Micro Foundations of Interlocal Collaboration: An Experimental Test

Yixin Liu

Abstract

The existing research of inter-jurisdictional policy implementation relies on aggregated data from established or completed networks, which cannot discern individual level heterogeneity among policymakers in earlier stages of interlocal collaboration. Further, scholars have difficulties to isolate collaborative mechanisms by the nature of interdependency of network data. Therefore, I conduct a conjoint experiment of U.S. municipal officials to overcome these challenges, in which the design compared three fundamental theories: rational choice, political homophily, and social capital, to predict willingness to collaborate. The results indicated that all three theories affect officials' decisions to collaborate in implementing sustainability programs jointly, but political homophily has relatively less explanatory power than the other two. This study revealed further the different priorities between elected officials and city managers' choices to collaborate. An additional subgroup analysis of party affiliation suggested that Republicans are willing to sacrifice self-interests to balance costs with their co-partisan collaborators. Overall, this experimental approach offers new opportunities to study interlocal collaboration.

Keywords: public management, interlocal collaboration, conjoint experiment, municipal governments

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1 Introduction

What motivates local governments to collaborate with each other? This is one of the most long-standing research questions in inter-jurisdictional policy implementation. The basic theoretical rationale for developing scholarship in this area is straightforward: When governments act independently to manage common pool resources, "... the total net benefits they obtain usually will be less than could have been achieved if they had coordinated their strategies in some way" (Ostrom 1990, 38). The increasing complexities of interorganizational actions increase our need to investigate the process of collaboration emergence in public organizations, because these activities would largely affect policy outcomes (O'Toole Jr 1997). With this consideration, the ways governments to reach collaborative decisions are pre-conditions for scholars to study inter-jurisdictional policy further.

In this vein, the policy and management literature integrates diverse theoretical approaches to explain decisions of intergovernmental collaboration (Siciliano et al. 2021). However, two areas of study require further investigation. First, the previous research agenda is "too late" to explain interlocal collaboration. With some exceptions (e.g., Scott et al. 2019), the mainstream literature of interlocal collaboration emphasizes on analyzing network ties in ongoing or complete partnerships (e.g., Berardo and Lubell 2016; Ulibarri and Scott 2017). Thus, researchers rarely have chance to study earlier stages of interlocal collaborations, for example public officials' initial collaborative motivations, which could affect their bargaining and communication strategies in later policy implementation process (Emerson et al. 2012).

Second, the existing literature is "too aggregated" to explain individual officials' incentives to engage in interlocal collaboration. Scholars have obtained abundant evidence about interlocal collaboration at organizational or network levels, but have given relatively little attention to government leaders' roles in inter-jurisdictional policy implementation. Furthermore, different leadership positions of government officials may affect their emphases in collaborations. For example, aggregated data do not allow us to detect heterogenous

decision-making incentives for elected officials and appointed public managers within the same organization.

In addition to these two theoretical constraints, collaboration formation research often faces methodological difficulties in isolating mechanisms to identify causal mechanisms (Siciliano et al. 2021). While the challenge of causal identification is not unique to this field, policy networks' nature of interdependency makes this challenge become salient. Actors' interconnectedness brings confounders from the surrounding environment. Therefore, collecting observational data from established partnerships may not tease out individual policymakers' exogenous motivations to initiate collaborations.

I propose an experimental approach to solve the three problems in interlocal collaboration research above: 1) Experimental vignettes allow researchers to predict government leaders' willingness to collaborate before any actual policy network has formed, so researchers can study interlocal collaboration in its earliest stage; 2) rather than observational studies in aggregated levels, survey experiment can discern policymakers' individual motivations in collaboration formation; 3) random assignments in experiments are promising to test causal claims, which exclude interdependent confounders between policy actors from established networks.

Based upon these premises, this study asks: What micro-level mechanisms motivate municipal leaders to make collaborative decisions in an inter-jurisdictional world? Specifically, this study compared the relative explanatory power of three fundamental but competing collaboration formation theories, rational choice (Ostrom 1990), political homophily (Jenkins-Smith and Sabatier 1993), and social capital (Granovetter 1985). Although these three theories are influential in explaining interlocal collaboration in policy implementation, previous research did not compare causal effects between them in a consistent model.

Therefore, I examined and compared the causal mechanisms of these theories directly in a survey-based conjoint experiment of municipal officials (elected officials and city managers) across the United States. As part of the survey, I provided a vignette about implementing

a sustainable development program. Municipal officials were then asked to choose program proposals of potential collaborating cities. The three theories were manipulated as attribute components in the program proposals, and respondents needed to trade off among attributes to make collaborative decisions. Using this strategy, I compared the three theories' treatment effects on officials' partner selection choices simultaneously.

The findings indicated that all three theories have significant effects on municipal officials' collaborative decisions. Interestingly, rational choice and social capital theories exert similar and stronger effects than political homophily. In particular, low costs, high benefits, and good collaborative experiences are major reasons for interlocal collaborations. While elected officials focus more on benefits and collaborative experiences, city managers rely largely on collaborative experiences when they make decisions to collaborate. An additional subgroup analysis of party affiliation suggested that Republicans are willing to sacrifice self-interests to balance costs with their co-partisan collaborators. However, I did not observe this effect on Democrats.

2 Methodological Challenge in Collaborative Governance Research

Collaboration is a major solution to manage policy implementation (Jing and Besharov 2014). Common pool resources across multiple political jurisdictions often need collective efforts from governments at different levels and organizations from different sectors. Therefore, it is necessary for policy and management scholars to study both drivers and outcomes of collaboration. When treating collaboration as an independent variable, scholars evaluated how elements of collective actions such as stakeholder representation, resource exchange, joint policy beliefs, and network structures affect policy outcomes (e.g., Bitterman and Koliba 2020; Lubell 2004; Scott 2015; Yi et al. 2018). On the other hand, collaboration is also an important dependent variable, because governments' motivations to establish collaboration is critical for us to understand managerial decisions in policy implementation.

Despite the equivalent importance of both research streams, scholars often encounter

greater causal identification challenge in studying drivers of collaboration. Not like studying collaborative outcomes that researchers can analyze counterfactuals by comparing organizations with and without a collaboration network (e.g., Liu and Tan 2022; Lubell 2004; Scott 2015), it is difficult to isolate the causal mechanisms to explain collaboration choice in established or completed policy networks, since multiple theories can lead to the same structural patterns (Siciliano et al. 2021). For example, rational choice assumption often views reciprocity as a strategy for organizations to exchange benefits and offset costs in collaboration, but social capital assumption sees reciprocity as the norm of trust from prior social interactions. With observational data, scholars have discretions to interpret reciprocity ties by either assumption, but they cannot identify which mechanism causes collaboration. In addition, dyadic collaborative interactions often arise that depend upon other surrounding connections in collaborative networks. This nature of interdependency creates the challenge to exclude confounding factors in examining drivers of collaboration with observational data.

I propose an alternative experimental approach to overcome this obstacle. Recently, scholars have conducted survey experiments of government decision-makers to re-examine classic policy implementation problems and have obtained new insights, such as co-partisanship effect on municipal policy adoption (Butler et al. 2017), private regulation effect on environmental regulation (Malhotra et al. 2019), and loss aversion effect on sustainability program initiation (Deslatte et al. 2021). These experiments push policy implementation research to the micro level decision-making process. And their evidence are from hypothetical scenarios that before actual policy implemented, which often provide more forward-looking implications for policy and management practices (Faulk et al. 2020).

3 Re-examining Fundamental Collaboration Formation Theories

Although scholars widely used survey experimental methods to study policymakers' decision-making processes in policy implementation, very few study uses this method to test their collaborative decisions. Indeed, abundant studies relied on aggregating survey data

of this sample to estimate collaboration preferences at organizational and network levels (e.g., Berardo and Lubell 2016; Ingold and Leifeld 2016; Yi et al. 2018), but these studies did not explicitly test policymakers' individual preferences of different collaboration options. This is a surprising omission given the importance of leadership in policy decision-making (de Benedictis-Kessner and Warshaw 2016; McGuire and Silvia 2009).

To fill this research gap, this study re-examines three fundamental theories of collaboration formation. Specifically, I compare the effects of rational choice, political homophily, and social capital on interlocal collaboration in a survey experiment. Theses theories are fundamental in collaborative behaviors and correspond to Granovetter's (1985) argument of three accounts in economic actions: under-socialized, over-socialized, and their middle ground. Rational choice is in the under-socialized account, because it analyzes collaboration with the economic self-interest tools (such as cost-benefit analysis), which may ignore policy activities' social and institutional contexts. On the other hand, political homophily belongs to the over-socialized account, because it assumes that political systems (such as partisanship) guide policy actors' behaviors, which may overlook individual differences in the systems. In these two accounts, ongoing social relationships are omitted in the analysis. Therefore, analyses should include the middle ground account: social capital, which emphasizes on relational trust created during policy actors' prior interactions (Burt 1997).

Integrating these theories and the experimental method, I like to extend my research question into two parts: (1) Which theories contribute stronger causal effects on collaborative decisions? (2) Do these theories drive elected officials and appointed managers differently? Answering these questions help us not only to isolate and compare multiple theories, but also to discern the critical role of leadership in policy implementation. Before proceeding, I wish to clarify that there are many more theories to explain collaboration formation, such as resource dependency, risk aversion, reciprocity, and transaction costs (Siciliano et al. 2021). However, many of them either belong to or associate with the above three fundamental theories (Berry et al. 2004). And it is impossible for one study to compare them all, which need more research

efforts in the future. Thus, this study strives to investigate how policymakers make tradeoffs between the three social accounts in collaborative decisions. The following parts in this section introduce each fundamental theory and its operation in this study.

3.1 Rational Choice and Cost-benefit Analysis

The rational choice school assumes that policy actors' self-interested utility maximization should predict their decisions, and rational factors should explain the major variations in policy implementation activities (Ostrom 1990). Collaborative behaviors are functions of costs and benefits between policy actors, and hence, policy actors' decisions should depend upon their expectations of economic gains in the actions in which they are involved.

The rational choice theory and cost-benefit analysis are powerful in interlocal collaboration literature. Through effective communication and coordination, each policy actor learns from another, and eventually reduces costs and maximizes benefits under ideal conditions (Olson 1965). The rational choice theory has immense influence in the context of polycentric governance. For example, Lubell et al. (2002) investigated American watershed management and argued that partnerships are more likely to emerge when organizations need to offset costs associated with severe environmental problems. Similarly, other authors have found that organizations join partnerships to access knowledge for policy solutions (Berardo and Lubell 2016; Hileman and Bodin 2019).

The existing literature of intergovernmental collaboration examines rational choice at the levels of organizations or networks, but this theory is grounded from individual behaviors (Ostrom 1990). When examining rational choice at the level of individuals, we may need to take social psychological functions into account. (Ostrom 1998) suggested that the cost-benefit calculus should be conditional on the fairness of cost allocation between the collaborating parties, and sharing the costs between parties unequally can reduce the levels of cooperation. Abbink et al. (2001, 5) referred to this argument as the "punishment hypothesis", in which "... punishment attributes a motive to the second mover's rejection of

an unequal division asserting that it is done to punish the first mover for unfair treatment." Therefore, cost fairness is important in a partnership, as actors may reject the collaboration proposal otherwise, regardless of how much utility they can derive from it. For example, Shrestha (2012) found that conflicts about fair sharing affect the success of collaborative public programs critically. Nonetheless, cost fairness has not been examined popularly in the interlocal collaboration literature to date. Therefore, I integrate both the cost aversion model and the cost fairness model into the following hypotheses.

H1a: Municipal officials are more likely to form program collaborations with partners that offer lower costs.

H1b: Municipal officials are more likely to form program collaborations with partners that offer fair sharing of costs.

H2: Municipal officials are more likely to form program collaborations with partners that offer larger benefits.

3.2 Political Homophily and Co-partisanship Effect

The Advocacy Coalition Framework (ACF) introduced the effect of prior political beliefs on collaborative decisions in the policy implementation literature, and argued that policy actors with similar beliefs comprise coalitions and acquire policy knowledge within them (Jenkins-Smith et al. 2018). Unlike rational choice, the ACF assumes that collaboration activities are boundedly rational, because policy actors have limited relevant knowledge and ability to access information and allocate time before they make decisions (Simon 1957). Therefore, a cost-benefit analysis cannot predict public officials' collaboration choices fully. In contrast, "... individuals simplify the world through their belief system and are, therefore, prone to biased assimilation of stimuli" (Jenkins-Smith et al. 2018, 108). In the ACF, individuals' cultural and political identities are fundamental normative values, which are "deep core beliefs" in policy decisions (Ripberger et al. 2014).

Deep core beliefs strengthen the effects of political homophily in interlocal policy im-

plementation (Butler et al. 2017; Gerber and Hopkins 2011). Following this research line, Leach and Sabatier (2005) found that when considering policy actors' political beliefs, rational choice variables are no longer able to predict partnerships. Similarly, Song et al. (2018) identified the political homophily effect among Korean municipal council members in interlocal collaborations. In addition, Gerber et al. (2013) found that interlocal collaborations in regional planning are more likely to occur when local governments' constituents are politically similar.

Compared to citizens, some authors have suggested that the effect of political motivation is even stronger among public officials (Baekgaard et al. 2019, 2021; Christensen and Moynihan 2020). Christensen and Moynihan (2020) provided an exploratory analysis of this phenomenon: Unlike general citizens, elected officials are trained to remain consistent with their political identities, as voters and other political stakeholders would punish them otherwise. Therefore, public officials' political roles may lead them to prioritize political considerations in intergovernmental actions, which will eventually affect policy outcomes. According to the ACF and these evidence, I test the argument of political homophily with the following hypothesis.

H3: Municipal officials are more likely to form program collaborations with partners that share similar political beliefs.

3.3 Social Capital and Prior Interaction

The theory of social capital assumes that prior interactions between policy actors are likely to build relational trust, which will lead policy actors to extend collaborations (Granovetter 1985; Krackhardt et al. 2003). For example, Metz et al. (2019) studied interconnectedness in environmental policy networks and found that prior interactions create trust and social capital, which build joint policy preferences further. In addition, Bunger (2013) found that interorganizational trust enhances organizations' administrative coordination. Scott and Thomas (2015) also observed the social capital effect in environmental collaboration.

Their results indicated that the probability of tie formation increases if two organizations both participate in the same collaborative group.

Although social capital's effect on collaboration has been tested repeatedly, some limitations remain. Siciliano et al. (2021) pointed out that the theoretical direction between trust and collaboration is unclear. Collaboration builds trust, but trust can also result in further collaboration. This reverse causality issue prevents scholars from confirming the internal mechanisms between these two variables. Some authors, such as Huang (2014) and Metz et al. (2019), have argued that prior interactions increase relational trust, but others, such as Scott and Thomas (2015) and Bunger (2013) have suggested that relational trust leads collaboration. Including longitudinal analysis in collaborative governance research to study the coevolution of trust and collaboration can remedy this problem, but data availability issues hinder more authors from using this method (Berardo et al. 2020; Isett and Provan 2005). Experiment can be the alternative approach to solve this puzzle. By manipulating information about past collaborative experience, I examine municipal officials' collaborative decisions in a hypothetical experimental scenario. I expect that good collaborative experiences reflect relational trust between policy actors and increase the likelihood of future collaborations further.

H4: Municipal officials are more likely to form program collaborations with partners with which they have shared good collaborative experiences (compared to no previous experience or bad experiences) in the past.

4 The Role of Appointed Manager: Political or Professional

I test all hypotheses to the overall sample of municipal officials and to the subgroups of elected officials and appointed city managers. Regarding different roles in municipal government, elected officials and appointed managers may have different tradeoffs between cost-benefit analysis, co-partisanship, and prior interactions, when forming collaborative partnerships. Elected officials have motivations to be policy responsiveness because of re-

election pressure. When making collaboration decisions, they may focus more on policy outcomes and political alignment with their constituents (Tausanovitch and Warshaw 2014). As contrast, appointed managers may make collaboration decisions by their professional experiences, city's budgetary resources, and policy goals (Demir and Reddick 2012).

Over the last few decades, city managers have shared more responsibility with city councils in policy making and implementation (Demir and Reddick 2012; Nelson and Svara 2015). For example, Nelson and Svara (2015, 54) found that 90% of city managers in the International City/County Management Association (ICMA) survey indicated that they should "...initiate, set, shape policy." The local institution literature has two competing approaches to explain city managers' policy behaviors. On the one hand, they share policy leadership with city council and align with elected officials' political goals to achieve greater policy influence (Zhang and Feiock 2010). On the other hand, city managers are less motivated by their political preferences than by their loyalty to the larger professional community (Connolly 2018; Teodoro 2011).

Moreover, the existing literature has limited empirical evidence to test whether above collaboration formation theories have heterogenous effects on elected officials and appointed managers, because aggregated data at the levels of organizations or networks do not allow scholars to discern role differences between these two groups of officials in collaboration decisions. Therefore, I view the elected-appointed differences in collaboration decisions as an open empirical question in the research design.

5 Empirical Strategy

5.1 Conjoint Experimental Design and Identification Strategy

To overcome methodological difficulties and test the hypotheses above causally, I introduce a conjoint experimental approach to study interlocal collaboration formation. The design and data analysis plan were pre-registered at [anonymous for peer-review] (see Ap-

pendix A). Using a hypothetical sustainable development program vignette, I assigned the theories above into four program attributes: Program costs (own cost and partnership city's cost); job creation benefits; collaborators' party affiliation (Democrats or Republicans), and previous experiences collaborating with the city. Table 1 displays detailed information about each attribute. It is worth noting that the cost attribute contains two elements for hypotheses testing. It tested whether respondents prefer the lowest cost (*H1b*, component (2)). To confirm *H1b*, respondents should show insignificance in preferences between the "500:500" and "250:750" costs options, which indicates that achieving input balance for both cities ($500,000 for both) is the same attractive as achieving the lowest self-input ($250,000).

Table 1: Attributes for Collaborative Program Proposals

Attributes	Components
Cost of the program Theory: Rational choice Operation: Cost aversion/cost fairness (H1a, H1b)	(1) You pay: $250,000; your partner pays: $750,000 (2) You pay: $500,000; your partner pays: $500,000 (3) You pay: $750,000; your partner pays: $250,000
The program will create Theory: Rational choice Operation: Benefit (H2)	(1) 200 jobs in your city (2) 500 jobs in your city (3) 800 jobs in your city
The program is proposed by Theory: Political homophily Operation: Co-partisanship (H3)	(1) Democrats (2) Republicans
Previous working experiences with this city Theory: Social capital Operation: Prior interaction (H4)	(1) Bad (2) No experience (3) Good

After introducing the program scenario briefly, the survey presented three pairs of hypothetical partnership opportunities. In each pair, respondents compared two program proposals from two cities, in which each program proposal contains information about the four attributes. Then, the respondents were asked to indicate with which city they prefer to collaborate. The proposals chosen were coded as 1, 0 otherwise. After the conjoint comparison tasks, the respondents answered questions about their party affiliation, ideology, and position tenure. Finally, they also answered demographic questions on race, sex, age, and education. The survey instruments are provided in Appendix B.

As aforementioned, every proposal was assigned a component from each attribute randomly, and thus, these components were independent treatments in the between- and within-subject design (Hainmueller et al. 2014). There were $54 = 3 \times 3 \times 2 \times 3$ possible combinations of the attribute components in the program proposals (see Table 1). Moreover, the conjoint experiment not only randomized the attribute components, but also the order of attributes across respondents. This design reduced order effects, which provided more robust results[1] (Hainmueller et al. 2014).

The program proposals are the units of analysis in conjoint experiments, and I employed the average marginal component effect (AMCE) to identify attribute causal effects (Hainmueller et al. 2014). With fully randomly assigned attributes, AMCEs are identical to coefficients in a linear probability model, because attributes are orthogonal to each other. Moreover, I adopted the same strategy as Butler et al. (2017) to measure *political homophily* (the co-partisanship effect). Based upon *H3*, if partisanship attribute components in the proposals match respondents' own partisanship identities, for example a Democrat respondent sees a program proposed by Democrats, the probability that s/he chooses this program proposal increases. Accordingly, I coded the *co-partisanship* variable as 1 if the respondents were from the same party as the collaborators in the conjoint program proposals, and 0 if they were from different parties. I show the full model specification in the following equation:

$$Y_{ij} = \beta_1 C_{ij} + \beta_2 B_{ij} + \beta_3 P_{ij} + \beta_4 I_{ij} + \mu \tag{1}$$

where Y represents $individual_i$'s decision of whether to collaborate with a city to implement program $proposal_j$, C is a vector of the cost attribute, B is a vector of the benefit attribute, P is a vector of the co-partisanship attribute, I is a vector of the prior interaction attribute, and μ represents the error term. Since the attributes are categorical variables, the first component in each attribute in Table 1 is the reference category. I clustered standard errors at the individual level to control the non-independence of the within-subject proposal

[1]Order of attributes within respondents are fixed, which avoided the within subject confusion.

comparison.

Since Hainmueller and his colleagues developed conjoint experiment (Hainmueller and Hopkins 2015; Hainmueller et al. 2014), this method has been used widely in policy and management (e.g., Beiser-McGrath and Bernauer 2019; Hollibaugh Jr et al. 2020; Jilke and Tummers 2018). The method has several advantages. First, it tests multiple theories simultaneously in one model, and the causal effects of these theories can be compared with a common standard (Hainmueller et al. 2014). Second, it requires respondents to trade-off between different attributes by the forced choice outcome measurement, which enhances realism relative to traditional factorial experiments (Hainmueller et al. 2015). Third, the complex information environment of the conjoint experiment reduces the concerns about social desirability, and thereby, the experimental purpose is difficult for the respondents to detect (Bansak et al. 2021). This feature is particularly important when the design includes sensitive variables such as partisanship identity. Combining these advantages, a conjoint experiment is an ideal identification technique to compare multiple collaboration formation theories and test my hypotheses.

5.2 Data Collection and Sample Representativeness

This study targeted municipal officials in the United States, which include elected officials (mayors, councilors, or the equivalent) and municipal managers (city managers, assistant city managers, or the equivalent). As aforementioned, these public officials serve often as decision-makers in policy implementation, so their leadership affects interlocal collaborative actions. To build the sample pool of municipal officials, I collected their names, sex, and email addresses from municipalities' official websites. The sample pool included large- and medium-sized American municipalities with populations over 30,000 (1352 municipalities in total). Approximately half of the United States' population lives in these areas. Municipalities without the public officials' email addresses were removed from the study. I used Qualtrics to create the survey and sent it to municipal officials via email. To increase the

response rate, I sent one initial invitation with two reminders in two months (from April to early June, 2021). Appendix C reports the email invitation.

Finally, 9928 email responses were obtained successfully from this sample pool of municipal officials[2]. The final sample included 772 individual officials (39% female, 78% White, Mage = 57), including 674 elected officials and 98 city managers. Overall, 363 respondents are Democrats, 193 are Republicans, and 216 are independent or other parties. All respondents completed at least one conjoint proposal comparison task and provided their party affiliation and ideology information[3]. The effective response rate was approximately 8%, which is comparable to that in other surveys in recent studies that used similar samples (e.g., Lee and Stecula 2021; Malhotra et al. 2019; Shaffer et al. 2020).

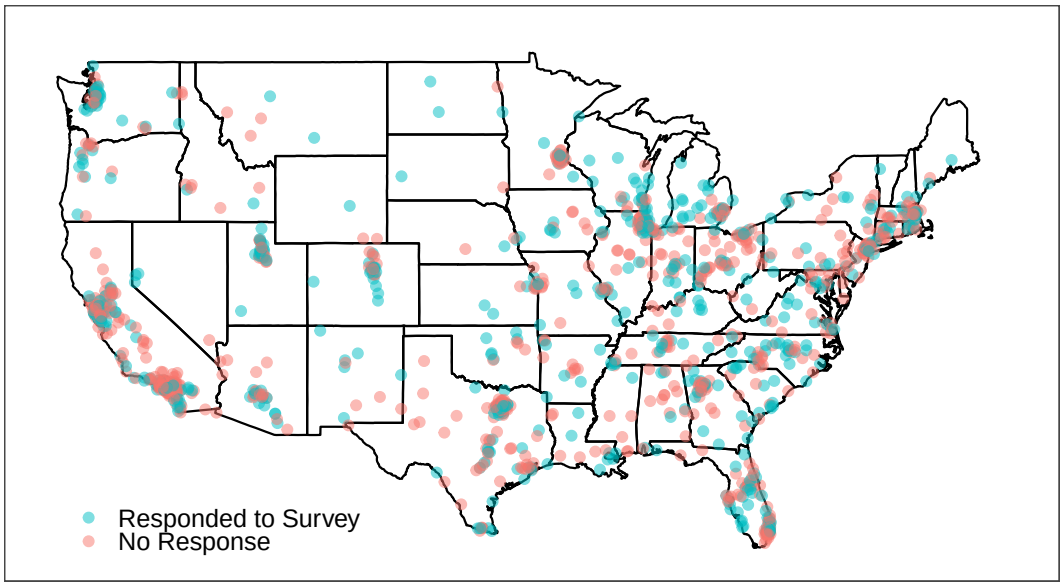

Figure 1: Geographic Location of Survey Respondents

The final sample was broadly representative of the entire sample pool at the level of cities. It covered 49 states and the District of Columbia (see Figure 1), and 533 (39%) municipalities had at least one official who responded to the survey effectively[4]. Appendix

[2]10288 emails were sent. Among them, 16 failed to arrive, and 344 bounced back.

[3]Overall, 987 (10%) respondents had opened the survey and answered at least one question. I excluded respondents who did not answer the party affiliation and ideology survey questions, because the information for political homophily matching was missing.

[4]Delaware was the only state without any effective response.

D provides the full description of the sample characteristics. To test the sample's representativeness, I collected municipal-level demographic data from the U.S. Census Bureau 2019 American Community Survey, including population, median household income, home value, labor force participation, unemployment rate, and information on ethnicity distribution (Black and White population). Further, I calculated municipalities' female official ratio in the contact information collection process. With this information, I compared these variables in municipalities that had at least one respondent and municipalities without a respondent with two-sample t-tests. Although the municipalities that responded have a slightly higher female official ratio and White population, there were few statistical differences in other aspects between the municipalities that did and did not respond. Figure 2 shows the results graphically, and Appendix D reports more information on the sample representativeness of these variables.

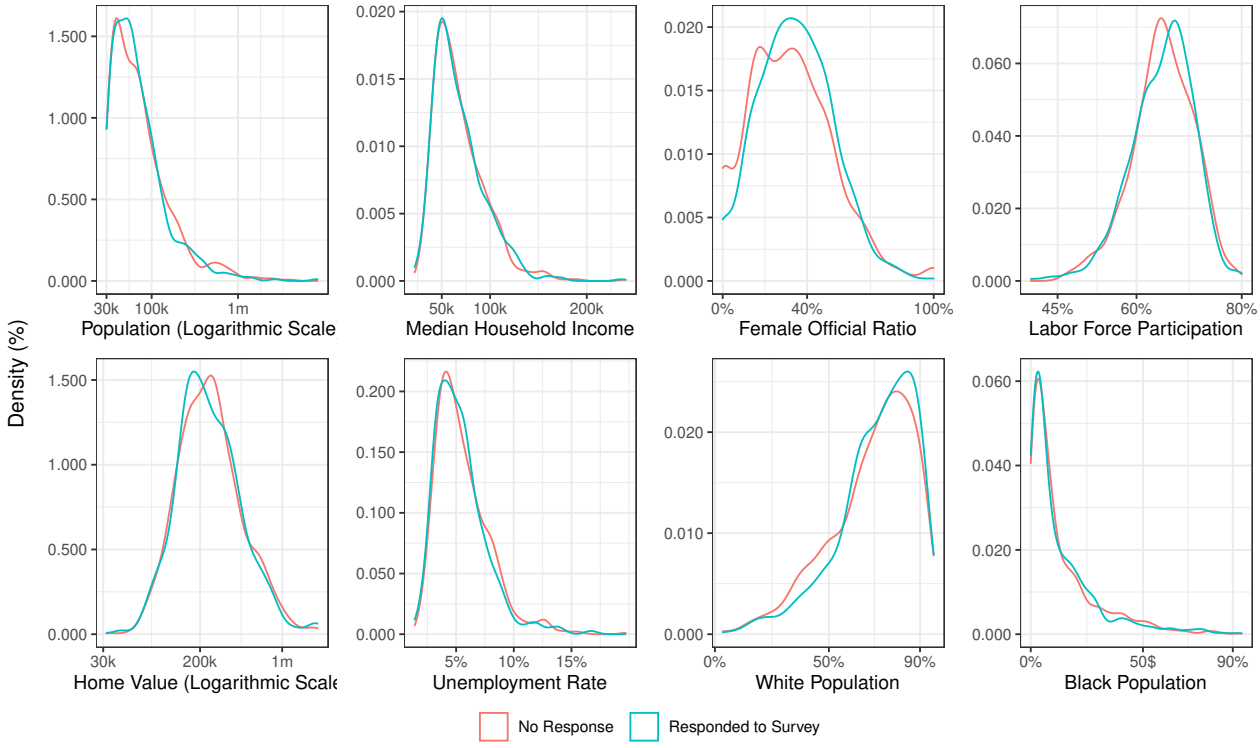

Figure 2: Representativeness of Municipal Officials Who Responded

6 Results

6.1 Main Findings

Table 2 shows the main findings of this study. Model (1) estimated the effects of the four attributes overall, and I used it to test hypotheses *H1a*, *H1b*, *H2*, *H3*, and *H4*. I also conducted a subgroup analysis for elected officials in Model (2) and city managers in Model (3). In general, these models supported *H1a*, *H2*, *H3*, and *H4*, but *H1b* was rejected.

Table 2: Probability of Interlocal Collaboration

	(1) Full Sample	(2) Elected Officials	(3) City Managers
H1a & H1b: Self vs Partner's Cost (Ref: 250:750)			
750:250	-0.229 $(0.017)^{***}$	-0.225 $(0.019)^{***}$	-0.241 $(0.046)^{***}$
500:500	-0.069 $(0.017)^{***}$	-0.056 $(0.018)^{**}$	-0.154 $(0.047)^{***}$
H2: Benefit (Ref: 200 Jobs)			
800 Jobs	0.343 $(0.016)^{***}$	0.351 $(0.017)^{***}$	0.281 $(0.051)^{***}$
500 Jobs	0.199 $(0.016)^{***}$	0.201 $(0.017)^{***}$	0.191 $(0.047)^{***}$
H3: Political Homophily			
Co-partisanship	0.093 $(0.013)^{***}$	0.097 $(0.014)^{***}$	0.065 (0.038)
H4: Collaborative Experience (Ref: Bad Exp)			
Good Exp	0.360 $(0.017)^{***}$	0.355 $(0.018)^{***}$	0.399 $(0.045)^{***}$
No Exp	0.238 $(0.016)^{***}$	0.237 $(0.018)^{***}$	0.245 $(0.039)^{***}$
Constant	0.186 $(0.018)^{***}$	0.177 $(0.020)^{***}$	0.243 $(0.047)^{***}$
R^2	0.213	0.215	0.211
N (Proposal)	4534	3956	578
N (Individual)	772	674	98

Note: All models are linear probability models. *Political homophily* is measured by taking a value of 1 if respondents were from the same party as the collaborators in the conjoint program proposals and 0 if they were from different parties. Standard errors are in brackets (clustered by individuals). $^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$

H1a assumes that municipal officials prefer lower cost when comparing collaborative

partners. The results in Model (1) supported this hypothesis. Respondents were 23% (p = 0.00) less likely to collaborate with cities that cost them $750,000, compared to those that cost them $250,000. Similarly, respondents were 7% (p = 0.00) less likely to collaborate with cities that cost them $500,000 compared to those that cost them $250,000. To support *H1b*, the component "500:500" should have at least the same level of the magnitude as "250:750", which means that fair sharing of cost is equally important as the lowest self-cost in a partnership. However, the model did not detect an effect of fair sharing of costs, because respondents' willingness to collaborate was a linear, negative function of program cost. Therefore, *H1b* was rejected.

H2 assumes that municipal officials prefer high benefit when comparing collaborative partners. The results in Model (1) supported this hypothesis. The respondents were 34% (p = 0.00) more likely to prefer the collaborative programs that offered to create 800 jobs, when compared to those that offered to create 200 jobs. Similarly, respondents were 20% (p = 0.00) more likely to prefer the programs that offered to create 500 jobs compared to those that offered to create 200 jobs. Hence, the respondents' willingness to collaborate became stronger when the benefits increased.

H3 assumes that municipal officials prefer partners that are in the same party as theirs. The results in Model (1) supported this hypothesis. The respondents were 9% (p = 0.00) more likely to collaborate when the same party in the partner city proposed the program. Models (2) and (3) showed that the co-partisanship effect was determined primarily by elected officials, which were 10% (p = 0.00) more likely to collaborate with co-partisan cities. However, the effect was not distinguishable among city managers in Model (3).

H4 assumes that municipal officials prefer collaborative partners with which they have had good previous interactions. The results in Model (1) supported this hypothesis. The respondents were 36% (p = 0.00) more likely to collaborate when they had good rather than bad previous experiences working with the partner cities. Even for cities that had no prior interaction, the respondents were 24% (p = 0.00) more likely to collaborate with them than

cities with which they had bad interactions.

In Models (1) – (3), we see clearly that municipal officials' interlocal collaboration choices were explained jointly by rational choice, political homophily, and social capital theories. However, political homophily had less explanatory power (the coefficient was lower than 10%) than the other two theories. Elected officials were more likely to prioritize job creation benefits and previous collaboration experiences when making future collaboration choices. Both the sizable job creation benefits and good prior interaction increased the probability of interlocal collaboration decisions more than 30%. Social capital was more important when city managers made collaboration decisions than costs-benefits calculation and co-partisan status. Good prior interactions with a city leaded to an approximately 40% increase in the probability of intergovernmental collaboration decisions among city managers. The other theories' explanatory powers were all less than 30% in this sample.

Although Table 2 shows encouraging results of the hypotheses tests, some mechanisms need to be explained further. First, the coding strategy of co-partisanship allows us to see only its overall effect, but whether this effect is heterogenous between different parties is unknown. Therefore, I conducted a subgroup analysis by party affiliation. Second, the main findings revealed that political homophily had relatively less explanatory power than the other two theories, but we do not know whether municipal officials' costs-benefits calculation and prior interaction were conditional on the co-partisanship effect and whether this conditional effect was the same for Democrats and Republicans. Therefore, I interacted the co-partisanship attribute with all other attributes in each party affiliation subgroup. The next two sections provide detailed explanations of both analyses.

6.2 Subgroup Analysis by Party Affiliation

Figure 3 shows the AMCE results for Democrat respondents, Republican respondents, and other respondents (including those who were independent or from other parties). Both Republican and Democrat respondents expressed stronger preferences for their politically

matched collaborators, and the magnitudes were similar: 12% (p = 0.00) among Democrats and 8% (p = 0.00) among Republicans. In contrast, other respondents had no preference for either party. These results confirmed the political homophily hypothesis (*H3*) further, but it had relatively smaller effects than other attributes. In each party affiliation subgroup, lower costs, higher benefits, and good prior interactions increased the municipal officials' probability of collaborating consistently by more than 20%.

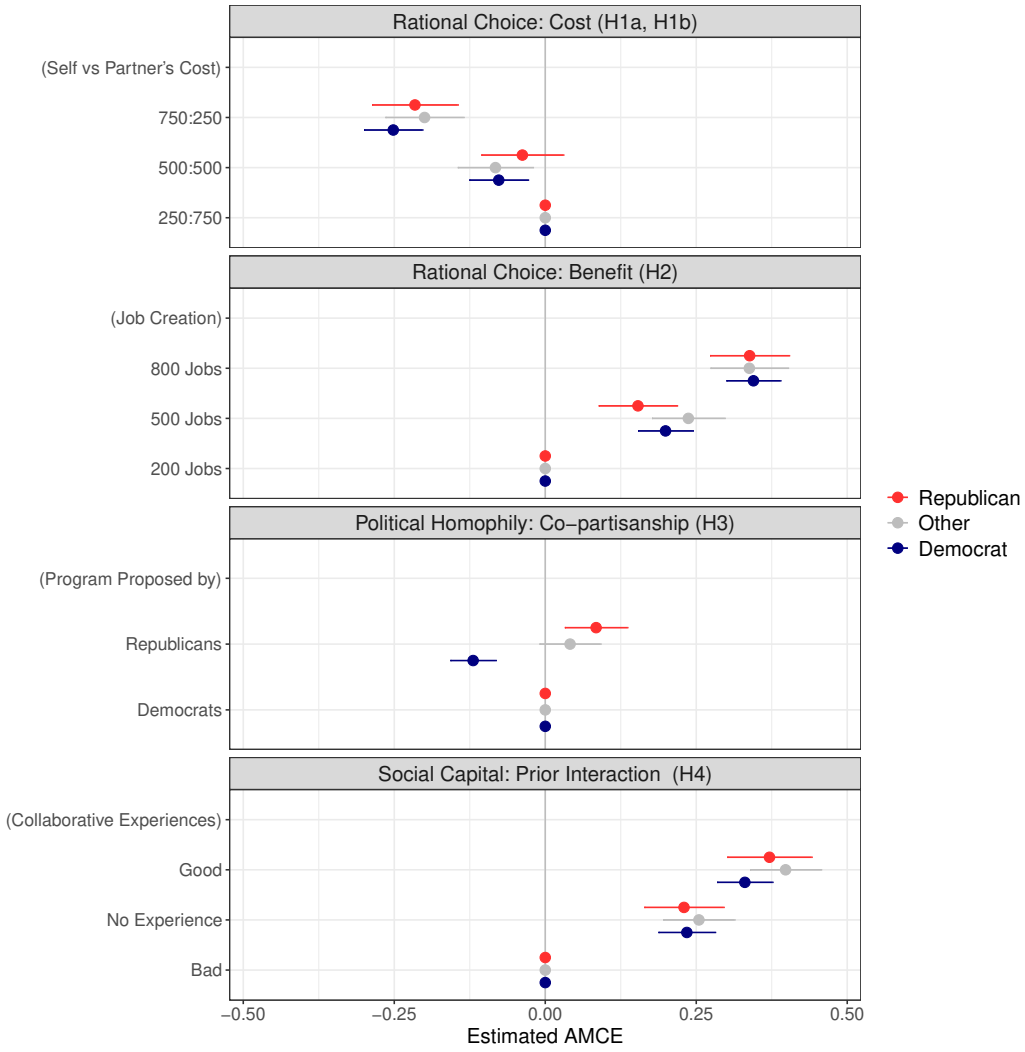

Figure 3: Subgroup Analysis by Party Affiliation
Note: Bars are 95% confidence intervals.

It is worth noting that respondents with different party affiliations had diverse views on fair sharing of cost. The effects of cost aversion among Democrats and others were consis-

tent with the full sample analysis, but Republicans did not express a different preference for "500:500" and "250:750" (effect = 4%; p = 0.27). Regarding this interesting feature, mechanisms between cost and co-partisanship warrant further investigation. In the next section, the co-partisanship interactions in each party affiliation subgroup provide more evidence for us to understand its heterogenous effect on collaboration, including the consideration of cost fairness.

6.3 Exploratory Analysis: The Conditional Effect of Co-partisanship

The analysis in this section was not pre-registered, because it was an exploratory and post-hoc analysis based upon the findings above. Figure 4 combines the interaction results in each party affiliation subgroup. In general, the respondents in each subgroup had similar collaboration preferences regardless of the collaborators' party affiliation. Co-partisanship had no conditional effect on the calculation of benefits or prior interaction. In costs calculation, Democrats and others showed stronger preferences for lower self-costs and are concerned less with collaborators' costs, regardless of the collaborators' party affiliation. The fair, but more expensive, cost option (500:500) was indistinguishable from the unfair, but cheaper, option (250:750) among Republican respondents when the collaborators were also Republicans. In contrast, Republican respondents were 10% (p = 0.04) less likely to collaborate with Democrat cities that costed them $500,000 compared to Democrat cities that costed them $250,000 (Figure 4, rightmost panel). These results suggest that Republican respondents were cost aversion when the collaborators were Democrats, but considered cost fairness more when the collaborators were Republicans.

In summary, co-partisanship's conditional effect was found only in Republican respondents' cost calculation. The political homophily literature in public policy and management has a limited explanation of this heterogenous phenomenon. Most studies have tested only the homophily effect overall with the binary co-partisanship measurement without conducting a subgroup analysis of each party (e.g., Butler et al. 2017; Gerber et al. 2013; Song et al.

2018). The theoretical gap I revealed in this exploratory analysis suggests the potential for future studies to conduct in-depth investigations of the associations between co-partisanship and cost fairness in interlocal collaboration.

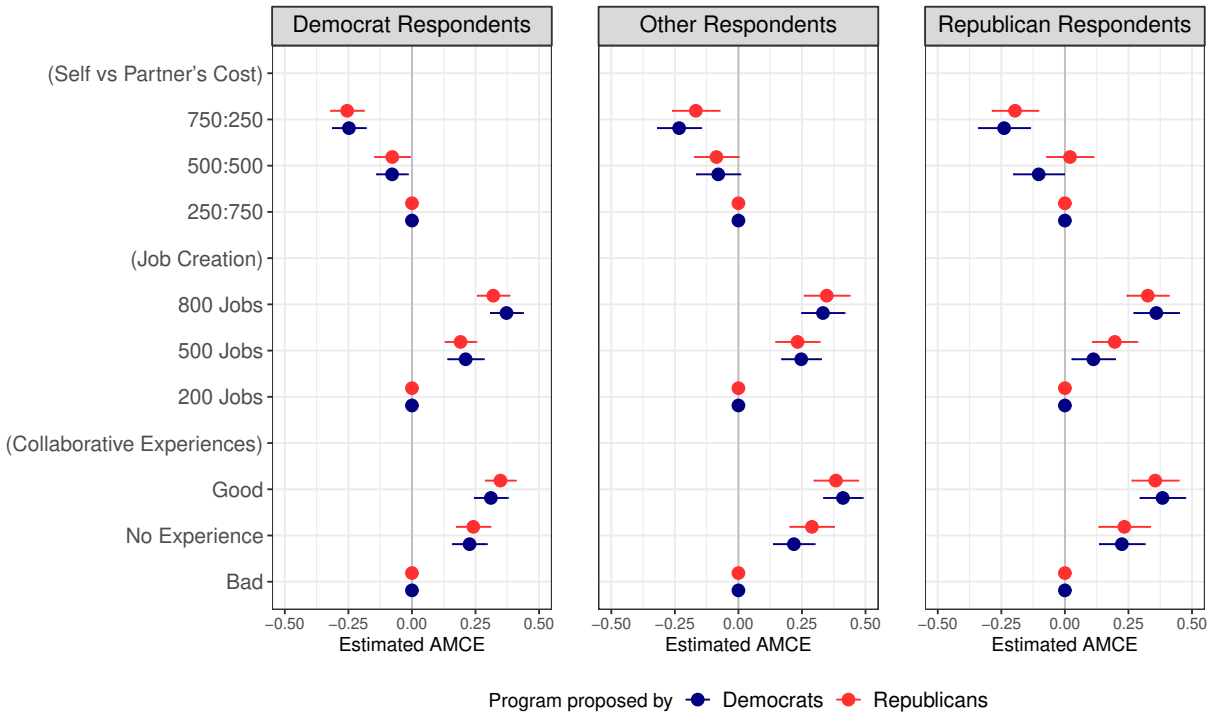

Figure 4: Attribute Interaction: AMCEs Conditional on Co-partisanship
Note: Bars are 95% confidence intervals.

In this study, I offer one possible explanation from the social psychology literature. Social psychology research shows that republicans favor in-group loyalty more than Democrats (Graham et al. 2009). Compared to liberals, conservatives are more likely to prioritize interests for ingroup members over outgroup members (Clifford 2014). Conservatives' ingroup loyalty motivates them to sacrifice self-interests to achieve group goals. In this study, municipal officials' ideology overlapped with their partisanship, in which most Democrats were liberals and most Republicans were conservatives (see Appendix E). Therefore, Republican respondents were more likely to sacrifice their costs to make the input balance in co-partisan collaboration relationships. In contrast, Democrats' decisions were less contingent on ingroup loyalty, so they inclined more to the cost aversion model.

6.4 Robustness Checks

In addition to the analyses above, I performed multiple robustness checks. First, I examined ideology's conditional effect on co-partisanship. My main findings in Table 2 and Figure 3 indicate that co-partisanship had relatively less power to explain interlocal collaboration, but Butler et al. (2017) suggested that the co-partisanship effect is stronger on people who have extreme ideological identities and weaker on those who have moderate ideological identities. Therefore, interaction analysis is needed. I measured the ideological extremism variable by taking both "very liberal" and "very conservative" as 2, both "liberal" and "conservative" as 1, "moderate" as 0. Table 3 reports the interaction between co-partisanship and ideological extremism. Model (4)-(6) turn out insignificant results for both elected officials and city managers. Therefore, the main finding on co-partisanship was robust, which was consistent across the ideology spectrum.

Second, I conducted two more subgroup analyses to address potential selection bias issues (Appendix F). Although my sample was representative at city level, it had a higher response rate from female officials and White-dominated cities. To test whether there was a systematic difference between female and male respondents, as well as White and nonwhite respondents, I compared the results between these subgroups. The results showed no heterogeneity in making interlocal collaboration decisions by sex or race, which supported the external validity of the findings in this study.

Table 3: Probability of Interlocal Collaboration by Ideological Extremism

	(4) Full Sample	(5) Elected Officials	(6) City Managers
H1a & H1b: Self vs Partner's Cost (Ref: 250:750)			
750:250	-0.228 $(0.017)^{***}$	-0.225 $(0.019)^{***}$	-0.238 $(0.047)^{***}$
500:500	-0.069 $(0.017)^{***}$	-0.056 $(0.018)^{**}$	-0.153 $(0.047)^{**}$
H2: Benefit (Ref: 200 Jobs)			
800 Jobs	0.343 $(0.016)^{***}$	0.352 $(0.017)^{***}$	0.283 $(0.051)^{***}$
500 Jobs	0.199 $(0.016)^{***}$	0.201 $(0.017)^{***}$	0.193 $(0.047)^{***}$
H3: Political Homophily			
Co-partisanship	0.076 $(0.019)^{***}$	0.080 $(0.020)^{***}$	0.066 (0.063)
H4: Collaborative Experience (Ref: Bad Exp)			
Good Exp	0.360 $(0.017)^{***}$	0.355 $(0.018)^{***}$	0.399 $(0.045)^{***}$
No Exp	0.238 $(0.016)^{***}$	0.237 $(0.018)^{***}$	0.247 $(0.040)^{***}$
Ideological Extremism	-0.009 (0.008)	-0.005 (0.009)	-0.033 (0.029)
Ideological Extremism ×Co-partisanship	0.024 (0.019)	0.023 (0.019)	0.019 (0.067)
Constant	0.191 $(0.019)^{***}$	0.180 $(0.021)^{***}$	0.248 $(0.046)^{***}$
R^2	0.213	0.215	0.212
N (Proposal)	4534	3956	578
N (Individual)	772	674	98

Note: All models are linear probability models. *Political homophily* is measured by taking a value of 1 if respondents were from the same party as the collaborators in the conjoint program proposals and 0 if they were from different parties. *Ideological Extremism* is measured by taking both "very liberal" and "very conservative" as 2, both "liberal" and "conservative" as 1, "moderate" as 0. Standard errors are in brackets (clustered by individuals). $^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$

7 Summary of Findings

To advance interlocal collaboration scholarship, I provide new causal evidence of three fundamental theories derived from micro-level data that explain municipal officials' decisions in the early stage of collaboration formation. The experimental evidence indicates that

rational choice, political homophily, and social capital are jointly important in explaining willingness to collaborate. These theories are not mutually exclusive. They demonstrate the complexity of collaboration decisions and encourage scholars to develop more careful theoretical comparisons.

Moreover, previous studies do not explore heterogenous effects of the above theories on elected officials and city managers. Given the increasing responsibilities of city mangers in policy process (Nelson and Svara 2015), elected-appointed subgroup differences of collaborative decisions should attract more interests. Although elected officials and city managers have similar collaboration preferences, the former focus more on job creation benefits and collaborative experiences, while city managers rely largely on collaborative experiences to make policy decisions. These results reveal the professionalism of city managers, who are less political than elected officials. Indeed, 88% of city managers in my sample have graduate school degrees and they stay longer time on their positions than elected officials (see Appendix D), and these statistics are similar as findings from Nelson and Svara (2015) that city managers are professional and well trained to manage policy implementation. The professionalism may explain why city managers rely on collaborative experiences to make collaborative decisions.

In addition, the interaction results between co-partisanship and other attributes in each party affiliation subgroup revealed different considerations of cost fairness between Democrats and Republicans. Democrats have a consistent rational choice pattern in calculating costs in collaboration, but Republicans are willing to sacrifice self-interests to achieve costs balance with their co-partisan collaborators. Republicans' higher level of ingroup loyalty may explain this result (Clifford 2014; Graham et al. 2009), but I invite scholars to investigate the complex interaction between political homophily and fairness in collaboration behaviors further.

8 Discussion and Conclusion

Overall, this study's findings complement and extend earlier scholarship on interlocal collaboration. The way to predict decision-making in earlier stages of collaboration is a theoretical challenge. Data collected for observational studies are often from established or complete policy networks. Some simulation studies have attempted to overcome this "hindsight paradigm" in collaborative governance research (e.g., Choi and Robertson 2019; Scott et al. 2019), but the motivations for government leaders' initial collaborative decisions remain unknown. As O'Toole Jr (2015) suggested, analyses on individual officials should attract more scholarly attentions in the future, because those with whom public officials interact externally and the way they interact, can affect organizational collaboration outcomes ultimately. Therefore, exploring individual decision-makers' collaboration motivations before actual networks have formed could be an interesting process for more collaborative governance scholars to investigate. In this study, I move a small step forward by examining and comparing classical collaboration formation theories in the intergovernmental world.

Moving beyond the traditional collaboration formation theories, this study also challenges the explanatory power of political homophily and its co-partisanship effect on policy implementation. My results highlight that political homophily's effect is not as strong in predicting interlocal collaboration decisions as are rational choice and social capital. A subgroup analysis by party affiliation showed similar magnitudes of political homophily in Democrats and Republicans, and this finding is robust across the ideology spectrum. Although political motivation is strong when researchers use party information as the single factor manipulated in experiments (e.g., Baekgaard et al. 2019; James and Van Ryzin 2017), its effect can be mitigated when more policy information is available to individuals (Butler et al. 2017). The conjoint design in this study provides a multi-dimensional policy information environment, which is more similar to actual decision-making situations (Hainmueller et al. 2015). Compared to previous studies, I obtain a more optimistic finding: The political

homophily effect still exists, but it does not surpass other collaboration formation theories in predicting interlocal collaboration.

Causal identification is the other contribution of this study. Interdependency is always a technical obstacle in policy network research, and it brings complexity and mechanism confusion when we estimate determinants of collaborative actions. Although the challenges of making causal claims are not unique to collaborative governance research, the nature of interdependency hinders scholars' efforts to compare theoretical mechanisms in one consistent model (Siciliano et al. 2021). Conjoint experiment is a remedy for this problem, as its multi-dimensional randomization technique allows us to exclude confounders and simultaneously compare causal effects of multiple collaboration formation theories. On these grounds, this study provides a template for the collaborative governance research community to investigate other theories at the level of policy elites further.

While this study offers new research opportunities for interlocal collaboration research, more work should be done to address its limitations. First, policy contexts may affect collaboration process. Although I demonstrate the program's benefits neutrally, which include economic and community development, and environmental protection, sustainability is still a lean Democrats policy area. Future experimental vignettes could include more policy areas that either party favors and compare political homophily effects under different policy scenarios. Second, the conjoint design can determine only one actor's willingness to collaborate with another. This simple function does not allow us to conduct network analysis on triads and other more complex collaborative structures. Finally, the survey experimental data in this study are cross-sectional, which do not identify longitudinal causal patterns of collaboration dynamics. Future research could conduct the experiment with multi-wave surveys or embrace field experiments to explore collaborative network evolution and tie dissolution further.

In a broader sense, using the conjoint experimental method, this study integrates two important areas: behavioral public management and collaborative governance. With a rep-

resentative sample and constructive analysis, I believe that the findings of this study advance policy implementation research from a new perspective.

References

Abbink, Klaus, Gary E Bolton, Abdolkarim Sadrieh, and Fang-Fang Tang. 2001. Adaptive learning versus punishment in ultimatum bargaining. *Games and Economic Behavior* **37** (1):1–25.

Baekgaard, Martin, Julian Christensen, Casper Mondrup Dahlmann, Asbjørn Mathiasen, and Niels Bjørn Grund Petersen. 2019. The role of evidence in politics: Motivated reasoning and persuasion among politicians. *British Journal of Political Science* **49** (3): 1117–1140.

Baekgaard, Martin, Donald P Moynihan, and Mette Kjærgaard Thomsen. 2021. Why do policymakers support administrative burdens? the roles of deservingness, political ideology, and personal experience. *Journal of Public Administration Research and Theory* **31** (1):184–200.

Bansak, Kirk, Jens Hainmueller, Daniel J Hopkins, Teppei Yamamoto, James N Druckman, and Donald P Green. 2021. Conjoint survey experiments. *Advances in Experimental Political Science* **19**.

Beiser-McGrath, Liam F and Thomas Bernauer. 2019. Could revenue recycling make effective carbon taxation politically feasible? *Science Advances* **5** (9):eaax3323.

Berardo, Ramiro and Mark Lubell. 2016. Understanding what shapes a polycentric governance system. *Public Administration Review* **76** (5):738–751.

Berardo, Ramiro, Manuel Fischer, and Matthew Hamilton. 2020. Collaborative governance and the challenges of network-based research. *The American Review of Public Administration* **50** (8):898–913.

Berry, Frances S, Ralph S Brower, Sang Ok Choi, Wendy Xinfang Goa, HeeSoun Jang, Myungjung Kwon, and Jessica Word. 2004. Three traditions of network research: What the public management research agenda can learn from other research communities. *Public Administration Review* **64** (5):539–552.

Bitterman, Patrick and Christopher J Koliba. 2020. Modeling alternative collaborative governance network designs: An agent-based model of water governance in the lake champlain basin, vermont. *Journal of Public Administration Research and Theory* **30** (4):636–655.

Bunger, Alicia C. 2013. Administrative coordination in nonprofit human service delivery networks: The role of competition and trust. *Nonprofit and Voluntary Sector Quarterly* **42** (6):1155–1175.

Burt, Ronald S. 1997. The contingent value of social capital. *Administrative Science Quarterly* pages 339–365.

Butler, Daniel M, Craig Volden, Adam M Dynes, and Boris Shor. 2017. Ideology, learning, and policy diffusion: Experimental evidence. *American Journal of Political Science* **61** (1):37–49.

Choi, Taehyon and Peter J Robertson. 2019. Contributors and free-riders in collaborative governance: A computational exploration of social motivation and its effects. *Journal of Public Administration Research and Theory* **29** (3):394–413.

Christensen, Julian and Donald P Moynihan. 2020. Motivated reasoning and policy information: Politicians are more resistant to debiasing interventions than the general public. *Behavioural Public Policy* pages 1–22.

Clifford, Scott. 2014. Linking issue stances and trait inferences: A theory of moral exemplification. *The Journal of Politics* **76** (3):698–710.

Connolly, Jennifer M. 2018. Can managerial turnover be a good thing? the impact of city manager change on local fiscal outcomes. *Public Administration Review* **78** (3):338–349.

de Benedictis-Kessner, Justin and Christopher Warshaw. 2016. Mayoral partisanship and municipal fiscal policy. *The Journal of Politics* **78** (4):1124–1138.

Demir, Tansu and Christopher G Reddick. 2012. Understanding shared roles in policy and administration: An empirical study of council-manager relations. *Public Administration Review* **72** (4):526–535.

Deslatte, Aaron, William L Swann, and Richard C Feiock. 2021. Performance, satisfaction, or loss aversion? a meso–micro assessment of local commitments to sustainability programs. *Journal of Public Administration Research and Theory* **31** (1):201–217.

Emerson, Kirk, Tina Nabatchi, and Stephen Balogh. 2012. An integrative framework for collaborative governance. *Journal of Public Administration Research and Theory* **22** (1): 1–29.

Faulk, Lewis, Sheela Pandey, Sanjay K Pandey, and Kristen Scott Kennedy. 2020. Donors' responses to profit incentives in the social sector: The entrepreneurial orientation reward and the profit penalty. *Journal of Policy Analysis and Management* **39** (1):218–242.

Gerber, Elisabeth R and Daniel J Hopkins. 2011. When mayors matter: estimating the impact of mayoral partisanship on city policy. *American Journal of Political Science* **55** (2):326–339.

Gerber, Elisabeth R, Adam Douglas Henry, and Mark Lubell. 2013. Political homophily and collaboration in regional planning networks. *American Journal of Political Science* **57** (3): 598–610.

Graham, Jesse, Jonathan Haidt, and Brian A Nosek. 2009. Liberals and conservatives rely on different sets of moral foundations. *Journal of Personality and Social Psychology* **96** (5):1029.

Granovetter, Mark. 1985. Economic action and social structure: The problem of embeddedness'. *American Journal of Sociology* **91** (3):481–510.

Hainmueller, Jens and Daniel J Hopkins. 2015. The hidden american immigration consensus: A conjoint analysis of attitudes toward immigrants. *American Journal of Political Science* **59** (3):529–548.

Hainmueller, Jens, Daniel J Hopkins, and Teppei Yamamoto. 2014. Causal inference in conjoint analysis: Understanding multidimensional choices via stated preference experiments. *Political Analysis* **22** (1):1–30.

Hainmueller, Jens, Dominik Hangartner, and Teppei Yamamoto. 2015. Validating vignette and conjoint survey experiments against real-world behavior. *Proceedings of the National Academy of Sciences* **112** (8):2395–2400.

Hileman, Jacob and Örjan Bodin. 2019. Balancing costs and benefits of collaboration in an ecology of games. *Policy Studies Journal* **47** (1):138–158.

Hollibaugh Jr, Gary E, Matthew R Miles, and Chad B Newswander. 2020. Why public employees rebel: guerrilla government in the public sector. *Public Administration Review* **80** (1):64–74.

Huang, Kun. 2014. Knowledge sharing in a third-party-governed health and human services network. *Public Administration Review* **74** (5):587–598.

Ingold, Karin and Philip Leifeld. 2016. Structural and institutional determinants of influence reputation: A comparison of collaborative and adversarial policy networks in decision making and implementation. *Journal of Public Administration Research and Theory* **26** (1):1–18.

Isett, Kimberley Roussin and Keith G Provan. 2005. The evolution of dyadic interorganizational relationships in a network of publicly funded nonprofit agencies. *Journal of Public Administration Research and Theory* **15** (1):149–165.

James, Oliver and Gregg G Van Ryzin. 2017. Motivated reasoning about public performance: An experimental study of how citizens judge the affordable care act. *Journal of Public Administration Research and Theory* **27** (1):197–209.

Jenkins-Smith, Hank C, Daniel Nohrstedt, Christopher M Weible, and Karin Ingold. 2018. The advocacy coalition framework: An overview of the research program. *Theories of the policy process* pages 135–171.

Jenkins-Smith, HC and PA Sabatier. Policy change and learning: An advocacy coalition framework 1993.

Jilke, Sebastian and Lars Tummers. 2018. Which clients are deserving of help? a theoretical model and experimental test. *Journal of Public Administration Research and Theory* **28** (2):226–238.

Jing, Yijia and Douglas J Besharov. 2014. International conference news: Collaboration among government, market, and society: Forging partnerships and encouraging competition. *Journal of Policy Analysis and Management* pages 835–842.

Krackhardt, David, N Nohria, and B Eccles. 2003. The strength of strong ties. *Networks in the knowledge economy* **82**.

Leach, William D and Paul A Sabatier. 2005. To trust an adversary: Integrating rational and psychological models of collaborative policymaking. *American Political Science Review* pages 491–503.

Lee, Nathan R and Dominik Stecula. 2021. Subnational bipartisanship on climate change: evidence from surveys of local and state policymakers. *Climatic Change* **164** (1):1–12.

Liu, Yixin and Chao Tan. 2022. The effectiveness of network administrative organizations in governing interjurisdictional natural resources. *Public Administration*.

Lubell, Mark. 2004. Collaborative environmental institutions: All talk and no action? *Journal of Policy Analysis and Management* **23** (3):549–573.

Lubell, Mark, Mark Schneider, John T Scholz, and Mihriye Mete. 2002. Watershed partnerships and the emergence of collective action institutions. *American Journal of Political Science* pages 148–163.

Malhotra, Neil, Benoît Monin, and Michael Tomz. 2019. Does private regulation preempt public regulation? *The American Political Science Review* **113** (1):19–37.

McGuire, Michael and Chris Silvia. 2009. Does leadership in networks matter? examining the effect of leadership behaviors on managers' perceptions of network effectiveness. *Public Performance & Management Review* **33** (1):34–62.

Metz, Florence, Philip Leifeld, and Karin Ingold. 2019. Interdependent policy instrument preferences: a two-mode network approach. *Journal of Public Policy* **39** (4):609–636.

Nelson, Kimberly L and James H Svara. 2015. The roles of local government managers in theory and practice: A centennial perspective. *Public Administration Review* **75** (1): 49–61.

Olson, Mancur 1965. *The Logic of Collective Action*. Harvard University Press.

Ostrom, Elinor 1990. *Governing the commons: The evolution of institutions for collective action*. Cambridge university press.

——. 1998. A behavioral approach to the rational choice theory of collective action: Presidential address, american political science association, 1997. *American Political Science Review* pages 1–22.

O'Toole Jr, Laurence J. 1997. Treating networks seriously: Practical and research-based agendas in public administration. *Public Administration Review* pages 45–52.

——. 2015. Networks and networking: The public administrative agendas. *Public Administration Review* **75** (3):361–371.

Ripberger, Joseph T, Kuhika Gupta, Carol L Silva, and Hank C Jenkins-Smith. 2014. Cultural theory and the measurement of deep core beliefs within the advocacy coalition framework. *Policy Studies Journal* **42** (4):509–527.

Scott, Tyler. 2015. Does collaboration make any difference? linking collaborative governance to environmental outcomes. *Journal of Policy Analysis and Management* **34** (3):537–566.

Scott, Tyler and Craig Thomas. 2015. Do collaborative groups enhance interorganizational networks? *Public Performance & Management Review* **38** (4):654–683.

Scott, Tyler A, Craig W Thomas, and José Manuel Magallanes. 2019. Convening for consensus: Simulating stakeholder agreement in collaborative governance processes under different network conditions. *Journal of Public Administration Research and Theory* **29** (1):32–49.

Shaffer, Robert, Lauren E Pinson, Jonathan A Chu, and Beth A Simmons. 2020. Local elected officials' receptivity to refugee resettlement in the united states. *Proceedings of the National Academy of Sciences* **117** (50):31722–31728.

Shrestha, Manoj K. 2012. Self-organizing network capital and the success of collaborative public programs. *Journal of Public Administration Research and Theory* **23** (2):307–329.

Siciliano, Michael D, Weijie Wang, and Alejandra Medina. 2021. Mechanisms of network formation in the public sector: A systematic review of the literature. *Perspectives on Public Management and Governance* **4** (1):63–81.

Simon, Herbert A. 1957. Models of man; social and rational.

Song, Minsun, Hyung Jun Park, and Kyujin Jung. 2018. Do political similarities facilitate interlocal collaboration? *Public Administration Review* **78** (2):261–269.

Tausanovitch, Chris and Christopher Warshaw. 2014. Representation in municipal government. *American Political Science Review* **108** (3):605–641.

Teodoro, Manuel P 2011. *Bureaucratic ambition: Careers, motives, and the innovative administrator*. JHU Press.

Ulibarri, Nicola and Tyler A Scott. 2017. Linking network structure to collaborative governance. *Journal of Public Administration Research and Theory* **27** (1):163–181.

Yi, Hongtao, Liming Suo, Ruowen Shen, Jiasheng Zhang, Anu Ramaswami, and Richard C Feiock. 2018. Regional governance and institutional collective action for environmental sustainability. *Public Administration Review* **78** (4):556–566.

Zhang, Yahong and Richard C Feiock. 2010. City managers' policy leadership in council-manager cities. *Journal of Public Administration Research and Theory* **20** (2):461–476.

Supplemental Information

Appendix A Pre-registration Report

Have any data been collected for this study already?
No, no data have been collected for this study yet

What's the main question being asked or hypothesis being tested in this study?

i Rational Choice Hypothesis: Local governments are more likely to form collaborations with partners which offer lower costs and higher benefits.

ii Political Homophily Hypothesis: Local governments are more likely to form collaborations with partners which share the same party affiliation.

iii Institutional Trust Hypothesis: Local governments are more likely to form collaborations with partners which they shared good collaborative experiences in history.

Describe the key dependent variable(s) specifying how they will be measured.
Choice: We will code choice as a dummy variable: 1 or 0, based on whether the participants select the program profile.

How many and which conditions will participants be assigned to?
We employ a choice-based conjoint design to obtain a more comprehensive picture of local government officials' opinions on collaboration partner selection. A hypothetical sustainable development program scenario will be introduced. I will ask subjects to compare 3 pairs of program proposals from different cities and indicate which city (in each pair) they are more willing to collaborate with. Each program profile includes 4 attributes:

1. Cost of the program: you pay: $250,000; this city pays $750,000/you pay: $500,000; this city pays $500,000/you pay: $750,000; this city pays $250,000 (theory: Cost)
2. Job creation: 200/500/800 jobs (theory: Benefit)
3. The program is proposed by either Democrats/Republicans (theory: Political Homophily)
4. Collaborative experience with this city: good/bad/no experience (theory: Institutional Trust)

Specify exactly which analyses you will conduct to examine the main question/hypothesis.
Analyses will be based on the standard practices in the conjoint experimental design:

i Average Marginal Component Effect (AMCE).

ii Marginal Means (MM).

Any secondary analyses?
We will conduct subgroup analyses by participants' characteristics, such as partisanship and ideology.

How many observations will be collected or what will determine the sample size? No need to justify decision, but be precise about exactly how the number will be determined.
This survey will be sent to American municipal government officials, including mayor, council members, and city managers. Based on power analysis of the conjoint attribute design, minimal requirement for sample size is 300.

Anything else you would like to pre-register? (e.g., data exclusions, variables collected for exploratory purposes, unusual analyses planned?)
Subjects' demographic information will be collected after they have answered the questions regarding key dependent variables. The information is collected for detecting the heterogeneity of the treatment effect.

Appendix B Survey Instruments

First, the respondents saw an introduction to the sustainable development program vignette.

Introduction

We are interested in the intergovernmental collaborative decisions of American local governments. In the following part, we will show you several **hypothetical** decision-making situations and ask you to provide opinions. Please try to be honest in answering the questions. Describe what you would **really** do if a similar situation occurs in your working live. Remember that your answers to all questions in this survey will be kept **completely confidential**.

Assuming you and your municipal government plan to collaborate with another city on an interlocal sustainable development program. The potential benefits of the program include:

- Economic development
- Community development
- Environmental protection

Based on your consideration for the best option to develop your municipality, please evaluate the following hypothetical city partners and their proposals. In total, you are asked to evaluate 3 pairs of cities in 3 separate pages. Please provide your choice in each pair.

Note: There is **no** right or wrong answer to any comparisons.

Next, the respondents completed three pairs of comparison task like the following.

Suppose you can only collaborate with one out of the two cities:

Program Attributes:	**City A**	**City B**
The program will create	500 jobs in your city	800 jobs in your city
The program is proposed by	Democrats	Republicans
Your previous working experiences with this city	Good	No experience
Cost of the program	You pay: $250,000; This city pays: $750,000	You pay: $500,000; This city pays: $500,000

Please indicate which city do you prefer to collaborate with:

City A | City B

→

Next, the respondents answered political background questions and demographic questions.

Generally speaking, do you usually think of yourself as a...

- Democrat
- Republican
- Independent
- Other party (please specify)

How would you describe your political views as of today?

- Very liberal
- Liberal
- Moderate
- Conservative
- Very Conservative
- No opinion

How many years have you been in your current government position?

- Less than 1 year
- Less than 5 years
- Less than 10 years
- More than 10 years

Do you consider yourself to be...

- White, not Hispanic or Latino
- Black, not Hispanic or Latino
- Hispanic or Latino
- Asian, not Hispanic or Latino
- Other

Which of the following best describes your gender identity?

- Male
- Female

- Non-binary/third gender
- prefer not to say

Your age: _____

What is the highest level of education you have completed?

- Less than high school
- High school/GED
- Some college
- 2-year college degree
- 4-year college degree
- master degree
- doctoral degree
- Professional Degree (JD, MD)

Appendix C Email Invitation Context

Subject line: Survey Research Invitation

Dear [Job Title] [Last Name]

As local governments have more opportunities and pressures to collaborate with other local governments, local government scholars seek to understand optimizing contexts based on your opinion as a local government [elected official/manager]. I value your perspective and I invite you to complete a very short and anonymous survey (about 3 minutes). This survey is conducted by researchers at [institution name]. The purpose of this survey is to study the intergovernmental collaborative decisions of American local governmental officials.

Follow this link to the survey: [survey link is here]

You are being invited to participate in this survey because you are currently serving or formerly served as an [elected official/manager] in an American local government. We will keep the information you provide confidential. Your participation in this study is completely voluntary. You may choose not to take part in it or you may stop participating at any time.

Thank you very much for your consideration of and participation in this research study, the results of which will be shared with you via email after we finish this study.

Your sincerely

Appendix D Sample Characteristics

Table D.1: Representativeness of City Level Variables

	Responded Cities	No Response Cities	P-value
Population	114995.24	117051.15	0.92
Median houshold income	67833.97	68341.71	0.74
Female official ratio	34.24	31.73	0.03
Labor force participation	64.91	64.99	0.81
Home value	299108.16	301116.71	0.89
Unemployment rate	5.36	5.56	0.13
White percentage	71.18	68.98	0.03
Black percentage	12.98	13.23	0.78

Table D.2: Descriptive Summary: Overall

	Mean	SD	Min	Max
City Level Variables				
Population (in 1000)	117.09	397.70	30.07	8336.82
Median houshold income (in $1000)	67.83	26.40	21.92	235.28
Female official ratio	34.24	17.92	0.00	100.00
Labor force participation	64.91	5.92	39.90	79.90
Home value (in $1000)	299.11	255.25	40.44	2000.00
Unemployment rate	5.36	2.25	1.40	16.90
White percentage (residents)	71.18	17.01	5.60	95.50
Black percentage (residents)	12.98	15.64	0.10	91.80
Individual Level Variables				
Democrats	0.47	0.50	0.00	1.00
Republicans	0.25	0.43	0.00	1.00
Ideology	2.89	0.97	1.00	5.00
Tenure	2.52	0.97	1.00	4.00
White	0.78	0.41	0.00	1.00
Black	0.09	0.29	0.00	1.00
Hispanic	0.07	0.26	0.00	1.00
Asian	0.02	0.15	0.00	1.00
Other	0.03	0.18	0.00	1.00
Female	0.39	0.49	0.00	1.00
Age	56.51	12.59	19.00	89.00
Grad School	0.57	0.49	0.00	1.00

Table D.3: Descriptive Summary: Elected Official

	Mean	SD	Min	Max
City Level Variables				
Population (in 1000)	122.86	384.82	9.74	8336.82
Median houshold income (in $1000)	66.01	24.32	21.92	235.28
Female official ratio	35.10	17.45	0.00	88.89
Labor force participation	64.97	6.02	39.90	79.90
Home value (in $1000)	278.07	203.00	40.44	2000.00
Unemployment rate	5.36	2.25	1.40	16.90
White percentage (residents)	71.44	16.67	5.60	95.50
Black percentage (residents)	13.67	16.02	0.10	91.80
Individual Level Variables				
Democrats	0.50	0.50	0.00	1.00
Republicans	0.26	0.44	0.00	1.00
Ideology	2.87	1.01	1.00	5.00
Tenure	2.47	0.97	1.00	4.00
White	0.77	0.42	0.00	1.00
Black	0.10	0.29	0.00	1.00
Hispanic	0.08	0.27	0.00	1.00
Asian	0.02	0.15	0.00	1.00
Other	0.03	0.18	0.00	1.00
Female	0.40	0.49	0.00	1.00
Age	56.93	13.03	19.00	89.00
Grad School	0.53	0.50	0.00	1.00

Table D.4: Descriptive Summary: City Manager

	Mean	SD	Min	Max
City Level Variables				
Population (in 1000)	87.17	163.98	16.26	1343.57
Median houshold income (in $1000)	73.81	29.35	22.15	160.78
Female official ratio	34.80	20.09	0.00	100.00
Labor force participation	65.49	5.88	43.80	74.80
Home value (in $1000)	351.31	349.64	82.46	2000.00
Unemployment rate	4.93	1.98	1.60	11.30
White percentage (residents)	72.75	14.54	15.70	92.30
Black percentage (residents)	10.37	10.68	0.50	55.10
Individual Level Variables				
Democrats	0.27	0.44	0.00	1.00
Republicans	0.16	0.37	0.00	1.00
Ideology	2.98	0.61	1.00	4.00
Tenure	2.82	0.98	1.00	4.00
White	0.86	0.35	0.00	1.00
Black	0.06	0.24	0.00	1.00
Hispanic	0.04	0.20	0.00	1.00
Asian	0.01	0.10	0.00	1.00
Other	0.03	0.17	0.00	1.00
Female	0.32	0.47	0.00	1.00
Age	53.73	8.67	35.00	75.00
Grad School	0.88	0.33	0.00	1.00

Appendix E Party Affiliation and Ideology

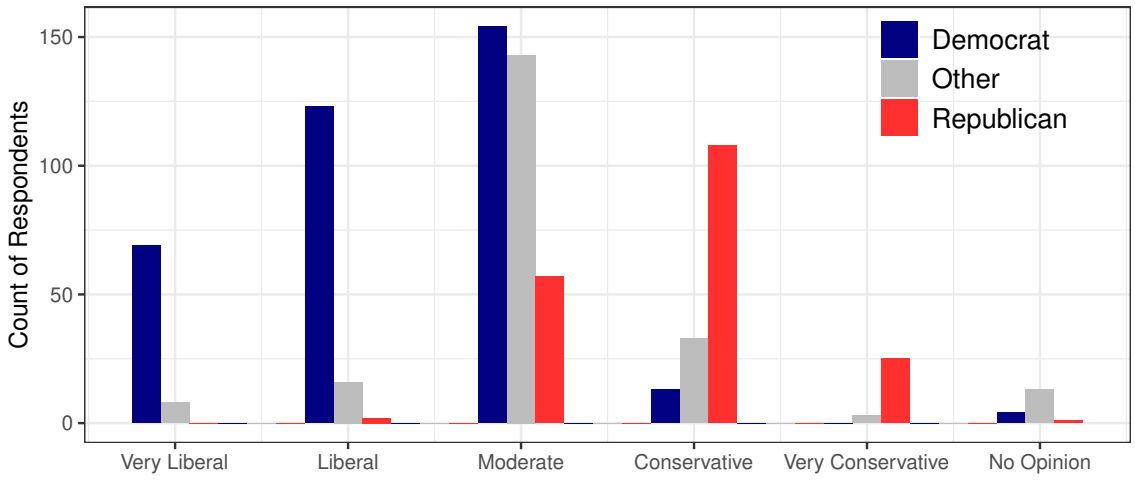

Figure E.1: Party Affiliation and Ideology of Municipal Officials Who Responded
Note: The final sample contained 363 Democrats, 193 Republicans, and 216 respondents who identified themselves either "Independent" or "Other Party".

Appendix F Additional Subgroup Analysis

Table F.1: Probability of Interlocal Collaboration by Subgroups

	Female	Male	White	Nonwhite
H1a & H1b: Self vs Partner's Cost (Ref: 250:750)				
750:250	-0.236^{***}	-0.224^{***}	-0.222^{***}	-0.256^{***}
	(0.026)	(0.023)	(0.019)	(0.041)
500:500	-0.084^{**}	-0.056^{**}	-0.067^{***}	-0.080^{*}
	(0.028)	(0.021)	(0.019)	(0.039)
H2: Benefit (Ref: 200 Jobs)				
800 Jobs	0.353^{***}	0.336^{***}	0.352^{***}	0.315^{***}
	(0.026)	(0.021)	(0.019)	(0.035)
500 Jobs	0.207^{***}	0.193^{***}	0.208^{***}	0.174^{***}
	(0.027)	(0.020)	(0.019)	(0.033)
H3: Political Homophily				
Co-partisanship	0.115^{***}	0.080^{***}	0.095^{***}	0.089^{***}
	(0.020)	(0.016)	(0.015)	(0.026)
H4: Collaborative Experience (Ref: Bad Exp)				
Good Exp	0.377^{***}	0.352^{***}	0.366^{***}	0.346^{***}
	(0.027)	(0.021)	(0.019)	(0.037)
No Exp	0.265^{***}	0.217^{***}	0.248^{***}	0.199^{***}
	(0.028)	(0.020)	(0.019)	(0.033)
R^2	0.230	0.203	0.221	0.192
N (Proposal)	1748	2746	3508	998
N (Individual)	298	467	598	169

Note: All models are linear probability models. *Political homophily* is measured by taking a value of 1 if respondents were from the same party as the collaborators in the conjoint program proposals and 0 if they were from different parties. Standard errors are in brackets (clustered by individuals). $^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$