

# The Moderating Effects of Marriage Across Party Lines

Shanto Iyengar\*

Tobias Konitzer†

---

\*Stanford University [siyengar@stanford.edu](mailto:siyengar@stanford.edu)

†Stanford University [tobiask@stanford.edu](mailto:tobiask@stanford.edu)

“The Democrats, wherever you find ’em – in the media, think tanks, don’t care where you find ’em – they’re being consumed by it, folks. Theyre literally being eaten alive with an irrational, raw hatred.” – Rush Limbaugh, May 10, 2017.

In the aftermath of the 2016 election, the American electorate is hyperpolarized. Animus toward the out party is at an historic high. For the first time on record, the most frequently registered feeling thermometer score for the opposing party (e.g. Democrats’ rating of the Republican Party and vice-versa) in the 2016 American National Election Study was at the minimum, i.e. zero. Other indicators are similarly skewed toward the extremes. President Trump’s approval drops precipitously from 80 percent among Republicans to under ten percent for Democrats. Some six times as many Democrats than Republicans believe that the Trump campaign colluded with the Russians to sway the election (Washington Post Poll, April 26, 2017).

Hostility directed at out groups is a fundamental barometer of group polarization. Classic studies on social distance (Bogardus, 1925), and the sense of social identity (Tajfel, 1970; Tajfel and Turner, 1979) have established that diverging sentiment for in- and out-group members is inevitable. Group polarization defined in terms of differential affect for the in and out group occurs even when the basis for group affiliation is trivial and completely unrelated to group interests.

In the context of American politics, affective polarization deriving from political party affiliation is well documented, in stark contrast to ideological polarization, where the evidence is mixed (compare Abramowitz 2010 with Fiorina, Abrams and Pope 2005). As for partisan affect, data from the American National Election Surveys dating to the mid-1980s shows that Democrats and Republicans not only increasingly dislike the opposing party, but also impute negative qualities to its supporters (Iyengar, Sood and Lelkes, 2012).

Out-group prejudice based on party identity exceeds the comparable bias directed at racial, religious, or cultural out groups (Muste, 2014; Iyengar and Westwood, 2015). Partisan

affect has strengthened to the point where party identity is now a litmus test for interpersonal attraction. People prefer to associate with fellow partisans and are less trusting of partisan opponents (Iyengar and Westwood, 2015; Westwood et al., 2017). The most vivid evidence of increased social distance across the party divide concerns inter-party marriage. In the early 1960s, the percentage of partisans expressing concern over the prospect of their son or daughter marrying someone from the opposition party was in the single digits, but some forty-five years later it had risen to more than twenty-five percent (Iyengar, Sood and Lelkes, 2012).

Data from surveys of married couples, online dating sites, and national voter files confirm that partisanship has become a key attribute underlying the selection of long-term partners (Huber and Malhotra, 2017; Iyengar, Konitzer and Tedin, 2017). Among recently married couples in 1973, only 54 percent shared the same party affiliation. Forty years later, partisan agreement among this group had risen to 74 percent (Iyengar, Konitzer and Tedin, 2017).

Survey results standing alone may not be the most meaningful measure of increasing partisan animus. The expression of hostility based on partisanship is not subject to the same social taboos as hostility based on other salient social divides (racial, religious, or ethnic). Instead, hostility directed at the out party is deemed acceptable, even appropriate. Therefore, survey data could artificially elevate the significance of the partisan divide over other significant cleavages. But, importantly, there is considerable evidence of increased partisan animus outside the survey realm; this evidence is not subject to normative, conscious restraints based on political correctness. Using a version of the Implicit Association Test, Iyengar and Westwood (2015) demonstrated that implicit bias directed at the out party exceeded comparable bias based on race. They also showed that behavioral discrimination against partisan opponents in a variety of contexts exceeded discrimination based on other group cues, most notably, race.

What explains the dramatic increase in affective polarization over the past few decades?

The period in question (1985 - 2015) coincides with any number of major societal changes, including the vastly increased ethnic and cultural diversity of the population, the migration of whites from urban areas to the suburbs, the emergence of the South as a staunch Republican region, and the politicization of evangelical Christians. One possible explanation, sometimes referred to as "sorting," is the increasing convergence of multiple salient social identities which reinforce each other. In other words, Democrats and Republicans differ not only in their politics, but also in their ethnic, religious, gender, cultural, and regional identities.

Sorting leads to overlapping group memberships and the increasing partisan homogeneity of primary and secondary groups is a further contributor to polarization. Family and kinship networks – key influences over the development of political attitudes – provide few opportunities for meaningful and long-term personal contact across party lines. As we note below, even at the level of secondary groups, defined on the basis of occupation, religion, or place of residence, partisan homophily is extensive (for evidence on occupational similarity in partisan affiliation, see Bonica, Chilton, and Sen 2016; the geographic sorting of the nation into Republican and Democratic enclaves is documented most recently in Chen and Cottrell 2016 and Chen, Rodden et al. 2013).

We investigate the role of interpersonal relations as a potential contributor to partisan polarization. We focus on the family, the most important agent of political socialization. Comparing surveys of spouses conducted in the 1960s, the 1990s and the current era, we demonstrate that over time, spousal disagreement – although clearly becoming less frequent – can act as a brake on polarization by fostering less hostile attitudes toward partisan opponents. The more heterogeneous the household, the less polarized the individual members. We replicate these survey findings a secondary analysis of a set of 2015 and 2016 field experiments that targeted registered voters in multiple states. Participants in these experiments completed surveys that included feeling thermometers and other measures of partisan affect. Because the surveys sampled multiple family members living at the same address, we can

investigate the effects of household agreement on partisan affect. In fact, the data from these field studies converge with the surveys of spouses; mixed-party households are significantly less polarized.<sup>1</sup>

## Household Diversity as a De-Polarizing Influence

Decades of research into group dynamics and social influence shows that people are attracted to similar others creating pressures toward group homogeneity (McPherson, Smith-Lovin and Cook, 2001). Groups based on strong ties such as kinship are especially homogeneous, but in recent years the pattern also extends to secondary groups based on relatively weak ties including acquaintanceship, shared occupation or place of residence (see DiPrete and Jennings, 2012; Skocpol, 2013; Putnam, 2001). Thus, interpersonal contact typically occurs within a non-diverse political environment.

The composition of social networks exerts powerful downstream effects on attitudes and group polarization. For one thing, the more homogeneous and dense the network, the more one-sided the stream of information, thus reinforcing group members' prior sentiments (Schkade, Sunstein and Hastie, 2010; Sunstein and Hastie, 2015). When the group consists disproportionately of whites, their attitudes toward racial minorities become more stereotypic; discussion among men elicits sexist views, and so on (Baldassarri and Bearman, 2007; Bienenstock, Bonacich and Oliver, 1990). Group homogeneity instills polarization as members gravitate toward pro-in group and anti-out group positions, so much so that in formal models of group formation, homogeneous, polarized groups represent the "stable equilibrium outcome" (Axelrod, 1997; Abelson, 1979).

There is also evidence of the opposite pattern corresponding to groups that are diverse. Diversity of social ties creates "cross pressures" that lead individuals to take on positions that are not perfectly aligned with their group interests. The more heterogeneous the composition

---

<sup>1</sup>We are indebted to David Broockman and Joshua Kalla for bringing these data to our attention and for generously providing access.

of the group, the more tolerant group members toward oppositional viewpoints, the more aware individuals of the perspectives taken by their opponents, and the less prejudiced their views of out groups (Mutz, 2002, 2006; Pettigrew, 1990; Pettigrew and Tropp, 2000; Brown and Hewstone, 2005; Sheagley, forthcoming). From this perspective, group disagreement ameliorates polarization.

As indicated above, one reason group membership proves polarizing is that individuals are exposed to one-sided streams of communication. Individuals unfamiliar with the group gestalt learn their appropriate lines. In addition to facilitating persuasion, groups may influence attitudes by inducing conformity motivated by individuals' desire to fit in and gain group acceptance (Katz and Lazarsfeld, 1955; Lazarsfeld, Berelson and Gaudet, 1948; Asch and Guetzkow, 1951).

In the case of party preference, the evidence on group homogeneity is mixed. On the one hand, at the level of the family, there is strong evidence of convergence between spouses and across generations (Jennings and Niemi, 1974; Jennings, Stoker and Bowers, 2009; Rico and Jennings, 2016). The longitudinal studies show increased family homogeneity in the current era, and increased inter-generational correspondence (Iyengar, Konitzer and Tedin, 2017). More importantly, this work demonstrates that spousal political agreement is not a byproduct of marital selection on some non-political attribute that is related to partisanship (e.g. economic status). Rather the selection mechanism is overtly political; it is the individuals' politics that drives marital attraction (see Huber and Malhotra, 2017; Iyengar, Konitzer and Tedin, 2017, pp.19-21).

When we turn from the primary group to groups based on weak ties, however, evidence of partisan homogeneity is more ambiguous. Networks consisting of people who talk about politics, for instance, are characterized by considerable variability in party affiliation. In a study conducted during the 2000 presidential election, despite the relatively polarizing campaign and ensuing litigation over the disputed outcome, more than 50 percent of the

respondents in a national survey who identified the individuals with whom they discussed politics (as well as their political views) were embedded in discussion networks that included at least one individual not from the respondent's preferred party (Huckfeldt, Johnson and Sprague, 2004, 2002). Beyond the family, encounters with political disagreement may not be a rare outcome.

One location thought to provide regular opportunities for interactions across the political divide is the workplace (Mutz, 2006; Mutz and Mondak, 2006). Occupational categories are not strongly correlated with partisan or ideological affiliation and since people spend significant amounts of time on the job, it is surmised that political discussions at work potentially expose individuals to disagreement. Recent data on major professional occupations in the U.S., however, suggests that the workplace - like the home - is increasingly inhabited by the like-minded. Journalism, higher education, technology, and law now tilt heavily Democratic in affiliation, while banking and medicine tilt Republican (Bonica, Chilton and Sen, 2015).

In summary, research into the composition of social networks shows clear tendencies toward homophily and polarization. Our focus here will be on family networks. Given the close-knit nature of family relations, we expect homophily and partisan agreement would normally prevail and result in strong hostility toward the opposition party. Conversely, in the less typical case where family members are politically divided, we would expect reduced animus due to the moderating effects of close exposure to differing viewpoints. Our results confirm these expectations; exposure to disagreement powerfully dampens polarization. We therefore conclude that ultimately, any antidote to party polarization will have to stimulate increased diversity (of all kinds) within individuals' primary and secondary social networks.

## **Research Design and Methods**

To document the effects of family political homogeneity on polarization, we draw on three different data sources. First, we establish a baseline corresponding to the effects of spousal

political homogeneity on partisan affect well before the onset of polarization. The baseline data come from the 1965 youth-parent socialization study (Jennings and Niemi, 1974). This study, carried out by the University of Michigan Survey Research Center (ICPSR study 9553, 4037, and 3926), interviewed a representative national sample of 1,669 high school seniors from the graduating class of 1965 (Jennings and Niemi, 1974, Appendix). The study design also included a sample of 430 spousal pairs (all parents of one of the high school seniors). The survey instrument included a number of feeling thermometers directed at partisan targets that provide appropriate indicators of the degree of affective polarization. We also make use of the 1997 panel wave of the Youth-Parent study. This wave comprises a subsample of the initial high school senior generation from 1965 (now in their fifties), matched to their spouses (N=470), as well as a subsample of the 1965 seniors matched to their offspring.

Second, as our post-polarization source of data, we rely on a 2015 survey that replicated key elements of the Youth-Parent study. We surveyed a national sample of 559 heterosexual spousal dyads as well as a national sample of 530 parent-child dyads from the YouGov online panel.<sup>2</sup> The filial generation ranged in age between 18 and 27. These are two independent samples and there are no overlapping triads.<sup>3</sup>

Third, we rely on a set of pre-treatment measures of candidate evaluation derived from a number of field experiments administered in 2015 and 2016. These experiments targeted registered voters in multiple states, and we have data from Missouri, North Carolina, and Ohio, as well as data from a study targeting voters nationwide. Because the researchers exposed multiple individuals from the same household to their treatments, we can construct

---

<sup>2</sup>Each YouGov panelist was given a five dollar incentive to recruit a spouse or a child between 18 and 27. The Human Subjects IRB at the authors' universities approved the survey design (Protocol-34927 and Protocol-15471-EX on June 9, 2015 and July 28, 2015 respectively.

<sup>3</sup>YouGov uses a proprietary matching methodology for delivering online samples that mirror target adult populations on key demographic attributes. In general terms, their approach mimics a random probability sample by taking as the population a large "pool" (panel) of respondents who have agreed to participate in Internet surveys conducted by the survey organization. To ensure that the respondents in the panel are as diverse as possible, they are recruited by multiple means, mostly through different forms of online advertising, but also by telephone-to-web and mail-to-web recruitment.



household-level dyads, emulating in practice the design of the socialization surveys, and enabling an analysis of household-level partisan agreement.

For each field experiment, we select the two oldest household members over the age of 18 of opposite genders with a maximum age difference of 20 years to identify marital pairs. Where available (for Ohio and the national study), we further limit our definition of spousal dyads to those individuals designated as married in the supplementary voter file data.<sup>4</sup> Across all the experiments at our disposal, there are 401 identified spousal pairs who evaluated presidential candidates and 56 pairs that rated the political parties.

Finally, we separately consider an experiment that targeted Latino Republicans in Florida. Given the context of the 2016 election, we anticipate that Latino Republicans experienced strong "cross pressures," given the unusually vitriolic anti-Latino rhetoric emanating from the Trump campaign. For Latino Republicans, their sense of ethnic identity should reduce enthusiasm for the in-party candidate, resulting in lower levels of affective polarization. Hence, any additional reduction in polarization associated with spousal partisan disagreement among Latino households represents an especially robust test of the moderating influence of family diversity.

After documenting the effects of spousal homogeneity in the pre- and post-polarization socialization surveys, and in the field experiments, we next consider the effects of intergenerational agreement. We use the 1965 and 1997 waves of the youth-parent study as well as our 2015 YouGov survey to identify homogeneous and heterogeneous intergenerational dyads. We then assess the effects of parent-offspring agreement on the level of affective polarization.

Our analytic strategy is simple. We assess the effect of dyad-level partisan homogeneity on a set of feeling thermometer items, for which we compute the difference between the in party and the out party evaluation. For each indicator of partisan affect we present the

---

<sup>4</sup>For a similar approach to identifying marital couples from voter files, see Iyengar, Konitzer and Tedin (2017).

relevant “difference in difference” – the difference in the net partisan evaluation between homogeneous and heterogeneous family dyads.<sup>5</sup> The studies under consideration include ratings of Democrats and Republicans, liberals and conservatives, presidential candidates and various groups affiliated with the parties (big business and labor unions in 1965 and 1997, Christians and atheists in 2015). All thermometer ratings are made using either the traditional 100-point format or, in some cases, an abbreviated 10-point format.

As noted above, our empirical test of the “treatment effect” of family heterogeneity on affective polarization is a comparison of the difference in the in- and out-party ratings across homogeneous and heterogeneous family dyads. Our expectations are, first, that individuals in both homogeneous and heterogeneous family dyads will register more polarized evaluations of parties and candidates over time. Second, we anticipate that the increased polarization will be especially pronounced among individuals in homogeneous households. If family diversity is in fact a centripetal force, increases in polarization should be muted among individuals in politically mixed dyads. We carry out this analysis separately for spousal and parent-offspring dyads. In both the survey and experimental data sets, we control for indicators of socio-economic status and length of marriage. In the case of the field experiments, we use reported income and age (as a proxy for length of marriage) as covariates; in the case of the surveys, we include education and actual length of marriage.

In contrast to the effects of family homogeneity that may arise in the case of the inter-generational dyads, selection effects are a major rival explanation for reduced polarization in mixed-marriage households. Spouses who select into politically homogeneous relationships may already hold more extreme evaluations of political opponents than those who do not. We would expect prospective spouses who are polarized in terms of affect to consider partisan identification a more important compatibility test in mating than those who are less

---

<sup>5</sup>Results are based on means conditional on length of marriage and education in the survey data and conditional on age in the field experiment data.

polarized. With cross-sectional data, we cannot fully rule out this rival hypothesis. What we can do, however, is construct a number of spousal pairs consisting of one spouse in a heterogeneous dyad and another in a homogeneous dyad that are matched to each other as closely as possible on a number of observable covariates. If the pattern of strengthened polarization in homogeneous spousal pairs persists after matching, we can have greater confidence in the inference that family homogeneity is a polarizing influence.

To carry out the matching analysis, we turn to our 2015 survey data which includes a rich set of covariates, and make use of genetic matching (Diamond and Sekhon, 2013). Under genetic matching, treated and non-treated observations with a similar propensity of treatment contingent on the joint distribution of covariates are matched on a pairwise basis. The outcome variable of interest is then compared across the range of pairs for treated and non-treated observations. Of course, the analysis is limited to the subsample of pairs that can be matched.

Genetic matching relies on a generalized form of Mahalanobis Distance (Diamond and Sekhon, 2013), that minimizes the multivariate distance between appropriate covariates associated with the pairs under comparison. The procedure improves overall covariate balance and guarantees asymptotic convergence to the optimal matched sample. Conceptually, variables to be included in the genetic matching algorithm should predict exposure to treatment, and also predict strong partisan affect. For example, if the algorithm matched a conservative with high scores on racial resentment to a moderate with low scores on racial resentment, differences in treatment, exposure to a heterogeneous marriage, is likely not random with respect to the outcome: it is feasible that our conservative, racially resentful respondent selected into a homogeneous marriage *because* she holds more polarized views of parties, groups and politicians. If, however, we pair a conservative and resentful individual with another conservative with similar racial attitudes, then in expectation treatment among this pair is random with respect to the outcome (the selection on observables assumption).

In our case, the vector of covariates we enter into the algorithm includes party identification – it is reasonable to assume that staunch partisans are more likely to select into homogeneous marriages *because* they already have more polarized views of political groups. We also match on ideology – those ideologically more extreme should also be more likely to select into homogeneous marriages and hold polarized views of groups. A third relevant covariate is length of marriage – those who are married longer might have converged on their partisan attitudes because one spouse holds particularly polarized views of political groups.

Finally, we also use gender – women might place less emphasis on partisanship in mate selection (Iyengar, Konitzer and Tedin, 2017), while also displaying more moderate evaluations of political figures, two latent traits corresponding to racial resentment and policy preferences – racially resentful respondents might be more selective in mating while holding more polarized views of political groups, and those with extreme issue preferences might likewise be more selective in mating *and* polarized, and frequency of political discussion – it is reasonable to assume that those interested in politics are more apt to select into homogeneous marriages while also holding more polarized attitudes.<sup>6</sup>

We then use the matched sample to estimate the Average Treatment Effect of the Treated (ATT), i.e. the observed central tendency of those treated under treatment minus the unobserved central tendency of those in a non-treated (counter-factual) condition. In more formal terms:

$$\tau|(T = 1) = E(Y_{i,1}|T = 1) - E(Y_{i,0}|T = 1) \tag{1}$$

Where  $\tau$  denotes the ATT, the subscripts denote individuals and treatment condition, and T refers to the treated.

---

<sup>6</sup>The full set of variables is described in the Appendix. As recommended in Diamond and Sekhon (2013), we enter these variables separately into the algorithm, but also include a propensity of treatment that is derived from fitted values of a logistic regression of treatment, i.e. having a politically heterogeneous marriage, on the same set of variables such that the genetic matching algorithm can search over all combinations of raw Mahalanobis Distances and treatment propensities and find the optimal combination.

# Results

## Spousal Dyads

We begin by comparing the net in- and out-party ratings across homogeneous and heterogeneous spousal pairs, noting that the party feeling thermometers represent the most direct indicator of partisan affect. Because the 1965 socialization survey lacked thermometers targeting parties, our analysis here is restricted to the 1997 wave of the youth-parent survey, our 2015 survey, and the 2016 field experiments.

Aggregating across both sets of dyads, polarization increased substantially between 1997 and 2015. However, as shown in Figure 1, almost all the increase occurred among members of homogeneous spousal dyads. For this group, the net party rating more than doubled between 1997 and 2015. Individuals in heterogeneous dyads, although more polarized in 2015 than in 1997, underwent only modest movement.

Next, we turn to the question of whether increased polarization over time is attributable to increased in-group favoritism or heightened hostility toward the out group. In Figure 1, we show the separate thermometer ratings for the in and out party, respectively. It is clear that increased polarization stems primarily from downward movement in the thermometer rating of the out party. The mean drops from 41.73 in 1997 to 17.96 in 2015 for spouses in politically homogeneous marriages, and – to a lesser extent – from 46.27 to 31.27 for spouses in heterogeneous marriages. Consistent with the longitudinal data on the question (see Iyengar, Sood and Lelkes, 2012), partisans’ favorable ratings of fellow partisans have remained generally stable between 1997 and 2015. The steep decline in the ratings of the out party is concentrated among individuals in homogeneous households. Quite strikingly, the 1997-2016 difference in the out party thermometer score is not significant for individuals in heterogeneous spousal pairs.

We turn next to polarization in ratings of presidential candidates. As in the case of the

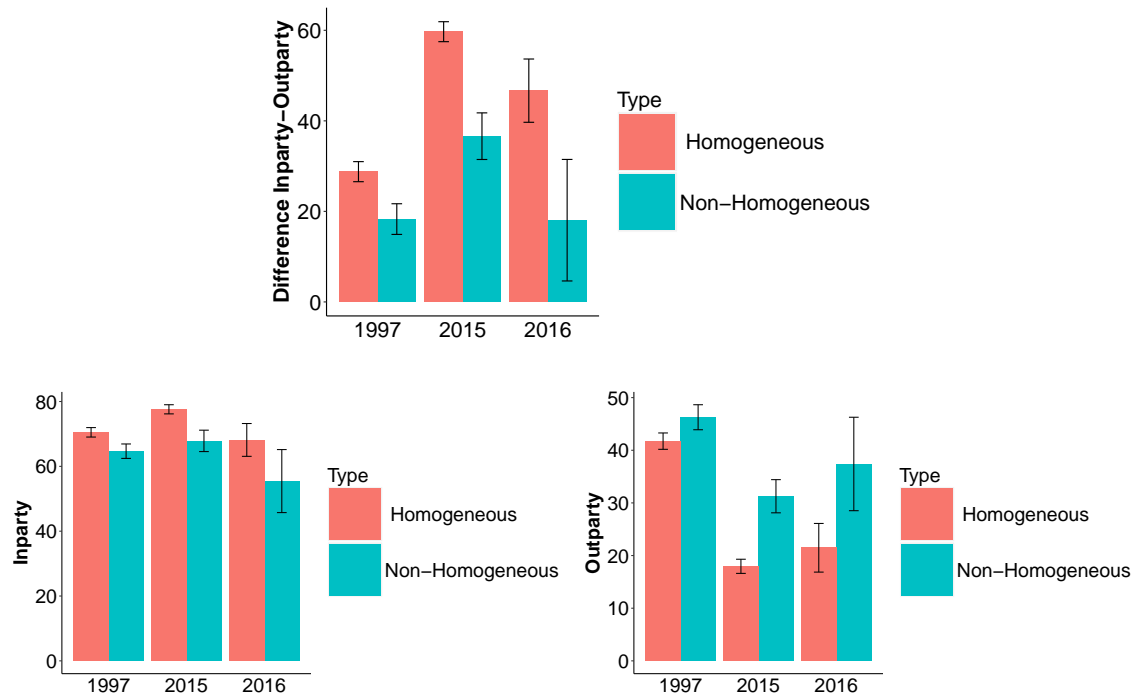


Figure 1: Net (In-Out) Party (upper panel), In-Party (bottom left Panel) and Out-Party (bottom right panel) Ratings for Homogeneous and Heterogeneous Spousal Pairs

party ratings, polarized evaluations of the candidates rose substantially post-1997 among individuals in both homogeneous and heterogeneous dyads (see Figure 2).<sup>7</sup> While the gap in affective polarization, i.e. the difference between the in- and out-candidate rating, across homogeneous and non-homogeneous pairs was sizable even in 1997 (6.68 points), it jumped dramatically in 2015 to 26.3 points, with a similar gain in 2016 registered among respondents in the field experiments (20.34 points).

Once again, we can address the question of whether increased polarization reflects movement in favoritism for the in group, or hostility toward the out group. As shown in Figure 2, increased polarization stems primarily from downward movement in the thermometer rating of the out candidate. The mean drops precipitously from 36.89 in 1997 to 9.52 in 2015 for spouses in politically homogeneous marriages. In the case of spouses in heterogeneous marriages, the fall in the out-party rating is not as massive, from 43.66 to 21.96. Replicating the pattern of the party ratings, partisans' favorable ratings of the in candidate remained generally stable between 1997 and 2016.

---

<sup>7</sup>Note that we have no appropriate candidate-related measures from the 1965 wave of the socialization study.

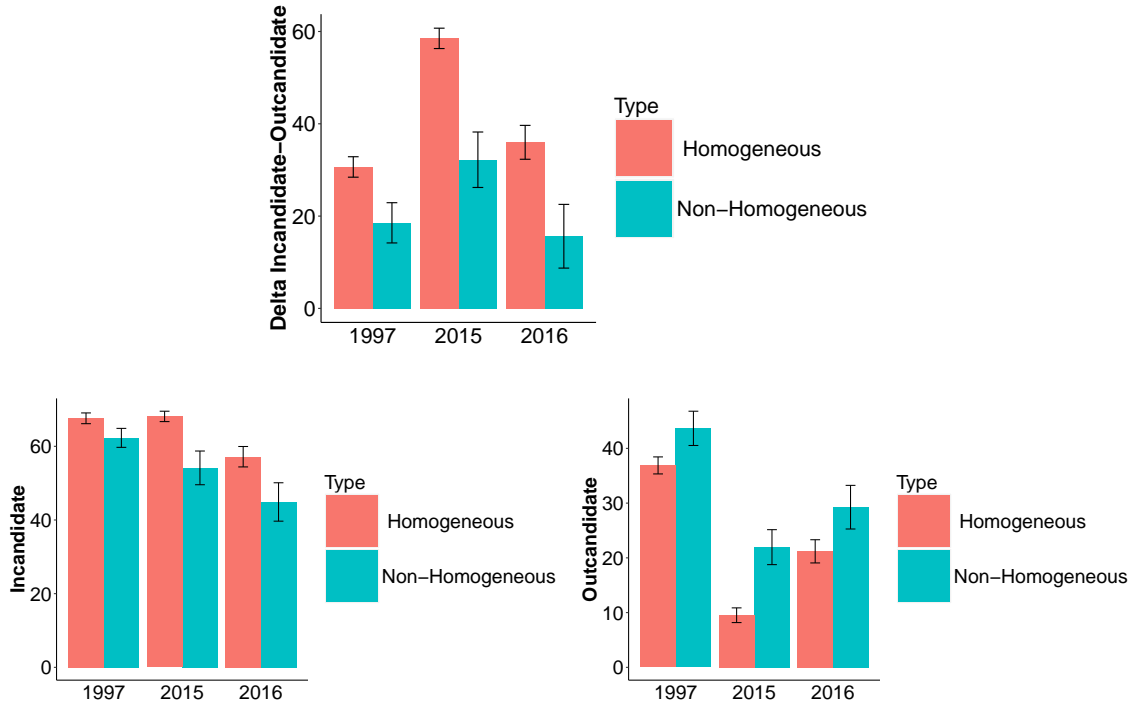


Figure 2: Net (In-Out) Candidate (upper panel), In-Candidate (bottom left Panel) and Out-Candidate (bottom right panel) Ratings for Homogeneous and Heterogeneous Spousal Pairs

As our third indicator of partisan affect, we turn to evaluations of groups loosely affiliated with the parties. As shown in Figure 3, polarized evaluations of partisan groups increased post-1997 among individuals in both homogeneous and heterogeneous dyads. The relevant difference-in-difference moves from -0.36 (i.e. virtually no difference between homogeneous and heterogeneous pairs) to 6.29 points in 1997, before peaking at 16.84 points in 2015. As with the party and candidate ratings, the increased polarization over time is far more pronounced among individuals in homogeneous spousal pairs. These individuals underwent a steady increase in polarization between 1965 and 1997, and 1997 and 2015. For individuals in mixed pairs, there is no change at all between 1965 and 1997, and only modest change thereafter.

The group evaluations further confirm that the trend in polarization occurs because of



changes in out group animus rather than in group favoritism. It is hostility toward the out group that also accounts for the difference in the temporal pattern between homogeneous and heterogeneous spousal pairs. Among individuals exposed to diversity in the home, the rating of the out group shows only modest change between 1965 and 1997, and no change between 1997 and 2015.

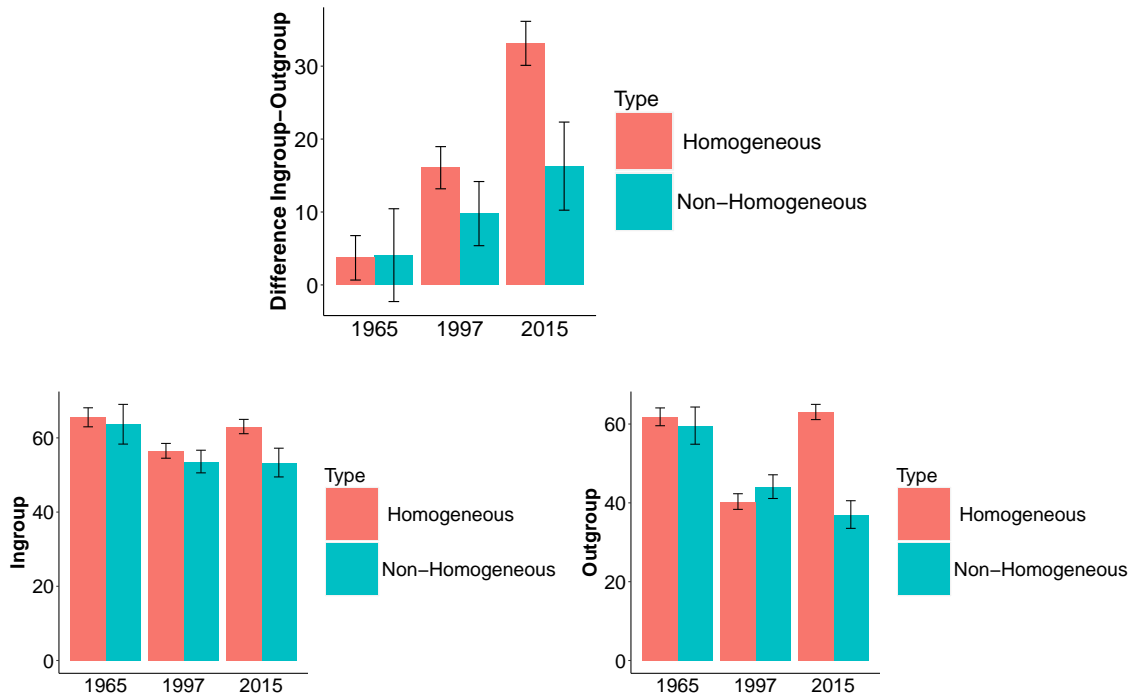


Figure 3: Net (In-Out) Group (upper Panel), In-Group (bottom left Panel) and Out-Group (bottom right panel) Ratings for Homogeneous and Heterogeneous Spousal Pairs

Our final analysis of spousal agreement focuses on Latino Republicans in the state of Florida. As we noted at the outset, this group provides an especially strong test of the network homogeneity hypothesis because they were subject to strong cross pressures once their party nominated Donald Trump, whose inflammatory rhetoric on immigration was widely interpreted as anti-Latino. We therefore expect less than enthusiastic support for the in-party candidate among Latinos, thus dampening the potential effects of family networks on polarization.

Despite the conflict between their ethnic and partisan identity, Latino Republicans conformed to the established pattern; they displayed very powerful effects of family agreement. As shown in Appendix 1, the net party thermometer rating is 24.33 points larger for homogeneous spousal pairs (57.24 versus 32.91). In the case of the candidate ratings, the difference is equally large (54.45 vs. 25.56). Interestingly, as predicted by the cross pressure hypothesis, most of the difference in the net candidate ratings originates in evaluations of Hillary Clinton, i.e. the out group. Latino Republicans subject to family disagreement rate Trump only somewhat less favorably than those in homogeneous settings – by 16 points (36.00 vs. 52.11). However this same difference in the Clinton thermometer rating is 27.61 rating points (45.50 vs. 17.89). This study thus corroborates, under relatively stringent conditions, the polarizing effects of family homogeneity.

## **Intergenerational Dyads**

We turn next to the consideration of intergenerational agreement. Does disagreement between parents and offspring foster less affective polarization? As in the case of the spousal analysis, we begin by comparing the difference in the ratings for the in and out party across homogeneous and heterogeneous intergenerational pairs, relying on the survey data from 1997 and 2015 (see Figure 4). Differences in polarization between homogeneous and heterogeneous dyads were non-significant in 1997 (4.94 points), but increased nearly ten fold by 2015 to 41.26 points. This spectacular increase in polarized evaluations of the parties is concentrated within homogeneous parent-offspring pairs, so much so that by 2015, individuals in homogeneous dyads are nearly three times more polarized as their counterparts from heterogeneous family dyads.

Unlike the pattern uncovered in the spousal data, increased polarization over time among the intergenerational pairs reflects movement in both the in and out party evaluations. As shown in Figure 4, parents and offspring who see eye to eye become significantly more enthusiastic toward their party in 2015 (the in-party mean moves from 68.40 to 77.01). Of

course, these individuals also display the now familiar pattern of increased hostility toward the out party; the mean thermometer score for the out party drops sharply from 45.03 in 1997 to 22.84 in 2015.

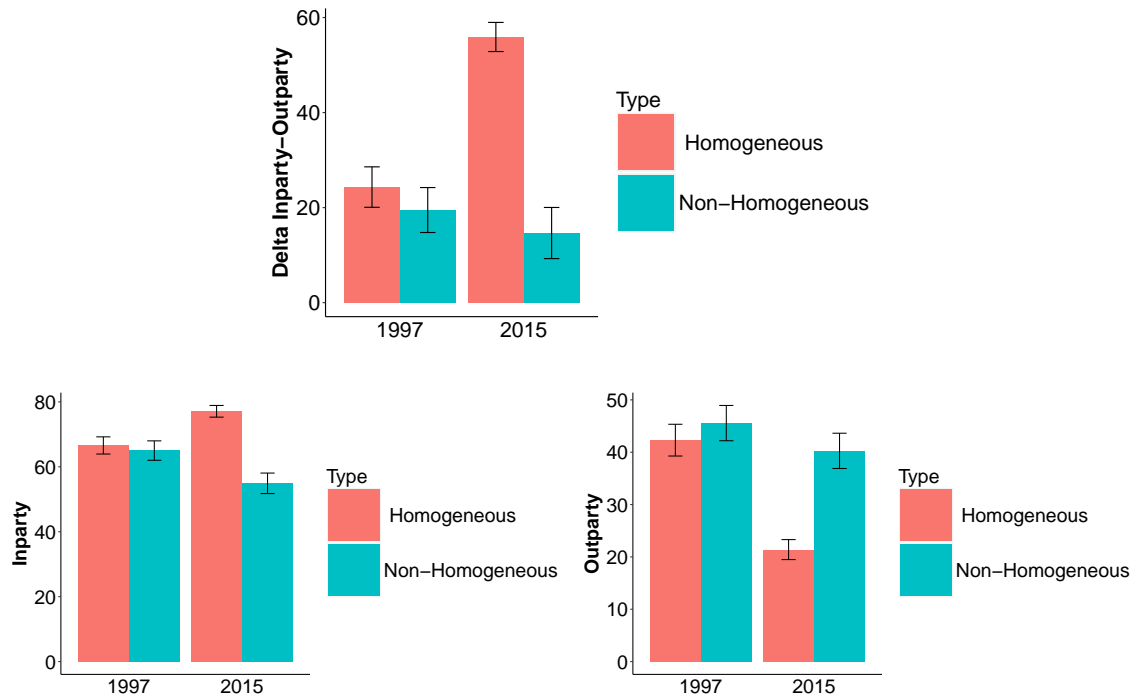


Figure 4: Net Party (in-Out) (upper Panel), In-Party (bottom left panel) and Out-Party (bottom right panel) Rating for Homogeneous and Heterogeneous Intergenerational Pairs

Turning to the candidate evaluations, similar dynamics emerge, as shown in Figure 5. There was a negligible difference in polarization between homogeneous and heterogeneous dyads in 1997. By 2015, however, the difference is pronounced, moving from 7.28 points to 39.24 points. Almost all the increase in the net candidate ratings is due to more unfavorable evaluations of the opposing candidate. Increased hostility toward the opposition is, once again, far more intense when parents and offspring agree.

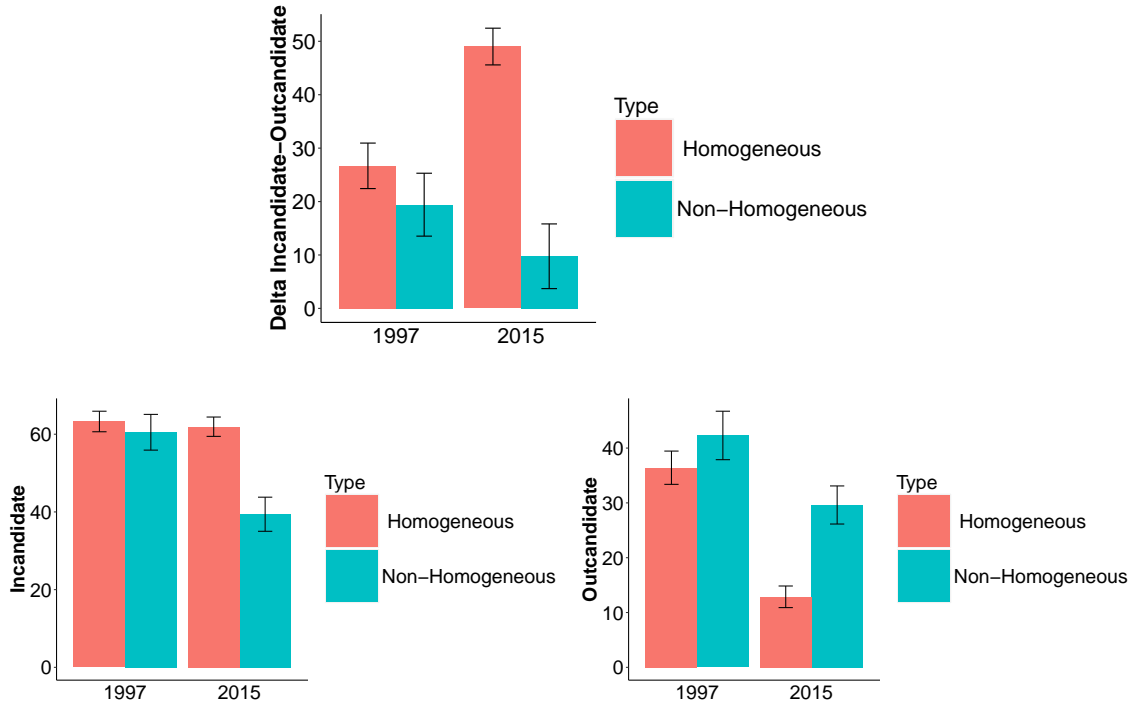


Figure 5: Net Candidate (in-Out) (upper Panel), In-Candidate (bottom left panel) and Out-Candidate (bottom right panel) Rating for Homogeneous and Heterogeneous Intergenerational Pairs

We turn next to evaluations of groups associated with the parties. As shown in Figure 6, there is a steep rise in polarized evaluations between 1965 and 2015, with the now familiar pattern of concentrated change among homogeneous pairs. While the difference between the homogeneous and heterogeneous family pairs in the in and out group ratings amounted to only 3.90 points in 1965, it increased slightly to 5.38 in 1997, and then surged to 12.78 points in 2015. Interestingly, in the case of the group evaluations, the homogeneous parent-offspring pairs are even more polarized than the homogeneous spousal pairs.

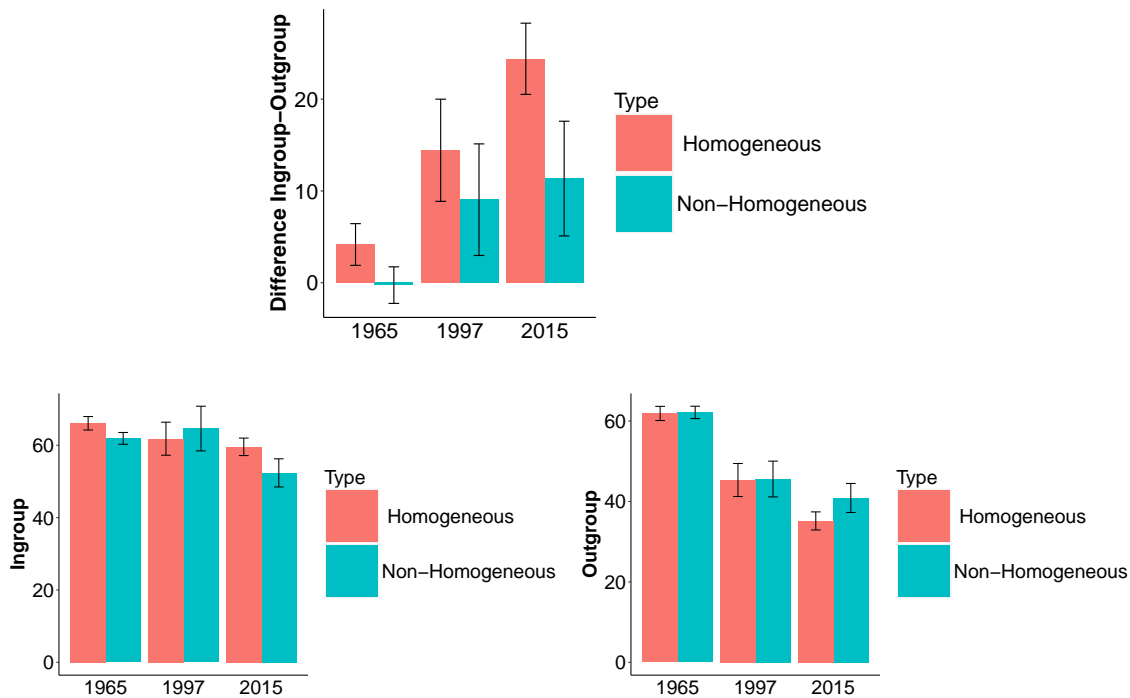


Figure 6: Net Group (in-Out) (upper Panel), In-Group (bottom left panel) and Out-Group (bottom right panel) Rating for Homogeneous and Heterogeneous Intergenerational Pairs

## Selection Effects

Despite the remarkable stability of our results, and the successful replication across multiple data sets, the finding of greater polarization within homogeneous families may reflect not the moderating influences of network diversity, but a selection bias instead. Individuals with more polarized attitudes may be attracted to mates whose views are compatible. In an attempt to neutralize possible selection effects, we use genetic matching and compute the Average Treatment Effect among the Treated (ATT), i.e. the estimated causal effect of heterogeneous marriage on our outcomes of interest<sup>8</sup>

<sup>8</sup>Balance statistics are included in the Appendix.

Table 1: ATT for Members of Heterogeneous Marriages after Matching

Outcome	In Group	Out Group	Diff	Incan	Outcan	Diff	Inpar	Outpar	Diff
ATT	-0.51	-0.71	0.2	-8.05	5.07	-13.12	-4.86	8.32	-13.18
Abadie-Imbens SE	3.14	3.49	5.14	3.46	2.82	4.66	2.46	2.56	3.89
P-Value	0.87	0.84	0.97	0.02	0.08	0.00	0.05	0.00	0.00
N	914	914	914	914	914	914	914	914	914
N Treated	125	125	125	125	125	125	125	125	125
N Matched	125	125	125	125	125	125	125	125	125

After matching, the difference between homogeneous and heterogeneous spousal pairs in polarized evaluations of the parties and candidates persists, as shown in Table 1. Partisans in heterogeneous spousal dyads are significantly more positive toward the out party (by 8.32 points), and the resulting difference in the net party rating is significantly reduced (by 13.18 points). Similarly, individuals in heterogeneous dyads express less enthusiastic feelings for the in candidate (-8.05 points) resulting in a significantly smaller net candidate rating (by 13.12 points). However, in the case of the thermometer ratings of groups affiliated with the parties, the differences in the group ratings between homogeneous and heterogeneous dyads do not survive the matching analysis.

Overall, the matching results do not support the interpretation that the persistent differences in the attitudinal profile of spouses in homogeneous versus heterogeneous relationships is a product of individuals with polarized attitudes seeking out like-minded spouses and vice-versa. Matching spousal pairs on a number of attributes, including some associated with more polarized evaluations of partisan figures, does not significantly attenuate the difference in polarization between homogeneous and heterogeneous spousal pairs.

## Discussion

In our experience, it is unusual to observe differences of this scale in the behavioral sciences. In several instances, the order of magnitude of the difference in polarization be-

tween similar and dissimilar family pairs exceeded 200 percent! Even more unusual is the fact that our results survived multiple replications spanning different research designs, electoral contexts, and survey indicators of partisan affect. While we acknowledge the causal threat posed by selection effects, i.e. potential spouses with polarized attitudes selecting into homogeneous marriages, the matching analysis does little to bolster this alternative explanation.<sup>9</sup> In total, the story line is unmistakable; political disagreement within family relations discourages extreme evaluations of in and out groups, thus alleviating polarization.

Of course, documenting the powerful effects of family diversity on partisan affect begs the question of what exactly is the mechanism through which exposure to disagreement moderates individuals' evaluations of the parties. One possibility is that domestic tranquility requires the expression of opinions that respect the positions of significant others, making individuals more tolerant and accepting of disagreement. Alternatively, as suggested by the classic "contact" hypothesis (Allport, 1954; Pettigrew, 1998, 1997), valued inter-personal relations that cut across the party divide may serve to weaken negative stereotypes of the out group; for contrary evidence, however, see Enos (2014). Yet another possible mechanism, also suggested by previous research (Mutz, 2006), is that inter-personal contact heightens awareness of the values and arguments underlying the preferences of out party supporters, making the party appear less threatening. All these mediating mechanisms appear to be contingent on exposure to the opponent's point of view; we would anticipate, accordingly, that the effects of family diversity on partisan evaluations will be enlarged when family members frequently converse about public affairs.

While our results imply that cross-party family ties are a potential antidote to polarization, it is important to keep in mind that this "treatment" only impacts a relatively small swath of American partisans. The most recent data on inter-marriage indicate that less

---

<sup>9</sup>Although while matching might tackle the selection problem more appropriately than parametric regression analyses, we note that the identification assumption remains selection-on-observables.

than twenty percent of partisans are exposed to disagreement. The likelihood that partisans' children will diverge on political grounds is similarly remote; in a 2015 survey, 74.2 percent of parent-offspring dyads agreed on their partisan affiliation (Iyengar, Konitzer and Tedin, 2017). The critical question, therefore, concerns the ways in which society can lower the barriers to social exchange across the party divide.

In theory, one solution to the problem of politically homogeneous networks is to weaken individuals' ability to signal their political affiliation. If all participants in the marriage or dating market were "blind" to partisan affiliation, partner selection would be driven primarily by non-political attributes. Rational "sellers" should deliberately conceal their political views when seeking out potential mates. In fact, the evidence from online dating sites suggests that most users of these sites behave strategically: they choose to remain silent about their political attitudes. Research into the content of online daters' personal profiles shows that less than fifteen percent of online daters provided information about their "political interests" and when they did reference politics in their personal profile, they identified themselves as "middle of the road" (Klofstad, McDermott and Hatemi, 2012). This same study shows, revealingly, that online daters are more willing to divulge their weight than their political preferences.

Online databases provide opportunities for people to sort into relationships on the basis of attributes extraneous to partisanship. Since some twenty percent of single individuals report using online dating sites, technology might be a tool for dampening polarization. Yet, as Huber and Malhotra (2017) have recently demonstrated, individuals manage to unearth information about their prospective partner's political views despite the lack of transparency; so much so, that political ideology is the strongest predictor of successful online match making. The motivation to find a politically compatible mate is sufficient to overcome online daters' lack of transparency about their politics.

In closing, our results show that partisan attitudes are distinctly less polarized when close



inter-personal ties are not based on the criterion of political similarity. For those seeking to reduce animus and conflict across party lines, it is important to design meeting places or platforms on which people become less focused on questions of political identity as an important basis for their inter-personal relations.

## References

- Abelson, Robert P. 1979. "Social clusters and opinion clusters." *Perspectives in social network research* pp. 239–256.
- Abramowitz, Alan. 2010. *The disappearing center: Engaged citizens, polarization, and American democracy*. Yale University Press.
- Allport, Gordon W. 1954. *The nature of prejudice*. Basic books.
- Asch, Solomon E and H Guetzkow. 1951. "Effects of group pressure upon the modification and distortion of judgments." *Groups, leadership, and men* pp. 222–236.
- Axelrod, Robert. 1997. "The dissemination of culture: A model with local convergence and global polarization." *Journal of conflict resolution* 41(2):203–226.
- Baldassarri, Delia and Peter Bearman. 2007. "Dynamics of political polarization." *American sociological review* 72(5):784–811.
- Bienenstock, Elisa Jayne, Phillip Bonacich and Melvin Oliver. 1990. "The effect of network density and homogeneity on attitude polarization." *Social Networks* 12(2):153–172.
- Bogardus, Emory S. 1925. "Social Distance and Its Origins." *Journal of Applied Sociology* 9:216–226.
- Bonica, Adam, Adam S Chilton and Maya Sen. 2015. "The Political Ideologies of American Lawyers." *Journal of Legal Analysis* 8(2):277–335.
- Brown, Rupert and Miles Hewstone. 2005. "An integrative theory of intergroup contact." *Advances in experimental social psychology* 37:255–343.

- Chen, Jowei and David Cottrell. 2016. "Evaluating partisan gains from Congressional gerrymandering: Using computer simulations to estimate the effect of gerrymandering in the US House." *Electoral Studies* 44:329–340.
- Chen, Jowei, Jonathan Rodden et al. 2013. "Unintentional gerrymandering: Political geography and electoral bias in legislatures." *Quarterly Journal of Political Science* 8(3):239–269.
- Diamond, Alexis and Jasjeet S Sekhon. 2013. "Genetic matching for estimating causal effects: A general multivariate matching method for achieving balance in observational studies." *Review of Economics and Statistics* 95(3):932–945.
- DiPrete, Thomas A and Jennifer L Jennings. 2012. "Social and behavioral skills and the gender gap in early educational achievement." *Social Science Research* 41(1):1–15.
- Enos, Ryan D. 2014. "Causal effect of intergroup contact on exclusionary attitudes." *Proceedings of the National Academy of Sciences* 111(10):3699–3704.
- Fiorina, Morris P, Samuel J Abrams and Jeremy C Pope. 2005. "Culture war." *The myth of a polarized America* .
- Huber, Gregory A and Neil Malhotra. 2017. "Political homophily in social relationships: Evidence from online dating behavior." *The Journal of Politics* 79(1):269–283.
- Huckfeldt, Robert, Paul E Johnson and John Sprague. 2002. "Political environments, political dynamics, and the survival of disagreement." *The Journal of Politics* 64(1):1–21.
- Huckfeldt, Robert, Paul E Johnson and John Sprague. 2004. *Political disagreement: The survival of diverse opinions within communication networks*. Cambridge University Press.
- Iyengar, Shanto, Gaurav Sood and Yphtach Lelkes. 2012. "Affect, Not Ideology – A Social Identity Perspective on Polarization." *Public opinion quarterly* 76(3):405–431.

- Iyengar, Shanto and Sean J Westwood. 2015. "Fear and loathing across party lines: New evidence on group polarization." *American Journal of Political Science* 59(3):690–707.
- Iyengar, Shato, Tobias B. Konitzer and Kent Tedin. 2017. "The home as a political fortress: Family agreement in an era of polarization."
- Jennings, M Kent, Laura Stoker and Jake Bowers. 2009. "Politics across generations: Family transmission reexamined." *The Journal of Politics* 71(3):782–799.
- Jennings, M Kent and Richard Niemi. 1974. "The political character of adolescents." *Princeton, NJ*.
- Katz, Elihud and Paul Felix Lazarsfeld. 1955. *Personal influence: the part played by people in the flow of mass communications*. Glencoe, Ill: Free Press.
- Klofstad, Casey A, Rose McDermott and Peter K Hatemi. 2012. "Do bedroom eyes wear political glasses? The role of politics in human mate attraction." *Evolution and Human Behavior* 33(2):100–108.
- Lazarsfeld, Paul Felix, Bernard Berelson and Hazel Gaudet. 1948. "The peoples choice: how the voter makes up his mind in a presidential campaign."
- McPherson, Miller, Lynn Smith-Lovin and James M Cook. 2001. "Birds of a feather: Homophily in social networks." *Annual review of sociology* 27(1):415–444.
- Muste, Christopher P. 2014. "Reframing polarization: Social groups and culture wars." *PS: Political Science & Politics* 47(2):432–442.
- Mutz, Diana C. 2002. "Cross-cutting social networks: Testing democratic theory in practice." *American Political Science Review* 96(1):111–126.

- Mutz, Diana C. 2006. *Hearing the other side: Deliberative versus participatory democracy*. Cambridge University Press.
- Mutz, Diana C and Jeffery J Mondak. 2006. "The workplace as a context for cross-cutting political discourse." *Journal of politics* 68(1):140–155.
- Pettigrew, Andrew M. 1990. "Longitudinal field research on change: Theory and practice." *Organization science* 1(3):267–292.
- Pettigrew, Thomas F. 1997. "Generalized intergroup contact effects on prejudice." *Personality and social psychology bulletin* 23(2):173–185.
- Pettigrew, Thomas F. 1998. "Intergroup contact theory." *Annual review of psychology* 49(1):65–85.
- Pettigrew, Thomas F and Linda R Tropp. 2000. "Does intergroup contact reduce prejudice? Recent meta-analytic findings." *Reducing prejudice and discrimination* 93:114.
- Putnam, Robert D. 2001. *Bowling alone: The collapse and revival of American community*. Simon and Schuster.
- Rico, Guillem and M Kent Jennings. 2016. "The Formation of Left-Right Identification: Pathways and Correlates of Parental Influence." *Political Psychology* 37(2):237–252.
- Schkade, David, Cass R Sunstein and Reid Hastie. 2010. "When deliberation produces extremism." *Critical Review* 22(2-3):227–252.
- Sheagley, Geoffrey. forthcoming. "The effect of cross-cutting partisan debates on political decision-making." *Party Politics* .
- Skocpol, Theda. 2013. *Diminished democracy: From membership to management in American civic life*. Vol. 8 University of Oklahoma press.

Sunstein, Cass R and Reid Hastie. 2015. *Wiser: Getting beyond groupthink to make groups smarter*. Harvard Business Press.

Tajfel, Henri. 1970. "Experiments'in'intergroup'discrimination." *Scientific American* 223:96–102.

Tajfel, Henri and J. C. Turner. 1979. *An integrative theory of intergroup conflict*. Brooks/Cole pp. 33–47.

Westwood, Sean J, Shanto Iyengar, Stefaan Walgrave, Rafael Leonisio, Luis Miller and Oliver Strijbis. 2017. "The tie that divides: Cross-national evidence of the primacy of partyism." *Unpublished paper* .



## Appendix 1: Raw Thermometer scores

Thermometer	Dem – Dem	Rep – Rep	Dem – Rep	Dem – Ind	Rep – Ind	Ind – Ind
<b>1965</b>						
Labor Unions	64.95 (N=388)	44.92 (N=200)	57.52 (N=94)	62.25 (N=66)	50.36 (N=54)	63.38 (N=20)
Big Business	62.13 (N=388)	62.96 (N=200)	61.87 (N=94)	61.70 (N=66)	70.70 (N=54)	71.26 (N=20)
<b>1997</b>						
Democrats	70.25 (N=287)	39.56 (N=299)	55.61 (N=163)	56.60 (N=72)	44.43 (N=61)	51.43 (N=7)
Republicans	44.18 (N=287)	70.17 (N=299)	56.98 (N=162)	46.48 (N=71)	59.10 (N=61)	51.43 (N=7)
Bill Clinton	67.30 (N=286)	29.67 (N=299)	52.55 (N=165)	56.61 (N=72)	39.96 (N=63)	37.86 (N=7)
Bob Dole	44.51 (N=284)	66.67 (N=297)	55.86 (N=163)	45.49 (N=71)	53.80 (N=62)	52.86 (N=7)
Liberals	61.43 (N=281)	32.06 (N=296)	49.53 (N=160)	49.28 (N=69)	43.45 (N=60)	48.57 (N=7)
Conservatives	43.34 (N=280)	69.76 (N=299)	55.18 (N=163)	51.88 (N=69)	58.23 (N=61)	57.14 (N=7)
Labor Unions	59.72 (N=279)	38.44 (N=290)	48.48 (N=159)	54.96 (N=71)	43.69 (N=58)	57.5 (N=6)
Big Business	43.99 (N=284)	52.83 (N=293)	49.89 (N=161)	45.57 (N=70)	46.27 (N=59)	44.29 (N=7)
<b>2015</b>						
Democrats	80.46 (N=366)	18.10 (N=490)	57.03 (N=64)	56.11 (N=56)	24.69 (N=83)	32.08 (N=62)
Republicans	17.42 (N=366)	76.05 (N=480)	50.48 (N=64)	31.96 (N=56)	59.55 (N=83)	46.36 (N=62)
Hillary Clinton	79.11 (N=342)	6.95 (N=493)	46.94 (N=64)	54.5 (N=56)	13.25 (N=83)	29.10 (N=62)
Donald Trump	9.06 (N=341)	65.14 (N=496)	30.67 (N=64)	21.84 (N=56)	54.04 (N=83)	41.56 (N=62)
Atheists	57.29 (N=341)	29.22 (N=496)	45.38 (N=64)	41.05 (N=56)	30.23 (N=84)	31.98 (N=60)
Evangelical Christians	29.11 (N=342)	67.89 (N=495)	50.30 (N=64)	37.84 (N=56)	61.46 (N=82)	46.74 (N=62)
<b>2016</b>						
Democrats	69.40 (N=52)	24.04 (N=26)	61.13 (N=8)	39.08 (N=12)	35.00 (N=8)	25.25 (N=4)
Republicans	21.19 (N=52)	60.69 (N=26)	35.75 (N=8)	37.00 (N=12)	54.60 (N=8)	25.25 (N=4)
Obama/Clinton	71.22 (N=296)	23.96 (N=163)	53.41 (N=61)	53.38 (N=111)	53.22 (N=79)	64.56 (N=32)
Trump	19.80 (N=296)	57.53 (N=163)	34.82 (N=61)	26.91 (N=111)	30.95 (N=79)	18.28 (N=32)

Table 2: Mean thermometer scores for Spousal Pairs with Varying Political Make Up



Thermometer	Dem – Dem	Rep – Rep	Dem – Rep	Dem – Ind	Rep – Ind	Ind – Ind
<b>1965</b>						
Labor Unions	65.50 (N=624)	51.17 (N=502)	62.16 (N=638)	62.12 (N=186)	56.42 (N=166)	57.33 (N=62)
Big Business	62.61 (N=624)	62.40 (N=502)	63.09 (N=638)	64.76 (N=186)	63.08 (N=166)	57.11 (N=62)
<b>1997</b>						
Democrats	68.12 (N=92)	43.58 (N=97)	57.84 (N=100)	60.33 (N=48)	46.00 (N=45)	49.33 (N=15)
Republicans	46.48 (N=91)	68.68 (N=100)	58.93 (N=100)	44.47 (N=49)	59.26 (N=47)	48.00 (N=15)
Bill Clinton	68.59 (N=96)	33.89 (N=102)	52.47 (N=101)	53.94 (N=52)	39.6 (N=50)	52.56 (N=16)
Bob Dole	44.38 (N=89)	62.99 (N=101)	54.43 (N=101)	44.39 (N=49)	55.90 (N=48)	62.21 (N=14)
Liberals	61.89 (N=91)	41.12 (N=98)	53.43 (N=98)	52.40 (N=48)	46.24 (N=45)	46.07 (N=14)
Conservatives	45.49 (N=90)	70.08 (N=97)	58.08 (N=98)	45.74 (N=47)	60.37 (N=43)	53.00 (N=15)
Labor Unions	62.21 (N=82)	45.37 (N=89)	55.72 (N=93)	67.74 (N=46)	48.64 (N=45)	51.89 (N=16)
Big Business	47.89 (N=85)	52.91 (N=100)	48.86 (N=99)	43.94 (N=47)	51.88 (N=48)	45.33 (N=15)
<b>2015</b>						
Democrats	79.65 (N=380)	22.59 (N=254)	54.21 (N=108)	60.19 (N=80)	27.36 (N=58)	43.61 (N=70)
Republicans	23.09 (N=383)	74.38 (N=253)	48.55 (N=108)	31.71 (N=78)	62.33 (N=57)	42.90 (N=70)
Hillary Clinton	77.08 (N=384)	15.29 (N=252)	44.531 (N=108)	57.42 (N=79)	13.26 (N=58)	40.80 (N=69)
Donald Trump	17.78 (N=381)	58.04 (N=254)	40.81 (N=108)	28.48 (N=79)	53.71 (N=58)	33.59 (N=70)
Atheists	53.10 (N=382)	34.75 (N=253)	44.30 (N=108)	52.11 (N=79)	30.72 (N=58)	45.97 (N=70)
Evangelical Christians	36.80 (N=380)	66.02 (N=254)	50.66 (N=108)	40.70 (N=79)	55.55 (N=58)	44.61 (N=70)

Table 3: Mean thermometer scores for Intergenerational Dyads with Varying Political Make Up

Therm	Ingrp	Outgrp	Diff	Incan	Outcan	Diff	Inpar	Outpar	Diff
<b>Validation</b>									
Homogeneous	NA	NA	NA	66.85	12.40	54.45	74.91	18.93	57.24
Heterogeneous	NA	NA	NA	45.35	19.79	25.56	52.63	28.33	32.91
<b>1965</b>									
Homogeneous	65.54	61.83	3.72	NA	NA	NA	NA	NA	NA
Heterogeneous	63.68	59.60	4.08	NA	NA	NA	NA	NA	NA
<b>1997</b>									
Homogeneous	56.51	40.33	16.07	67.60	36.89	30.65	70.50	41.73	28.77
Heterogeneous	53.62	44.11	9.78	62.29	43.66	18.54	64.68	46.27	18.30
<b>2015</b>									
Homogeneous	63.06	63.05	33.13	68.12	9.52	58.51	77.60	17.96	59.69
Heterogeneous	53.35	37.03	16.29	54.15	21.96	32.21	67.85	31.27	36.61
<b>2016</b>									
Homogeneous	NA	NA	NA	57.18	21.19	35.98	68.15	21.48	46.67
Heterogeneous	NA	NA	NA	44.89	29.56	15.64	55.45	37.40	18.05

Table 4: Mean Thermometer Scores for Politically Homogeneous and Heterogeneous Spousal Pairs

Therm	Ingrp	Outgrp	Diff	Incan	Outcan	Diff	Inpar	Outpar	Diff
<b>Validation</b>									
Homogeneous	NA	NA	NA	66.85	12.40	54.45	74.91	18.93	57.24
Heterogeneous	NA	NA	NA	45.35	19.79	25.56	52.63	28.33	32.91
<b>1965</b>									
Homogeneous	65.54	61.83	3.72	NA	NA	NA	NA	NA	NA
Heterogeneous	63.68	59.60	4.08	NA	NA	NA	NA	NA	NA
<b>1997</b>									
Homogeneous	56.51	40.33	16.07	67.60	36.89	30.65	70.50	41.73	28.77
Heterogeneous	53.62	44.11	9.78	62.29	43.66	18.54	64.68	46.27	18.30
<b>2015</b>									
Homogeneous	63.06	63.05	33.13	68.12	9.52	58.51	77.60	17.96	59.69
Heterogeneous	53.35	37.03	16.29	54.15	21.96	32.21	67.85	31.27	36.61
<b>2016</b>									
Homogeneous	NA	NA	NA	57.18	21.19	35.98	68.15	21.48	46.67
Heterogeneous	NA	NA	NA	44.89	29.56	15.64	55.45	37.40	18.05

Table 5: Mean Thermometer Scores for Politically Homogeneous and Heterogeneous Spousal Intergenerational Dyads

## Appendix 2: Balance Statistics

We display improved covariate balance as a function of genetic matching here for the party-difference model. Covariate balances across all other models inhibit similar trends of improvement.

	mean.Tr	mean.Co	sdiff	sdiff.pooled	var.ratio	T pval	KS pval	qqmeandiff	qqmeddiff	qqmaxdiff
gender	1.52	1.50	4.11	4.12	1.01	0.67		0.01	0.01	0.02
latent_ideology	-0.08	-0.02	-8.31	-7.39	0.65	0.41	0.01	0.09	0.09	0.16
resentment	-0.07	-0.05	-2.52	-2.32	0.73	0.80	0.04	0.05	0.04	0.13
party	4.21	4.33	-5.46	-5.20	0.83	0.58	0.06	0.05	0.04	0.11
ideology	4.34	4.64	-16.89	-15.76	0.77	0.09	0.00	0.06	0.05	0.16
marriage_length	27.16	31.35	-24.49	-24.97	1.08	0.01	0.02	0.06	0.07	0.14
spousal_discussion	1.69	2.13	-46.38	-50.74	1.49	0.00	0.00	0.11	0.12	0.21

Table 6: Balance before matching

	mean.Tr	mean.Co	sdiff	sdiff.pooled	var.ratio	T pval	KS pval	qqmeandiff	qqmeddiff	qqmaxdiff
gender	1.52	1.52	0.00	0.00	1.00	1.00		0.00	0.00	0.00
latent_ideology	-0.08	-0.07	-1.30	-1.30	1.08	0.66	0.99	0.01	0.01	0.06
resentment	-0.07	-0.08	1.48	1.48	1.10	0.71	1.00	0.02	0.02	0.05
party	4.21	4.23	-1.08	-1.08	0.95	0.83	0.85	0.02	0.02	0.05
ideology	4.34	4.35	-0.90	-0.90	1.02	0.72	0.98	0.01	0.01	0.03
marriage_length	27.16	26.70	2.71	2.71	1.12	0.73	0.41	0.04	0.02	0.10
spousal_discussion	1.69	1.70	-0.83	-0.83	1.06	0.56	1.00	0.01	0.00	0.02

Table 7: Balance after Matching

## Appendix 3: Variables for Matching

The following variables are used: Spousal Discussion Frequency (Every day, Several times a week, A few times a, Almost never), length of marriage in years, gender, Party (7-point scale), self-reported ideology (7-point scale), latent ideology and latent racial resentment.

The latter two variables are derived via a measurement model. Specifically, we apply a latent variable Item Response Theory (IRT) model to each attitude domain of interest. The logic underlying such models is that any target attitude cannot be observed directly, but instead represents a latent trait that may be estimated via observed responses to multiple items (Ansolabehere, Rodden and Snyder 2008). The advantage of such continuous latent trait scores is that we can now assess relative agreement with the more interpretable Pearson

(r) correlation. The relevant test of increases in political homophily is change over time in the strength of the spousal and intergenerational latent trait correlations.

We construct latent attitudes relying on a graded 2-parameter Polytomous Item Response Theory (IRT) model, as specified in Equation 1 (Samejima 1969; Chalmers 2012). The polytomous item response model permits a larger number of categories ( $k > 2$ ) and treats the probability of scoring in category  $k$  as the probability of responding in (or above) this category minus the probability of responding in (or above) the next category  $k + 1$ .

$$\begin{aligned}
 P(x_{ij} = k|z_i) &= Pr(x_{ij} \geq k|\alpha_{jk}, \beta_j, z_i) - Pr(x_{ij} \geq k + 1|\alpha_{j,k+1}, \beta_j, z_i) \\
 Pr(x_{ij} \geq k|\alpha_{jk}, \beta_j, z_i) &= \frac{1}{1 + e^{-(\alpha_{jk} + \beta_j * z_i)}} \\
 Pr(x_{ij} \geq k + 1|\alpha_{j,k+1}, \beta_j, z_i) &= \frac{1}{1 + e^{-(\alpha_{j,k+1} + \beta_j * z_i)}}
 \end{aligned} \tag{2}$$

where  $P(x_{ij} = k)$  is the probability that individual  $i$  falls in the  $k^{th}$  response category for item  $j$ ,  $z_i$  is the standing of individual  $i$  on the latent trait dimension,  $\alpha_{jk}$  denotes the question- and category-specific difficulty parameter, and  $\beta_j$  are the discrimination parameters. Conceptually, the difficulty parameters here represent the cut-off points in the cumulative probability scale; the value for difficulty parameter  $\alpha_{jk}$  represents the average latent trait score for a 50% chance of assigning either a rating of  $(k, k - 1, \dots, k - (k - 1))$  or a rating of  $(k + 1, k + 2, \dots, p)$  to item  $j$ . We identify the model by constraining the distribution of the latent traits to standard-normal. All latent models are fit separately to our population of male spouses, and to our population of female spouses.

Note that for all latent variable models including feeling thermometers, to decrease the number of cut points to be estimated, we rely on ordinal versions of the raw thermometer scores. Specifically, we score as 1 scores between 0 and 20, as 2 scores between 21 and 40, as 3 scores between 41 and 60, as 4 scores between 61 and 80, and as 5 scores between 81 and 100.

Here, latent trait scores are calculated based on separate IRT models corresponding to each of the domains of interest for which we have 1965 and 2015 data – partisan attitudes, policy preferences, religious attitudes and personality – scaled separately for male and female members of the marital pair. To assess relative agreement, we take the simple correlation ( $r$ ) between these continuous measures.

**Variables Used:**

**Policy Preferences**

Immigrants, ISIS/ground-troops, Death Penalty, Social Welfare, Income Inequality, Business regulation, Services/Welfare, Health-Care, Abortion, Marijuana Legalization, Gay Marriage

**Policy Preferences** Agree/Disagree - Racial minorities can overcome prejudice without any special favors, Agree/Disagree - Racial minorities are not trying hard enough, Agree/Disagree - Most racial minorities who receive welfare could get along without it if they tried, Agree/Disagree - Generations of slavery and discrimination make it difficult for Blacks to work their way out of the lower class