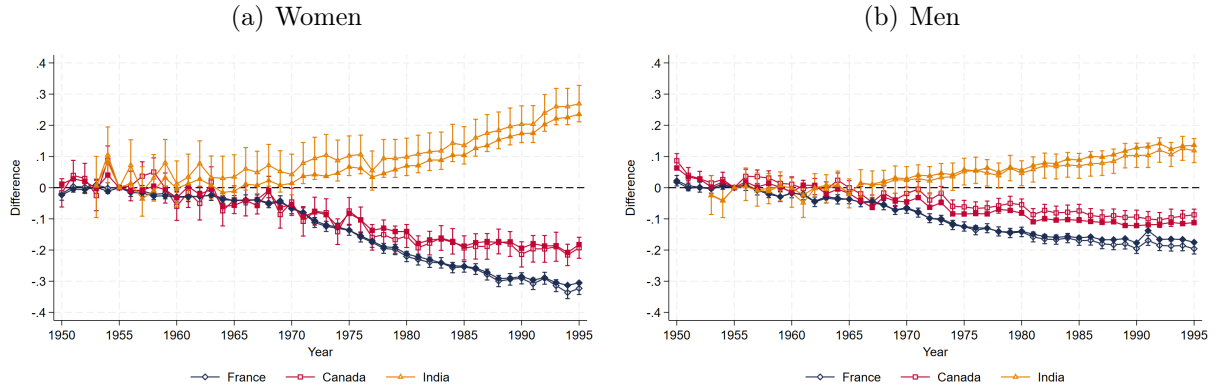
Table D1: Construction of variables used in the decomposition

Variable	Nature	Construction
Age	Continuous	We retrieved expressions containing both a number and indicating the presence of age such as "30 years old". If these two conditions were met, we created an age variable that equals to the number. As some individuals may not use these expressions to save money and only indicate a number for their age, we considered that a two-digit number designates an age only if the expressions indicating age were not present and one two-digit number was.
Matrimonial Status	Discrete	Categorical variable that equals 1 if the supply side contains the word "single", 2 if it contains "divorc" and 3 if it contains "widow"
Mention of Children	Discrete	Dummy that equals 1 if the word "child" or "kid" appears in the supply side
Mention of Education	Discrete	Dummy that equals 1 if the supply side contains at least one word in the sub-criterion Education of the economic criteria
Job	Discrete	Categorical variable taking different values corresponding to the words used in the sub-criterion Labour of the economic criteria
Ethnicity	Discrete	Categorical variable taking different values corresponding to the words used in the sub-criterion Labour of the economic criteria
Religion	Discrete	Categorical variable taking different values corresponding to the words used in the sub-criterion Religion of the taste-based criteria
Caste	Discrete	Categorical variable taking different values corresponding to the words used in the sub-criterion Demographics of the taste-based criteria in India

Notes: these variables are used in the Oaxaca-Blinder decomposition. They are computed based on the supply side of matrimonial ads. The dictionaries to which the Construction column refers to can be found respectively in Tables 1, B4 and B3 for Canada, India and France.

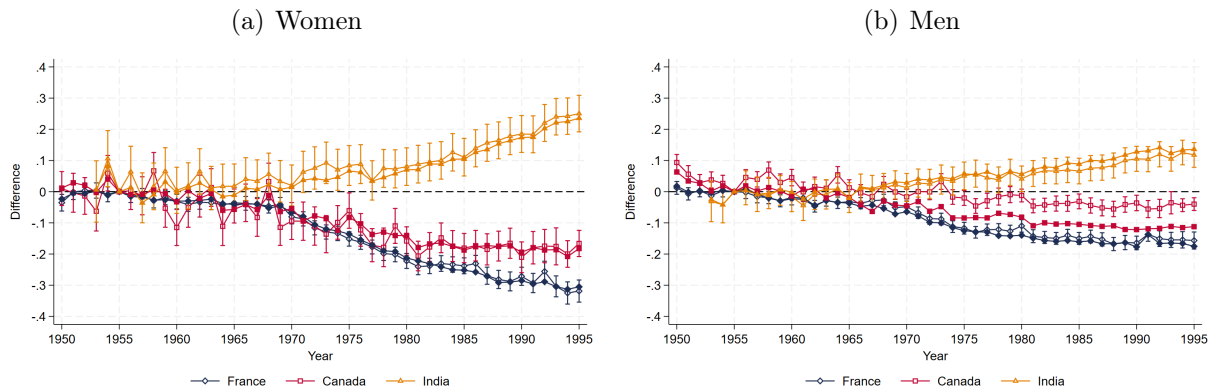
D.2 Composition Effects: Sub-Sample Analysis

Figure D1: Evolution of the Demand for Economic Criteria - Controlling for Age



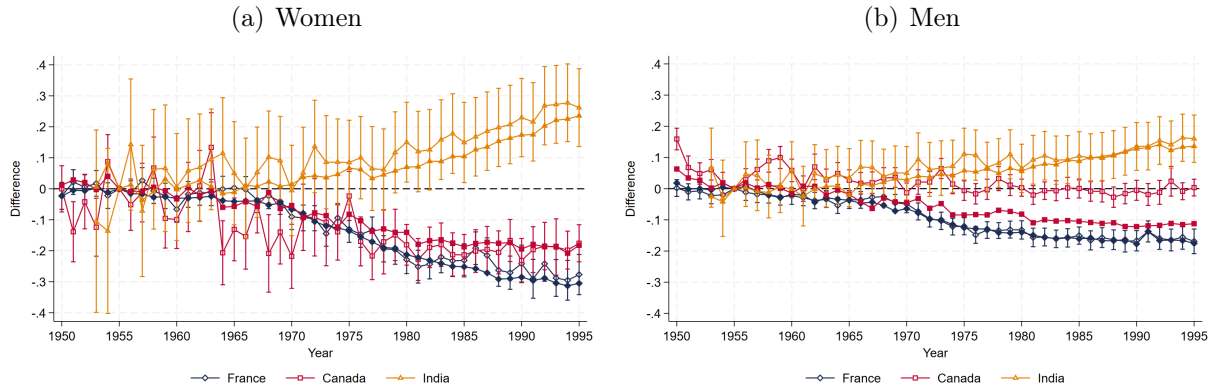
Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to economic criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad, the month of publication and the age indicated in the supply side. Graphs (a) and (b) respectively include ads written by women and men. White filled markers correspond to the specifications controlling for age and age squared. Confidence intervals are obtained on this sub-sample. Filled markers correspond to the main specification without controlling for age.

Figure D2: Evolution of the Demand for Economic Criteria - By Age Group (Less than 40 vs Full sample)



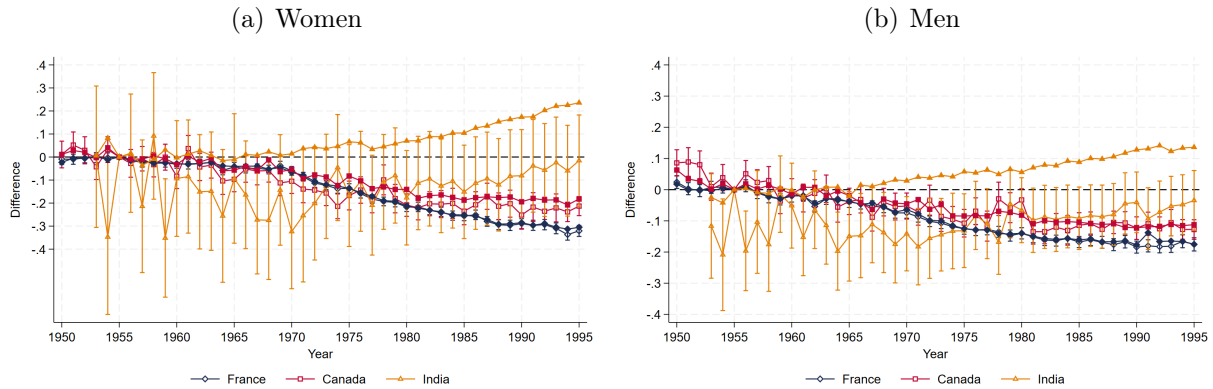
Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to economic criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men. White filled markers correspond to individuals who indicate being less than 40 years old. Confidence intervals are obtained on this sub-sample. Filled markers correspond to the full sample.

Figure D3: Evolution of the Demand for Economic Criteria - Age within the Average Age at Marriage ± 5 years



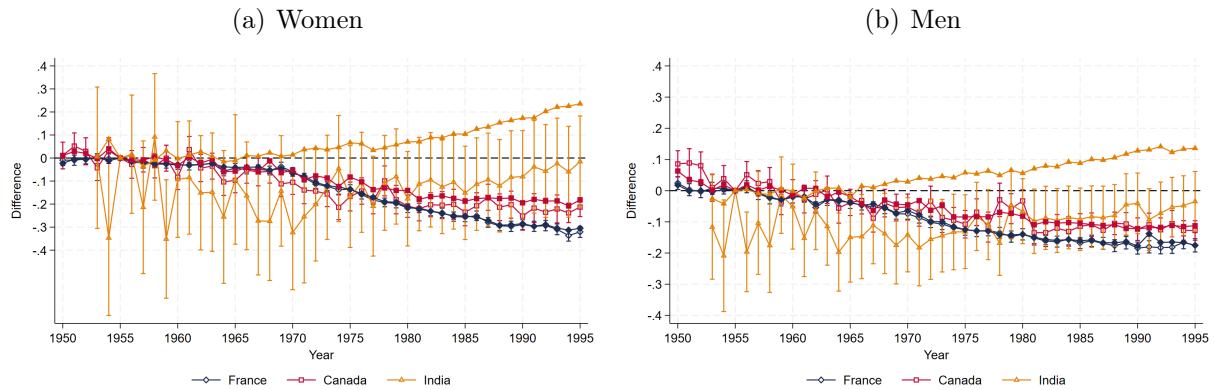
Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to economic criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad, the month of publication and the age indicated in the supply side. Graphs (a) and (b) respectively include ads written by women and men. White filled markers correspond to individuals whose reported age is within ± 5 years of average age of marriage in the country by gender and year. Confidence intervals are obtained on this sub-sample. Filled markers correspond to the full sample.

Figure D4: Evolution of the Demand for Economic Criteria - Controlling for Marital Status



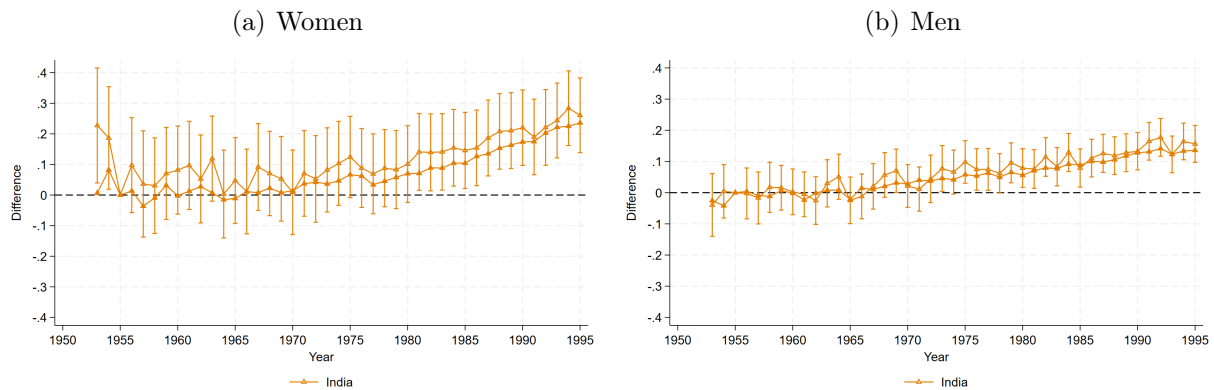
Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to economic criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad, the month of publication and the marital status indicated in the supply side (single, divorced or widow). Graphs (a) and (b) respectively include ads written by women and men. White filled markers correspond to the main specification controlling for stated marital status (single, divorced, widow). Confidence intervals are obtained on this sub-sample. Filled markers correspond to the main specification.

Figure D5: Evolution of the Demand for Economic Criteria - By Marital Status (Full Sample vs Re-entering Marriage Market)



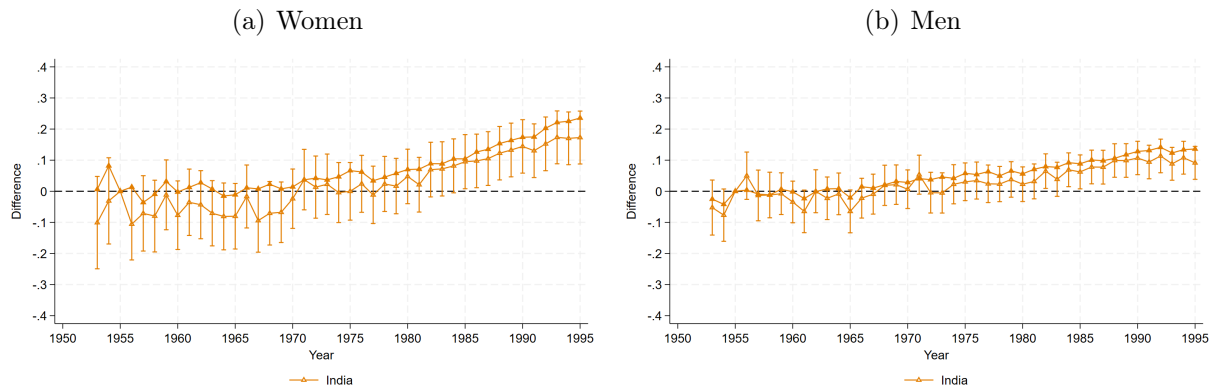
Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to economic criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men. White filled markers correspond to individuals who re-enter the marriage market and state being divorced or widow. Confidence intervals are obtained on this sub-sample. Filled markers correspond to the full sample.

Figure D6: Evolution of the Demand for Economic Criteria - Controlling for Religion in India



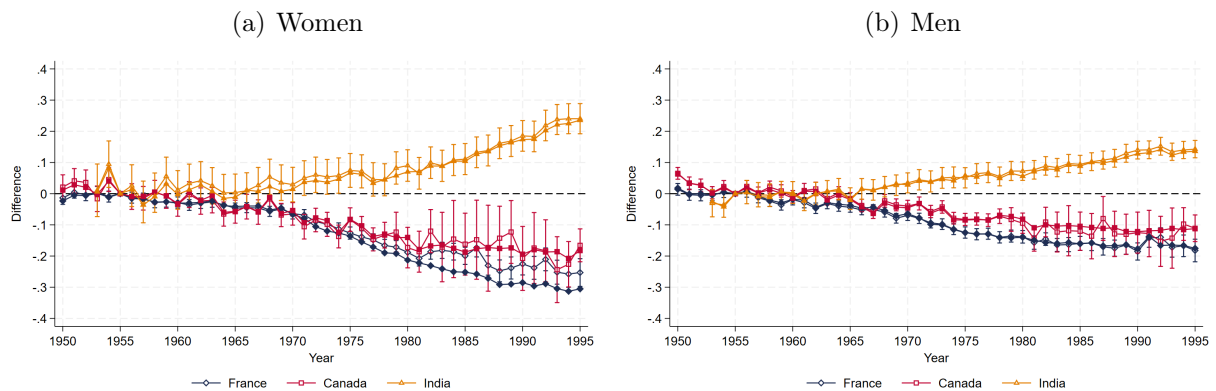
Notes: the data come from matrimonial ads published in India. The outcome is the share of words related to economic criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad, the month of publication and the religion indicated in the supply side. Graphs (a) and (b) respectively include ads written by women and men. White filled markers correspond to the specifications controlling for religion. Confidence intervals are obtained on this sub-sample. Filled markers correspond to the main specification without controlling for religion.

Figure D7: Evolution of the Demand for Economic Criteria - Controlling for Caste in India



Notes: the data come from matrimonial ads published in India. The outcome is the share of words related to economic criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad, the month of publication and the caste indicated in the supply side. Graphs (a) and (b) respectively include ads written by women and men. White filled markers correspond to the specifications controlling for caste. Confidence intervals are obtained on this sub-sample. Filled markers correspond to the main specification without controlling for caste.

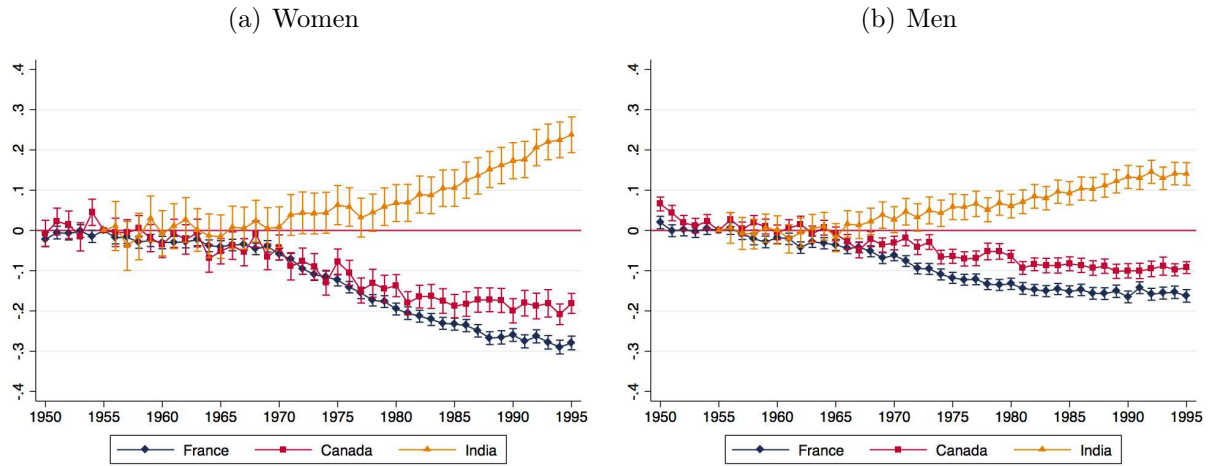
Figure D8: Evolution of the Demand for Economic Criteria - Controlling for Marital Intentions



Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to economic criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad, the month of publication and the age indicated in the supply side. Graphs (a) and (b) respectively include ads written by women and men. White filled markers correspond to individuals who mention marriage or marriage-related word in the ad. Confidence intervals are obtained on this sub-sample. Filled markers correspond to the full sample.

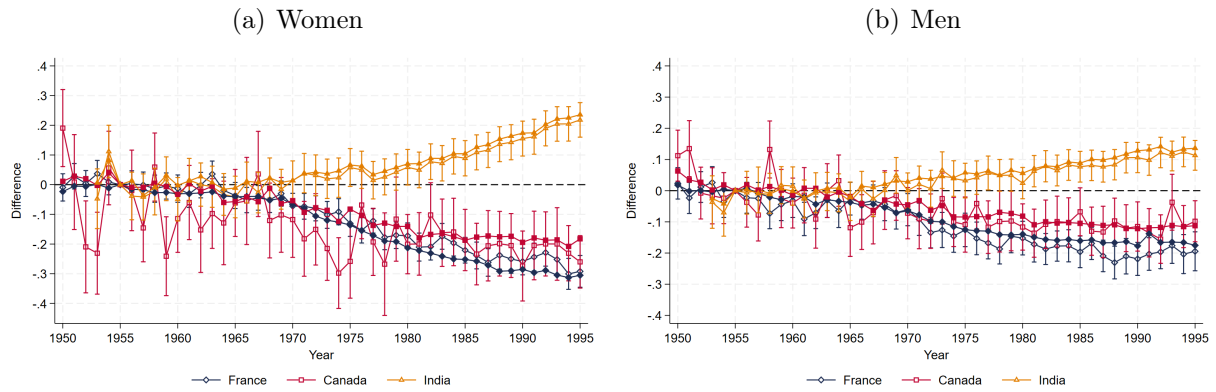
D.3 Composition Effects: Economic Criteria in the Supply Side

Figure D9: Evolution of the Demand for Economic Criteria - Controlling for Economic Criteria in the Supply Side



Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to economic criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad, the month of publication and the share of economic criteria in the supply side. Graphs (a) and (b) respectively include ads written by women and men.

Figure D10: Evolution of the Demand for Economic Criteria - Controlling for Education in the Supply Side



Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to economic criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad, the month of publication and the age indicated in the supply side. Graphs (a) and (b) respectively include ads written by women and men. White filled markers correspond to individuals who mention education in the supply side. Confidence intervals are obtained on this sub-sample. Filled markers correspond to the full sample.

D.4 Composition Effects: Choice of Newspaper Outlet

Table D2: Explanatory power of newspapers fixed-effects

Variance	Woman	Man
<i>Panel A: Demand for Personality criteria</i>		
R^2	0.0201	0.0131
<i>Panel B: Demand for Economic criteria</i>		
R^2	0.029	0.0073

Notes: the data come from matrimonial ads published in 41 English-speaking newspapers from the US and Canada in 1995. The Table shows the resulting R^2 of a specification where the outcome variable is the share of words related to a given criterion and the explanatory variables are newspapers fixed-effects.

D.5 Over-representation of unsuccessful ads

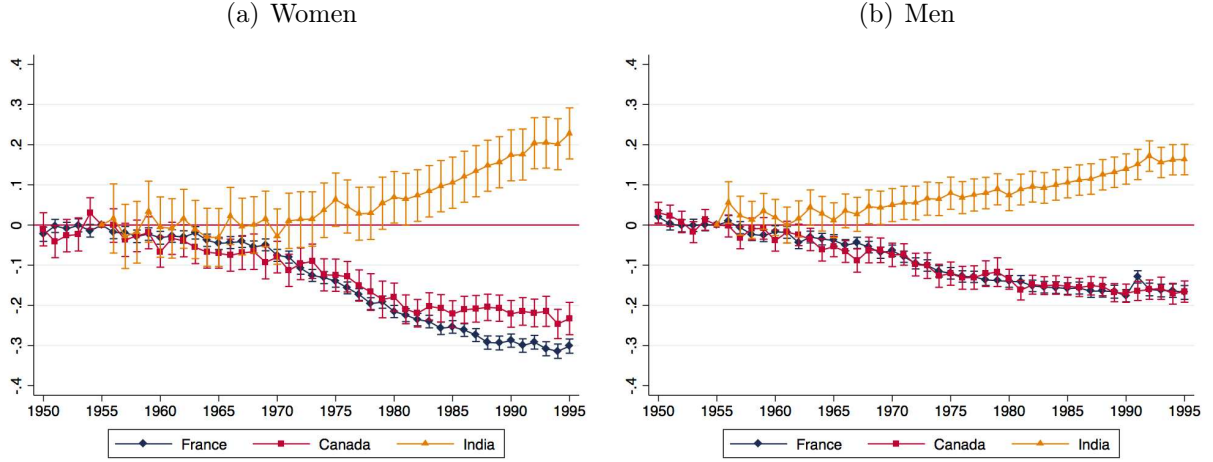
Composition effects could also stem from the overrepresentation of unsuccessful ads. Over time, individuals who are unsuccessful in finding a partner might continue to send ads and those who are successful might stop sending ads. As a result, there would be an over-representation of the former type which might explain the results.

To study this channel, we quantify the share of similar ads over time. Although the ads are anonymous, we assume that the same individuals would send ads that are similar to a certain extent. To measure similarity, we computed the Jaccard similarity coefficient for every pair of ads in the sample. This coefficient corresponds to the percentage of words that are shared by two ads.²⁵

This approach allows us to capture both subtle and more substantial changes in ad wording. For instance, even if an individual were to modify nearly half of the ad’s content, any remaining similarity at or above 50% would still be detected by the index. This minimizes the risk of excluding ads where writers adjust their strategies while preserving a significant portion of the original language. We replicate the main results in Section D.5 for two thresholds: 50% and 70%. We observe that the results are essentially similar without similar ads, suggesting that the repeated sending of unsuccessful ads is unlikely to explain the results.

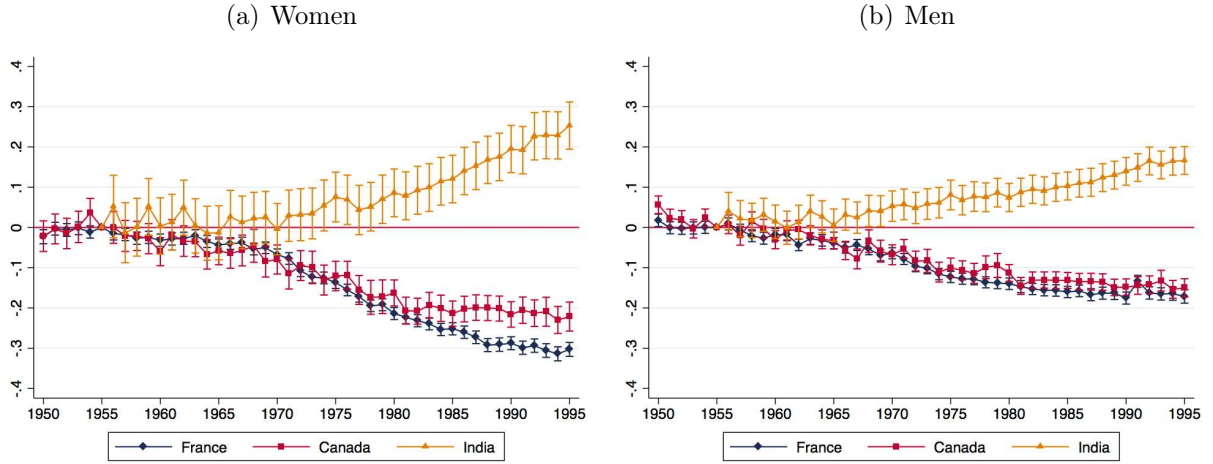
²⁵For instance, a coefficient of 50% indicates that the two ads share 50% of the words in common.

Figure D11: Main Results without Similar Ads (Jaccard Index < 0.5)



Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to economic criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men. For every pair of ad in the sample, we computed the Jaccard similarity coefficient. The sample includes only ads with a coefficient strictly lower than 0.5, indicating that there does not exist another ad in the sample that share at least 50% of the words in common.

Figure D12: Main Results without Similar Ads (Jaccard Index < 0.7)



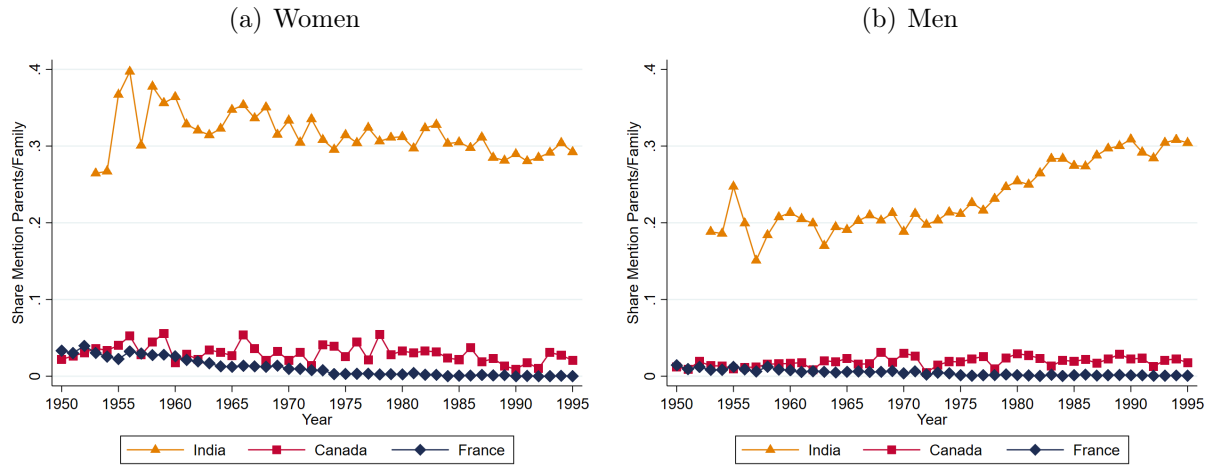
Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to economic criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men. For every pair of ad in the sample, we computed the Jaccard similarity coefficient. The sample includes only ads with a coefficient strictly lower than 0.7, indicating that there does not exist another ad in the sample that share at least 70% of the words in common.

D.6 The Role of Parents

Matrimonial ads in Indian newspapers are often written by parents. Therefore, presence of words like “*son*” or “*daughter*” in the supply side of the ad might also indicate that parents are involved in the matchmaking process. Figure D13 shows the evolution of share of ads containing any of the following words: “*parent*”, “*family*”, “*son*” or “*daughter*”. Our conclusions remain consistent with those presented in the main text.

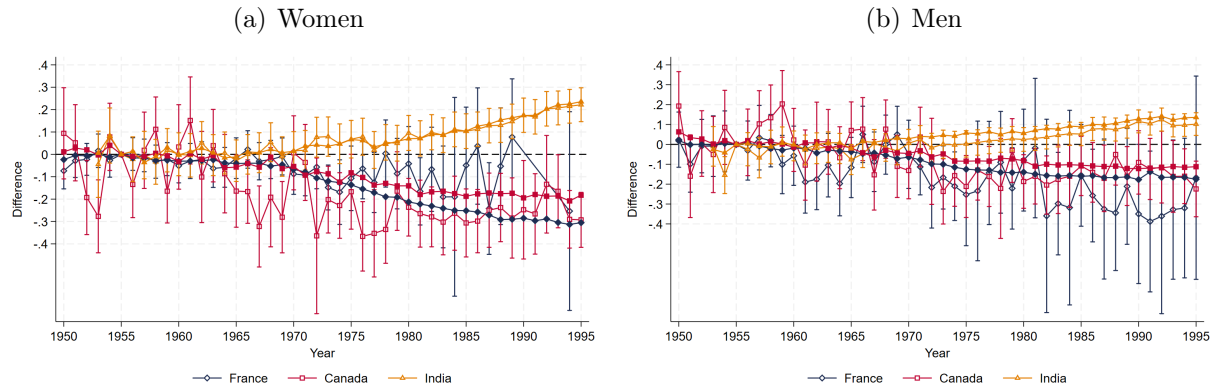
As a follow up exercise, we show how the content of ads with and without the mention of parents varies. It should be stressed that in the two Western countries (particularly in Canada), a very small share of ads mention parents (see Figure 7). We observe essentially similar trends for France and India. In Canada, the trends are too unstable due to the small number of observations.

Figure D13: Mechanism - The Influence of Parents



Notes: the data come from matrimonial ads published in Canada, France and India. The y-axis represents the share of ads that mention "parents", "family", "son" or "daughter" in the supply side. Graphs (a) and (b) respectively include ads written by women and men.

Figure D14: Demand for Economic Criteria - Ads with and without mention of parents

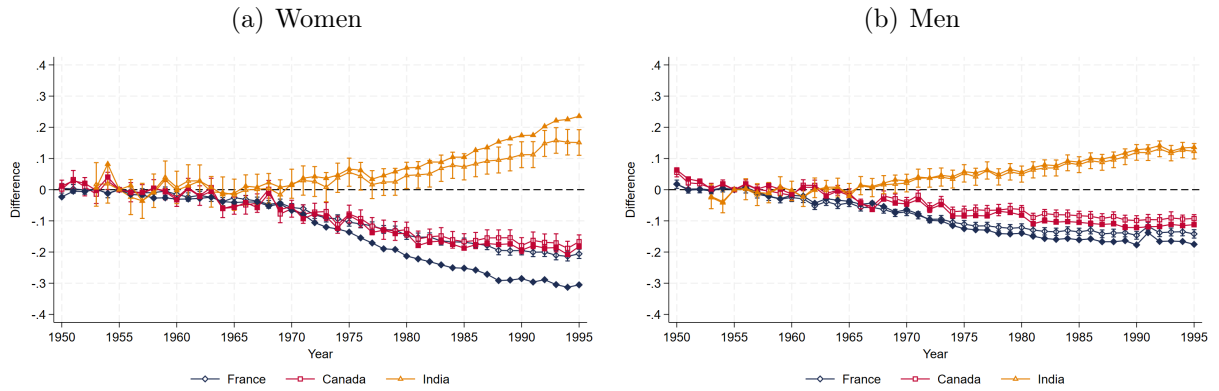


Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to economic criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad, the month of publication and the age indicated in the supply side. Graphs (a) and (b) respectively include ads written by women and men. White filled markers correspond to individuals who mention parents or parents-related words in the ad. Confidence intervals are obtained on this sub-sample. Filled markers correspond to the full sample.

D.7 The Emergence of Social Norms

D.7.1 Prevalence of Words in Daily Language

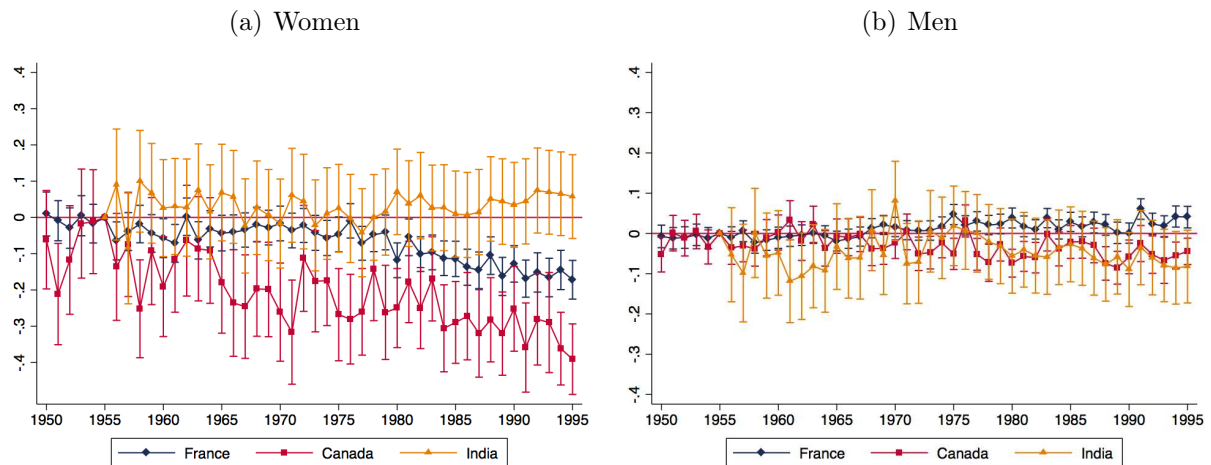
Figure D15: Evolution of the Demand for Economic Criteria - Positive Economic Words



Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is the share of words related to economic criteria in the demand side. The reference year is 1955. Control variables include the number of words in the ad, the month of publication and the age indicated in the supply side. Graphs (a) and (b) respectively include ads written by women and men. White filled markers correspond to the outcome variable defined as the share of words related to positive economic criteria in the demand side. Confidence intervals are obtained for this outcome variable. Filled markers correspond to the main specification.

D.7.2 Indirect Ways to Demand Economic Criteria

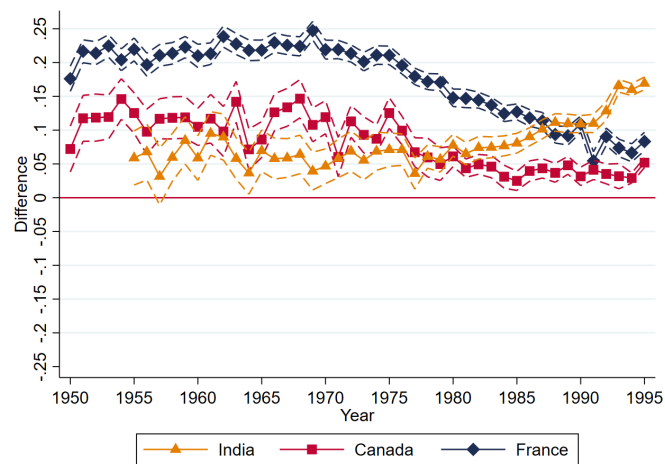
Figure D16: Evolution of the Demand for Older Partners



Notes: the data come from matrimonial ads published in Canada, France and India. The outcome is a dummy variable that equals 1 if the individual is looking for someone older. The reference year is 1955. Control variables include the number of words in the ad and the month of publication. Graphs (a) and (b) respectively include ads written by women and men.

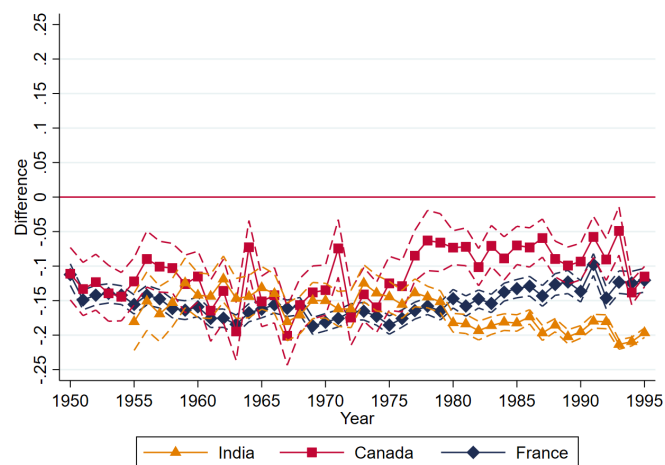
D.7.3 Replicating Stylized Facts

Figure D17: Replicating Stylized Facts - Sex Differences in the Demand for Economic Attributes



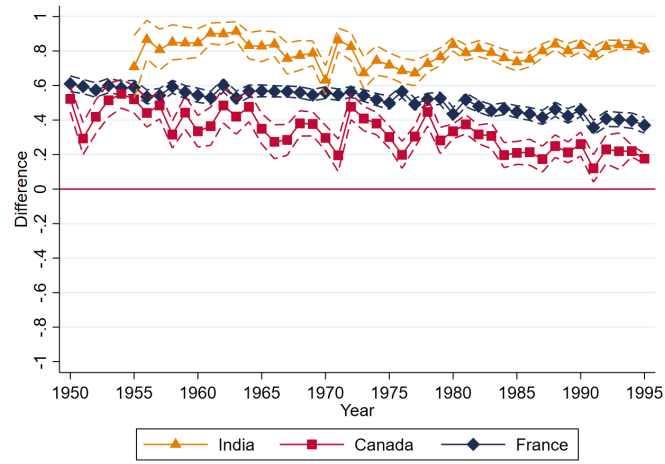
Notes: the data come from matrimonial ads published in Canada, France and India. The y-axis represents the difference in the average demand for economic attributes between women and men per year.

Figure D18: Replicating Stylized Facts - Sex Differences in the Demand for Physical Attributes



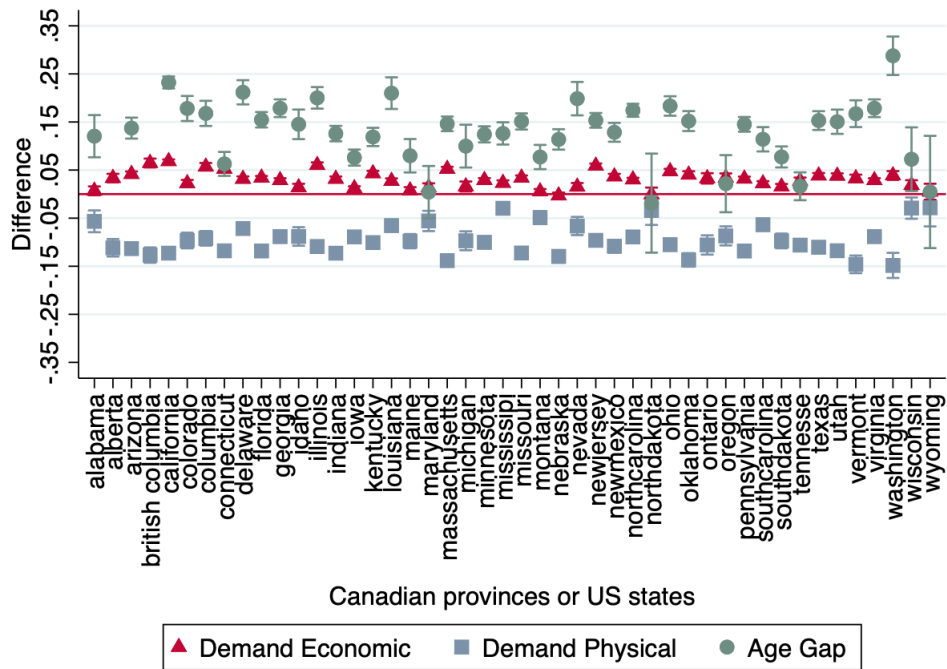
Notes: the data come from matrimonial ads published in Canada, France and India. The y-axis represents the difference in the average demand for physical attributes between women and men per year.

Figure D19: Replicating Stylized Facts - Sex Differences in Age Gap



Notes: the data come from matrimonial ads published in Canada, France and India. The y-axis represents the difference between the proportion of women and men stating that they prefer an older partner per year.

Figure D20: Replicating Stylized Facts - Sex Differences in Partner Preferences



Notes: the data come from American and Canadian Newspapers in 1995. The y-axis depicts the difference in average demand for economic attributes, physical attributes and older partners between women and men. The x-axis represents the regional area covered by the newspapers (Canadian Province or US State).

D.8 A Change in Partner Preferences?

Table D3: Regional Correlation in US States

Sample	Men (1)	Women (2)
<i>Panel A: Outcome = Demand for Economic Criteria</i>		
Labor Force Participation Gap (Women - Men)	-0.001 (0.001)	-0.003* (0.002)
<i>Panel B: Outcome = Demand for Personality Criteria</i>		
Labor Force Participation Gap (Women - Men)	0.003 (0.003)	0.001 (0.004)
Observations	43	43

Notes: Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The outcome variables are, respectively, the mean share of economic criteria on the demand side in Panel A and the mean share of personality criteria in the demand side in Panel B. The sample is restricted to men in column 1 and women in column 2. The explanatory variable is the labour force participation gap at the state level in 1995 (women - men). The labor force participation gaps data come from the 1990 US Census (U.S. Department of Commerce, Bureau of the Census, 1990 Census of Population and Housing). We chose this year as it corresponds to the closest census to the year where we collected the data for matrimonial ads (1995)