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Logan Berg provided invaluable research assistance. We also thank Jenny Chatman, Amir Goldberg, and Kathleen McGinn for helpful comments on prior drafts. The usual disclaimer applies. We have prepared a repository on the Open Science Framework containing the code necessary to replicate the analyses, and we are working with IRB officials to make the anonymized student data publicly available by the time of publication. The anonymized version of the OSF repository may be accessed here: https://osf.io/y5f3b/?view_only=17a63ce8185d4a5db0aa09172f43a7a2. Pre-registrations of our experiment is available here (https://aspredicted.org/VGF_JJK). Correspondence concerning this article should be addressed to Brian P. Reschke, Assistant Professor, Management Department, Marriott School of Business, Brigham Young University. Email: brianreschke@byu.edu. Phone: 801-422-1814. Fax: 801-422-0540.

Abstract

Growing evidence points to the corrosive influence of partisanship on society. We examine the relationship between "receptiveness to opposing views" (i.e., an individual difference in the willingness to engage with information from opposing perspectives) and the propensity to form positive and close collaborative relationships with ideologically opposed others. Across three studies varying in sampling and methodological approaches—a retrospective network study, a time-lagged field study, and an experiment—we find that individual receptiveness—and, especially, mutual receptiveness between individuals with opposing views—mitigates the negative influence of ideological opposition on relationship formation and willingness to collaborate. We find evidence that receptiveness is distinctively influential in bridging ideological differences as compared to other personality characteristics that facilitate network formation more broadly (e.g., extraversion, self-monitoring), that encourage collaboration in general (e.g., agreeableness), or that appear relevant to consideration of diverse perspectives (e.g., openness, need for cognition). We discuss the implications of our results for research on personality and social networks, and we suggest how these findings inform policies to ameliorate political polarization in work and educational settings.

Keywords: receptiveness, social networks, political ideology, collaboration, homophily

Friends on the Other Side:

Receptiveness to Opposing Views Predicts Formation of Politically Heterogeneous Relationships

> "By way of introduction, I'd told him, 'I'm from Berkeley, California, a sociologist, and I am trying to understand the deepening divide in our country. So, I'm trying to get out of my political bubble and get to know people in yours.' Mike nodded at the word 'divide,' then quipped, 'Berkeley? So y'all must be communist!'"
>
> – Arlie Russell Hochschild, *Strangers in Their Own Land*

In the quote above, Hochschild (2016), an American sociologist, shares an encounter during her perseverant journey to form close relationships with people inhabiting an ideological sphere distant from her own. Unfortunately, since the publication of her work, world events have heightened the antipathy and distrust that holders of opposing ideological positions harbor toward each other, resulting in ever deepening divisions. Findings from across academic disciplines demonstrate that political opponents now live in different neighborhoods (Brown & Enos, 2021), trust different news sources (Stroud, 2011; Stroud et al., 2020), make different healthcare decisions (Lerman et al., 2017), and generally avoid contact whenever possible (Iyengar et al., 2012, 2019). Patterns similar to those documented in the United States have also emerged around the world (Carothers & O'Donohue, 2019).

Scholars in psychology, political science, sociology, and conflict management have tested a variety of situational and process interventions to improve interactions between opposing partisans (Broockman & Kalla, 2016; Collins et al., 2022; Kubin et al., 2021; Yeomans et al., 2020). However, considerably less attention has been paid to the role of individual differences in overcoming fundamental divisions that separate members of ideological groups into nearly non-overlapping social circles. Illuminating the role of personality in bridging ideological differences

is important, as doing so could open additional pathways for relationship formation between polarized communities (Finkel et al., 2020; Hartman et al., 2022). Focusing on the challenge of ideological polarization would also extend the literature on personality and network formation, which tends to examine how personality impacts network position, but not specifically how those divided by deep conflict might come to form relationships (for a review, see Selden & Goodie, 2018).

To these ends, we examine patterns of close relationship formation among ideological opponents, focusing in particular on the role of "receptiveness to opposing views"—a newly identified individual difference that captures people's tendency to thoughtfully engage with counter-attitudinal ideas (Minson et al., 2020). Our approach integrates theory and methods from psychological and sociological research to illuminate how people who are more receptive can potentially bridge ideological divides.

Individual Differences and Network Relationships

Research on social network formation has clearly articulated the power of homophily and structural factors on the ties people form. Scholars have documented the propensity for "birds of a feather to flock together" (McPherson et al., 2001) and illuminated why communities of the like-minded grow more homogeneous and separate from those with contrasting viewpoints (e.g., Boutyline & Willer, 2017; Jasny et al., 2015) or lived experiences (e.g., Currarini et al., 2009; Wimmer & Lewis, 2010). By contrast, in the present research, we test the effect of several personality traits that might *facilitate* relationship formation between people divided by their ideological differences.

Past studies have shown that personality characteristics impact network position in relevant ways (Feiler & Kleinbaum, 2015; Mehra et al., 2001; Selden & Goodie, 2018). For instance, extraversion and self-monitoring orientation have been specifically associated with

network positions that might aid in the bridging of social divides (e.g., Asendorpf & Wilpers, 1998; Fang et al., 2015; Feiler & Kleinbaum, 2015; Mehra et al., 2001; Sasovova et al., 2010). Self-monitoring influences one's propensity for network centrality (Mehra et al., 2001) and leadership emergence (Day et al., 2002), and, thereby, may enhance one's ability to bridge relationships between colleagues from otherwise disconnected communities (Sasovova et al., 2010). And more extraverted people tend to accumulate friends who were previously unknown to another and are drawn to other extraverts, which results in the rapid growth of friendship communities among people who might not otherwise have bonded (Feiler & Kleinbaum, 2015).

In addition to the traits listed above that are implicated in network formation more broadly, several individual differences seem to be particularly promising candidates for overcoming partisan divisions. For example, classic research on Need for Cognition (Cacioppo et al., 1984) suggests that some individuals are more likely to thoughtfully engage with complex ideas, which might imply that they would also be more likely to consider an issue from multiple perspectives. Relatedly, the Big Five traits of openness and agreeableness (L. R. Goldberg, 1990) appear to be face-valid candidates for bridging divisions. However, for all these traits, it is also possible that high-scoring people continue to offer disproportionally greater thought, openness, and generosity to ideas and relationship partners from their own ideological side.

Indeed, it remains an open question whether *any* personality characteristic would be powerful enough to bridge ideological chasms because of the powerful role that negative affect plays in partisanship (see reviews, Iyengar et al., 2019; Ross & Ward, 1995). Extensive research has demonstrated the negative emotions that arise from exposure to opposing views (Dorison et al., 2019; Frimer et al., 2017). People report feeling angry and irritated at the prospect of interacting with disagreeing others and expect them to feel threatened and ill at ease (Dorison & Minson, 2022). Furthermore, individuals tend to stereotype and even dehumanize holders of

opposing perspectives (Schroeder et al., 2017), and expect them to do the same in return (Moore-Berg et al., 2020). Finally, recent research has documented reputational penalties that might be incurred when people engage with opposing ideological perspectives (Hussein & Wheeler, 2024) Such countervailing forces likely makes it difficult for ideological opponents to engage with each other even for short periods of time, much less to persist long enough to form a close relationship.

Receptiveness to Opposing Views

Recent work by Minson, Chen, and Tinsley (2020) shows that people systematically vary in the extent to which they thoughtfully engage with opposing views and those who hold them. Specifically, these researchers define "receptiveness to opposing views" as the willingness to expose oneself to opposing ideological perspectives, carefully consider those views, and evaluate them in an even-handed manner. In laboratory studies, more receptive individuals have been more willing to consume information from political leaders in the opposing party, reported less mind wandering when watching a speech they disagreed with, and more impartially evaluated policy arguments, regardless of whether they agreed or disagreed with the speaker's conclusions.

Receptiveness to opposing views has been distinguished from other constructs, including components of the Big Five Inventory, need for cognition, and actively open-minded thinking (e.g., Cacioppo et al., 1984; Davis, 1980; Gürçay-Morris, 2016; John & Srivastava, 1999; Roets & Van Hiel, 2011). These distinctions are both empirical and conceptual. Empirically, Minson et al. (2020) demonstrated that the receptiveness scale is a better predictor of individual cognitive engagement with opposing ideological views than related measures (for list of comparators, see Minson et al., 2020 Table 3, page 3075). Conceptually, the distinction lies in the fact that receptiveness predicts the context-specific tendency to engage with *opposing* views on hotly contested, self-relevant issues (Minson & Chen, 2022). By contrast, as discussed above, other

measures, such as agreeableness or openness to experience, capture being generally forgiving and sympathetic, or curious and imaginative, irrespective of whether the target of attention agrees or disagrees with one's own beliefs (John & Srivastava, 1999). Thus, because receptiveness captures how people respond specifically to *opposing* perspectives, it is a promising candidate for potentially enabling relationship formation across political divides.

Receptiveness and Cross-Partisan Relationship Formation

Although laboratory research suggests multiple reasons to predict that receptiveness may enable people to form close relationships with ideologically opposed counterparts, there are also important forces that might prevent such an outcome from emerging in the field. As highlighted above, prior research demonstrates that people often experience powerful negative emotions when exposed to others who hold opposing views and thus seek to avoid such interactions (Dorison et al., 2019; Frimer et al., 2017; Hart et al., 2009). Because higher receptiveness has been shown to predict more emotionally tolerant processing of opposing ideas (Dorison et al., 2019), it may reduce this barrier. More positive interactions may create a virtuous cycle, leading to more comfortable and frequent engagement.

Furthermore, higher receptiveness includes a component of intellectual curiosity, which may motivate individuals to seek out and understand alternative perspectives, even in the face of potential negative affect. People who are more receptive have been shown to seek out more diverse information sources in laboratory contexts—for example, being willing to read the webpages of senators from the opposing party or to consult a broader variety of political news sources (Minson et al., 2020). Such curiosity may extend beyond passive information consumption to interpersonal behavior, with more receptive people being more willing to seek out relationship partners who can inform them about opposing perspectives.

Finally, classic psychology research demonstrates that most people believe themselves to

be reasonable and relatively objective; therefore, they expect other reasonable and objective people to agree with their views. The implication, then—documented in the research literature on the phenomenon of "naïve realism"—is that those who disagree with them must be wrongheaded, blind to the facts, or morally corrupt (Hastorf & Cantril, 1954; Robinson et al., 1995; Ross et al., 1977; Ross & Ward, 1995, 1996). To the extent that receptiveness involves making more charitable attributions toward holders of opposing views, it may enable opposing partisans to see each other in a more positive light. Indeed, in prior studies, individuals higher in self-reported receptiveness who considered opposing arguments regarding immigration policy offered more positive evaluations of the authors than did participants who were lower in receptiveness (Minson et al., 2020).

Despite these reasons to anticipate that receptiveness may increase the likelihood of relationship formation among ideological opponents, such an outcome is far from guaranteed. Prior research on receptiveness has been conducted under laboratory conditions, enabling researchers to carefully isolate the link between a person's motivational tendencies and the cognitive and interpersonal evaluation measures collected within the same experimental session. By contrast, the formation of close relationships "in the wild" must overcome at least three powerful countervailing forces that cannot be examined in the laboratory.

First, extensive sociological research has documented that people tend to splinter into groups of like-minded others—those who hold similar values, beliefs, and political preferences—often referred to as "echo chambers" (Baldassarri & Bearman, 2007; DellaPosta et al., 2015). Because the like-minded also tend to live in similar parts of the country and are drawn to similar work, educational, civic, or leisure groups, they are even less likely to be exposed to people who differ from them (Blau & Schwartz, 1997; Kossinets & Watts, 2009; McPherson et al., 2001; Wimmer & Lewis, 2010). Structural factors, such as the tendency of "friends of

friends" to also become friends, may have as much, if not more, influence on relationship formation than individual preferences (Kossinets & Watts, 2009). Individuals may be so ensconced in networks of ideologically aligned others that they lack opportunities to form close relationships with holders of opposing views, even when motivated to do so.

Second, the dramatic levels of affective polarization documented by recent research (Iyengar et al., 2019) suggest that forming close relationships with ideological opponents likely requires persistent emotion regulation. While receptiveness is characterized by relatively lower levels of negative affect in the face of opposing views, we do not know whether it can overcome the effects of frequent and protracted interactions with someone who vocally endorses an opposing ideology. It is one thing for a conservative student to occasionally read the *New York Times*. It is quite another for that student to become close friends with a liberal classmate who regularly advocates for greater abortion access and greater environmental regulation.

Third, even if receptive people were willing and able to build relationships with ideologically opposed others, they might avoid such relationships to prevent social sanction by members of their own ingroup (Pinto et al., 2010). Prior scholars have argued that the motivated avoidance and discounting of opposing views that characterize many policy debates is partly intended to signal one's group affiliation (Hart et al., 2020; Kahan et al., 2016; Lundgren & Prislin, 1998; Moore et al., 2023). In other words, people may avoid cross-ideology friendships not only because they find such interactions personally aversive but also because they do not want to lose standing with their ingroup. If this dynamic is a significant driver of relationship formation, then the connections between receptiveness and private behavior observed in a laboratory might fail to translate into public behavior in the field.

In sum, whereas prior laboratory results suggest an individual's level of receptiveness is a promising variable for predicting willingness to engage with holders of opposing views, the

likelihood that higher receptiveness will promote the formation of close relationships is far from certain. Such a result would depend on: (1) receptiveness enhancing the propensity to build relationships with people who do not share one's own views, beyond simply engaging with their ideas, and (2) the effect of receptiveness on relationship formation not being overwhelmed by the numerous and well-documented psychological and sociological barriers to the formation of close relationships across ideological divides.

Prior Research on Individual Difference Predictors of Cross-Partisan Relationships

Recent years have seen a growing interest in traits that may enable congenial interactions across ideological divides, highlighting the importance of this question. However, laboratory evaluations of classic traits including Need for Cognition, Need for Cognitive Closure, as well as Agreeableness, Openness, and Extraversion components of the "Big Five" have shown these traits to be less predictive of engagement with opposing views than receptiveness (Minson et al., 2020).

More promising, are constructs that are explicitly concerned with people's reactions to opposing perspectives including reflective thinking (Arceneaux & Vander Wielen, 2017), actively open-minded thinking (Baron, 2019), and intellectual humility (Bowes et al., 2020, 2022; Porter & Schumann, 2018; Sgambati & Ayduk, 2023). In the present work, we focus on receptiveness because it captures a broader set of concerns that affect the formation long-term relationships, beyond one's intellectual willingness to consider opposing views or recognize the flaws of one's own conclusions.

For example, consider a liberal individual who holds progressive views regarding immigrants' right to safety, dignity, and due process. If this person were also high on intellectual humility or actively open-minded thinking, they might be willing to concede that they have a poor understanding of the economic costs of immigration or be willing to consider arguments

regarding why liberal policies are ineffective. However, this person may also feel deep negative emotions when interacting with someone who argues for mass deportation of illegal immigrants, and come to see that person as uncaring or even immoral for holding those views. Because the receptiveness scale captures individuals' emotional reactions to opposing views as well as their tolerance for holders of those views, we expect receptiveness to better predict the formation of close cross-ideological relationships due to the complex social and emotional dynamics at play.

That being said, recent work on intellectual humility (Sgambati & Ayduk, 2023) and the related construct of "openness to political pluralism" (Shrout et al., 2022) has produced some suggestive evidence of a link between these constructs and the perceived heterogeneity of participant social networks. Specifically, participants who reported being high on intellectual humility or OPP also reported members of their social networks to be more politically diverse. Given the importance and complexity of this question, we build on these earlier results with an in-depth investigation of the relationship between receptiveness and network formation.

Overview of Present Research

In the present research, we report the results of three studies examining the role of receptiveness to opposing views on the formation of close relationships. In particular, we focus on interactions among professional school students (MBA and Masters of Public Policy) from a large and diverse cross-section of the United States, with a significant proportion of our samples made up of international students.

Colleges and universities embrace the free and open exchange of divergent ideas as a key element of student learning and knowledge production. Yet a 2016 survey conducted by UCLA's Higher Education Research Institute found that the entering college freshman class that year was the most politically polarized in the 51-year history of the survey (Eagan et al., 2016). Similarly, in a more recent survey of U.S. college students, a majority (72% of conservatives and 55% of

liberals) reported engaging in self-censorship to avoid ostracism from peers[1]. Finally, in another survey, 38% of Republican students and 12% of Democratic students reported feeling unsafe on campus because of their political views (Zheng, 2019). Such issues deserve attention not only because of the direct impact universities have on hundreds of thousands of students and faculty, but also because they illustrate and presage similar challenges among the population at large. From a research design standpoint, university settings allow for the study of network formation, as new students arrive every year from locations far and wide, all facing new friendship choices. Beyond the study of existing networks, a university setting allows us to study the formation of de novo networks, gaining some purchase on the causal relationships involved and going beyond existing research in this area.

Thus, in Study 1, we test whether students report more ideologically diverse networks if they are higher in individual receptiveness, controlling for demographic homophily and other relevant personality characteristics (extraversion and self-monitoring). In Study 2, using a roster method of data collection that reveals both potential and realized ties, we document close relationship formation among ideologically diverse students in graduate-level business and public policy programs at three campuses in different U.S. regions and with contrasting political reputations. Finally, in Study 3, we presented participants with a variety of challenging interpersonal scenarios to identify the effect of receptiveness on their willingness to engage in prosocial, collaborative behaviors. We randomly assigned participants to consider ideologically aligned versus ideologically opposed targets to rule out the effect of unobservable counterpart characteristics on our outcomes of interest.

Whereas prior research has predominantly focused on measuring individual-level

[1] (College Free Speech Rankings: What's the Climate for Free Speech on America's College Campuses?, 2020; see also College Student Views on Free Expression and Campus Speech 2022: A Look at Key Trends in Student Speech Views since 2016, 2022)

attitudes and behavioral intentions in laboratory settings, we focus on a more consequential and long-lasting social dynamic: the formation of close relationships. Close relationships between ideological opponents are rare, to the point that they are sometimes treated as inspirational case studies (Galofaro & Linderman, 2021). Such relationships take time to form and document, requiring a longitudinal or time-lagged study design. Importantly, such work also requires interdisciplinary collaboration: Tools and concepts from sociological network analysis must be combined with an understanding of psychological processes. Yet, understanding the formation of such close relationships is imperative, as they provide important channels for social support, information, and long-term opportunities (Podolny & Baron, 1997), and are required to build understanding and trust across politically divided communities (Hochschild, 2016).

Transparency and Openness

We describe our sampling plans, all data exclusions, all manipulations (where applicable), and all measures in the respective methods section of each study. All code has been made publicly available at the Open Science Framework and can be accessed at https://osf.io/y5f3b/?view_only=17a63ce8185d4a5db0aa09172f43a7a2. Appendices describe the scenarios used in the experimental study in detail. Data were analyzed using R, version 4.2.0 (R Core Team, 2022) and the package *ggplot2*, version 3.3.5 (Wickham, 2016). Pre-registrations of our experiment (Study 3) is available here (https://aspredicted.org/5L3_62N).

Study 1

Study 1 provides an initial test of our proposition that receptiveness to opposing views is associated with greater propensity to form close relationships with ideologically opposed others. Specifically, we asked study participants to list colleagues at their most recent job with whom they had a close relationship and to characterize whether they were aligned with them ideologically.

Method

Participants. We collected data from 195 students from a master's degree program in a professional school dedicated to the preparation of students for public service. Participants completed a survey as part of an assignment for a required course; we dropped data from four participants who indicated they did not sufficiently know the members of their network to answer all questions. Table 1 reports descriptive statistics for our sample. To protect participant confidentiality, no information was collected on gender or nationality. However, background information on the overall student body confirmed that the respondent pool was gender balanced and internationally diverse (i.e., including more than a dozen distinct countries of origin) and that the students had, with rare exceptions, multiple years of work experience.

Table 1

Descriptive statistics (Study 1)

Variable	*M*	*SD*	*Med.*	*Min.*	*Max*	1	2	3	4	5
1. Receptiveness	4.737	0.829	4.720	2.610	6.940	–	–	–	–	–
2. Extraversion	3.361	0.919	3.250	1.250	5.000	-0.038	–	–	–	–
3. Self-monitoring	10.241	3.468	10.000	0.000	17.000	0.006	0.574	–	–	–
4. Instrumental: Network size	7.262	2.417	7.000	2.000	10.000	0.055	0.139	0.073	–	–
5. Perc. ideologically opposed	0.437	0.382	0.375	0.000	1.000	0.205	0.084	0.007	0.058	–
6. Perc. same gender	0.561	0.317	0.600	0.000	1.000	0.008	-0.011	-0.006	-0.137	-0.183
7. Perc. same race/ethnicity	0.673	0.341	0.800	0.000	1.000	-0.058	0.105	0.065	-0.044	-0.245
8. Perc. similar SES	0.642	0.362	0.750	0.000	1.000	-0.077	0.064	0.074	-0.114	-0.258
9. Friendship: Network size	6.856	2.466	7.000	1.000	10.000	0.071	0.229	0.139	0.638	0.046
10. Perc. ideologically opposed	0.370	0.394	0.200	0.000	1.000	0.171	0.005	0.015	0.035	0.414
11. Perc. same gender	0.557	0.312	0.570	0.000	1.000	0.001	0.156	0.003	-0.074	-0.061
12. Perc. same race/ethnicity	0.685	0.335	0.800	0.000	1.000	-0.045	0.021	0.118	-0.074	-0.135
13. Perc. similar SES	0.747	0.335	0.900	0.000	1.000	0.015	-0.040	0.045	-0.012	-0.156

Variable	6	7	8	9	10	11	12
1. Receptiveness	–	–	–	–	–	–	
2. Extraversion	–	–	–	–	–	–	
3. Self-monitoring	–	–	–	–	–	–	
4. Instrumental: Network size	–	–	–	–	–	–	
5. Perc. ideologically opposed	–	–	–	–	–	–	
6. Perc. same gender	–	–	–	–	–	–	
7. Perc. same race/ethnicity	0.528	–	–	–	–	–	
8. Perc. similar SES	0.301	0.634	–	–	–	–	
9. Friendship: Network size	-0.185	0.095	0.018	–	–	–	
10. Perc. ideologically opposed	-0.116	-0.155	-0.175	0.170	–	–	
11. Perc. Same gender	0.476	0.316	0.189	-0.131	-0.342	–	
12. Perc. Same race/ethnicity	0.322	0.549	0.369	-0.036	-0.383	0.545	
13. Perc. Similar SES	0.297	0.439	0.439	-0.005	-0.417	0.451	0.713

Note. $N = 195$. Perc. = percentage; ideolog. = ideologically. Correlations greater than 0.13 in absolute magnitude are statistically significant at $p < 0.05$.

Measures.

Dependent variables. In this initial examination, we follow seminal network research and distinguish between *instrumental* network ties—those that arise in the course of fulfilling work goals—and *friendship* network ties—those based on informal social relations (Lincoln & Miller, 1979). We asked participants to list colleagues from their professional network who had helped them advance in their career (e.g., provided mentorship or advice, important recommendations or introductions); going forward, we will refer to this as their *instrumental network.* Participants also listed colleagues whom they consider their "closest professional friends" (e.g., people with whom they share a sense of camaraderie, mutual trust, loyalty, and social support)—their *friendship network.* For each listed colleague, respondents indicated whether they have similar or opposing ideological views. Based on respondents' assessments, we constructed binary indicators of whether the given colleague in the given network (instrumental or friendship) was opposed to the participant's own ideological views. We then computed the percentages of participants' instrumental and friendship networks that consisted of colleagues with opposing ideological views, and used these two measures as our dependent variables. Networks with higher percentages of individuals with opposed views were considered to be more ideologically diverse.[2]

Independent variable. Our key independent variable is respondents' receptiveness to opposing views, which is measured with the 18-item scale from Minson et al. (2020). The scale is reproduced in the Appendix. Overall, the scale consists of 18 Likert-style items with seven

[2] Our measures of ideological opposition appear in the Appendix. Participants could also indicate that they did not know the person well enough to say whether they had similar ideological views. Since we were focused on substantive professional relationships, we dropped colleagues that the participants reported not knowing well from their networks and did not use them in computing the measures of ideological opposition. As mentioned above, this resulted in a loss of four participants.

response levels asking respondents to reflect on how they typically react to information from and interactions with people whom they strongly disagree with on important topics.

Control variables. Because extraversion and self-monitoring orientation have been associated in previous research with network relationship formation (e.g., Asendorpf & Wilpers, 1998; Fang et al., 2015; Feiler & Kleinbaum, 2015; Mehra et al., 2001), we included measures of both in our analyses. In this way, we empirically distinguish the effects of receptiveness on bridging ideological divides from those of well-established constructs. We measured extraversion using eight items from the Big Five Inventory (John & Srivastava, 1999) and self-monitoring orientation using 18 items from Snyder and Gangestad (1986).

Apparent ideological homophily could be a reflection of other incidental characteristics (e.g., women tending to have more progressive views than men; McPherson et al., 2001). Accordingly, we asked each respondent to indicate which members of their instrumental and friendship networks matched them on gender, race, ethnicity, and socioeconomic status (SES). As with ideological views, we computed network-level variables using these variables (e.g., "Percent of Friendship Network with Same Gender"). To help ensure that observed effects were not driven merely by differences in network size, we control for the number of network members identified by each participant.

Analytic procedure. Our key analyses rely on ordinary least squares regression. An alternate approach for dependent variables in the interval [0,1], fractional response regression (Papke & Wooldridge, 1996), provided identical support. We report OLS results for ease of

presentation. We standardized independent variables to facilitate the interpretation of coefficients.

Results

The scales we used in our study achieved the usual high levels of internal validity (receptiveness alpha = 0.84; extraversion alpha = 0.89; self-monitoring alpha = 0.71).[3] Table 1 reports descriptive statistics. As predicted, receptiveness to opposing views was positively correlated with the percent of ties respondents coded as "ideologically opposed" to their own view (instrumental: $r = .21$, $p = 0.004$; friendship: $r = 0.17$, $p = 0.017$). Neither extraversion nor self-monitoring were significantly correlated with the percent of ties to ideologically opposed colleagues.

Tables 2 reports the results of the OLS regressions. The dependent variable is the percentage of a participant's network with opposing views, with Models 1-3 focusing on the instrumental network, and Models 4-6 focusing on the friendship network. Models 2 and 5 introduce extraversion and self-monitoring as control variables, and Models 3 and 6 further introduce other network attributes as controls.

[3] We find similarly high values of Cronbach's alpha for receptiveness, extraversion, and self-monitoring in all of our studies. For brevity, we report these statistics here only.

Table 2

OLS regressions: Percentage of network ideologically opposed (Study 1)

Variable	Instrumental Network			Friendship Network		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Receptiveness	0.078**	0.081**	0.074*	0.067*	0.068*	0.063*
	(0.027)	(0.027)	(0.026)	(0.028)	(0.028)	(0.025)
Extraversion		0.051	0.056†		0.002	-0.012
		(0.033)	(0.032)		(0.034)	(0.033)
Self-monitoring		-0.027	-0.023		0.004	0.014
		(0.033)	(0.032)		(0.034)	(0.031)
Percentage same gender			-0.032			-0.054†
			(0.031)			(0.032)
Percentage same race/ethnicity			-0.038			-0.035
			(0.038)			(0.039)
Percentage similar SES			-0.061†			-0.116**
			(0.034)			(0.036)
Network size			-0.001			0.054*
			(0.027)			(0.026)
Intercept	0.437***	0.437***	0.437***	0.370***	0.370***	0.370***
	(0.027)	(0.027)	(0.026)	(0.028)	(0.028)	(0.025)
R^2	0.042	0.054	0.133	0.029	0.030	0.256
$R^2_{Adjusted}$	0.037	0.039	0.100	0.024	0.014	0.228

Note. $N = 195$

***$p < 0.001$. **$p < 0.01$. *$p < 0.05$. $^{\dagger}p < 0.10$.

In the regression analyses, we continued to observe positive relationships between the respondents' receptiveness and their reported percent of ideologically opposed ties. As shown in Table 2, individual receptiveness was significantly positively associated with the percentage of ties holding ideologically opposed views in both instrumental and friendship networks, controlling for extraversion, self-monitoring, and other potential sources of homophily (Table 2, Model 3: $b = 0.074$, $p = 0.005$; Model 6: $b = 0.063$, $p = 0.012$).

These effects are both significant and substantive. For example, a one standard deviation increase in receptiveness is associated with a 7.4 percentage point increase in the ideological diversity of the instrumental network and a 6.3 percentage point increase in the ideological diversity of the friendship network, a 17.0% and 17.1% increase from the sample means of 43.7% and 37.0%, respectively. Furthermore, the effect of receptiveness on ideological diversity appears to be independent from that of extraversion and self-monitoring: except for a moderately significant effect for extraversion in Model 3 of Table 2 (b: 0.056, $p = 0.083$), neither extraversion nor self-monitoring had a systematic relationship with the ideological diversity of professional networks.

Discussion

Study 1 provides initial evidence to support the hypothesis that receptiveness is distinctively associated with the ideological diversity of young professionals' social networks. Both in the case of instrumental professional relationships and workplace friendships, more receptive participants reported more diverse sets of contacts. Importantly, these results held even when controlling for extraversion and self-monitoring, two individual difference characteristics previously found to have a role in network formation (Fang et al., 2015; Feiler & Kleinbaum, 2015; Oh & Kilduff, 2008; Roberts et al., 2008; Sasovova et al., 2010).

Although in line with our predictions, these results are nevertheless somewhat surprising.

Prior research on receptiveness was conducted in a laboratory setting and examined participants' behavior in highly structured environments. The fact that this tendency emerged as a predictor of network formation across the highly fraught ideological gulf that characterizes modern society is notable.

The results of Study 1 suggest the presence of our hypothesized relationship. However, because we were only able to collect data from one member of any given dyad, we were not able to examine the attributes of the potential relationship partner. Such attributes may be important in determining whether a close relationship is formed. Although particularly receptive individuals may more frequently reach out to ideologically opposed others than less receptive individuals, the actual formation of a close relationship requires their overtures to be reciprocated. This dynamic can only be captured with precise information about the level of receptiveness of both counterparts.

Furthermore, because our first study focused on established networks, it is impossible to judge whether receptiveness played a role in the *formation* of network ties. It may be the case, for example, that people in more heterogeneous networks became more receptive as a function of exposure to a broader set of ideas. Finally, Study 1 examined patterns of *realized* networks without accounting for the full set of *potential* ties that could have formed. The design of our next study allows us to address some of these open questions.

Study 2

We conducted a time-lagged study of network formation with several noteworthy features. First, we moved to the dyad level of analysis and queried both parties within any potential dyad about their level of receptiveness, their ideology, and whether a network tie was formed. This helped us examine the relationship between receptiveness on the part of both dyad

members and the realization of ideologically opposed relationships.[4] Second, we examined the formation of *de novo* network ties. Although the lack of random assignment prevents us from making strong causal claims, measuring receptiveness before people can form relationships helps establish the temporal ordering of the relationship between receptiveness and the formation of ideologically opposed relationships. Third, we examined *closed* networks—ties restricted to members of the same population—which allows us to consider the full set of relationships that could potentially have been formed versus those that actually were. Fourth, we utilize moderated polynomial regression and response surface analysis of our dyadic data (Edwards, 1996, 2002), providing visual and statistical evidence of how a congruence effect—i.e., the effect of ideology on relationship formation—is moderated by interindividual differences in receptiveness.

Focusing on possible ties in a closed network allows us to move from individual-level to dyad-level analyses, a choice consistent with recent work on the role of personality in social network formation (Kleinbaum et al., 2015; Selden & Goodie, 2018). In Study 2, we apply a similar analytical approach to assess the role of mutual receptiveness in the formation of ideologically opposed relationships. In line with our predictions about the individual motivational tendencies associated with receptiveness, we theorized that more highly receptive individuals would be more likely to make relationship overtures to ideologically opposed peers. We anticipated, however, that the success of these overtures would depend on the peer's receptiveness.

Method

Empirical setting and participants. We conducted a time-lagged field study in which we collected data from the entering cohorts of professional schools at three separate universities

[4] Since Study 2 required participants to answer network questions about (potentially) hundreds of counterparts, and since the Study 1 results for receptiveness were highly similar across instrumental and friendship networks, we did not distinguish between instrumental and friendship network ties in subsequent studies.

that varied in political orientation: two majority liberal (79.4% and 87.3%) and one majority conservative (71.3%). Of the 657 eligible graduate student participants, 607 responded to surveys (92.4%), of which 599 (91.7%) provided complete data and were retained in our final sample.

We collected data from all participants through surveys implemented at two time points. The first survey was administered at the beginning of each program, before the vast majority of participants had contact with one other. In this survey, individuals answered questions about their own receptiveness, political orientation, and additional personality attributes (described below). Several weeks later, after classes started and students had ample interaction opportunities, we administered a second survey in which participants identified the peers with whom they had formed close relationships.[5] To mitigate recall bias, we used the roster method to elicit these contacts (Marsden, 2011). Each participant viewed the complete list of students in their school and indicated whether a close relationship was present. We also collected additional measures (described below) that served as control variables.

Measures.

Dependent variable. At the beginning of the second survey, participants viewed a screen with a roster of all students in their section (i.e., the subset of their graduating class with whom they took courses during their first year) and read the following prompt: "Please click on a name if you have formed a close or very close relationship with any of these classmates (e.g., you discuss with them matters that are personally important to you)." Participants then viewed randomly ordered rosters for each additional section until they had considered every classmate at

[5] We did not have full control over the timing of when surveys were administered: for two of the schools, the second survey was administered about three-to-four weeks after students' initial interactions; for the other school, it was administered after six weeks. However, the additional two weeks for this school did not appear to result in more relationship nominations than would have been expected. Even so, we account for school-level differences using fixed effects in our regressions.

their school. Our dependent variable was set to 1 if both participants in a given dyad indicated they had a relationship with the other and to 0 otherwise. That is, we examined reciprocated relationships.

Independent variables. We again measured political orientation using a seven-point scale ranging from "Very Conservative" to "Very Liberal." We measured receptiveness using the 18-item scale from Minson et al. (2020).

Control variables. Consistent with Study 1, we controlled for extraversion and self-monitoring orientation. To help account for participants selecting relationship partners on demographic similarity (as with gender, race, ethnicity, and socioeconomic status in Study 1; McPherson et al., 2001), we controlled for whether the two members of a dyad were of the same gender and whether both were from the United States.[6]

We have argued that receptiveness helps ideologically opposed individuals form relationships in novel settings. However, another possibility is that receptive individuals come from already diverse networks, and that they merely reproduce such diversity in new networking opportunities. To help account for this alternative explanation, we use data from participants' time 1 survey to control for the political orientation of their network from before their graduate program. Participants identified up to ten individuals from their pre-program network with whom they discussed important professional matters and the political orientations of these individuals using the same seven-point scale described above. For each member of a given dyad, we controlled for the size of this pre-program network, and the count of conservatives in this network (i.e., "Very Conservative" through "Slightly Conservative"), as well as the count of those neither liberal nor conservative (i.e., those in the middle of the political orientation scale).

[6] Due to the length of the survey and additional sensitivity created by participants self-disclosing race and ethnicity and socioeconomic status, we did not collect these data.

The count of participants' pre-program network that is liberal (i.e., "Slightly Liberal" through "Very Liberal") is omitted from the regressions to provide a reference point. All counts are summarized in the descriptive statistics.

Analytic Procedure.

***Polynomial regression*.** We seek to understand the relationship between two parties' ideology, their receptiveness to opposing views, and their likelihood of forming a close tie. We use moderated polynomial regression, which is well-suited to examining complex relationships of this type (Bono & Colbert, 2005; Edwards, 1994, 1996; Edwards & Rothbard, 1999; Wilson et al., 2018).

With data from both parties to a prospective relationship, we were able to focus on *confirmed, reciprocated* ties—that is, those in which both parties reported a relationship had formed. This approach helps to counteract known biases in network surveys: expansiveness bias, or the tendency for people to report having larger networks than they actually do, and attractiveness bias, or the tendency for people to differentially report having ties to high-status peers (Feld & Carter, 2002). Given that the risk set of tie formation was bounded by geography—that is, it was very unlikely for students in one professional school to form a tie to a student thousands of miles away in another professional school—we constructed three separate networks for each professional school and then pooled the observations across schools. As described below, to account for the idiosyncrasies of tie formation across schools and across sections within a school, we included section-by-school fixed effects in our models. In all, we analyzed relationship formation among 63,775 pairs of students from the same schools.

Polynomial regression models take the following general form:

$$\mathrm{Z} = b_0 + b_1X + b_2Y + b_3X^2 + b_4XY + b_5Y^2 + e \quad (1)$$

where X and Y are variables whose congruence or incongruence are expected to impact some

outcome of interest, Z. After obtaining estimates of model coefficients, researchers can prepare three-dimensional plots of the response surface (Z) in terms of X and Y, and can analyze key features of the response surface, such as its shape along the *congruence* and *incongruence lines*—that is, where values are the same (X = Y) or the opposite of each other (X = −Y). Specifically, Cohen, Nahum-Shani, and Doveh (2010) show the curvature along the incongruence line is equal to a linear combination of model coefficients ($b_3 - b_4 + b_5$).

For our analysis, X and Y are the political orientations of the two members of a given dyad, and Z is an indicator of a reciprocated relationship (i.e., both members recognize a relationship). In the response surface plots, the vertical Z axis is the predicted probability of a reciprocated relationship. Congruence and incongruence correspond to ideological alignment and opposition, and we label these lines accordingly in our tables and plots. Because of the general tendency for like-minded individuals to connect and opposite-minded individuals to repel, at baseline, the likelihood of relationship formation should be highest along the ideological alignment line (where political orientations of ego and alter are the same), and it should plummet along either side of the ideological opposition line (where political orientations diverge). This pattern of negative curvature along the ideological opposition line can be assessed visually and through statistical tests.

Given that both sides had to confirm the existence of a tie, the designation of whose value is "X" and whose value is "Y" is arbitrary. In network-analytic terms, this means that our analyses focused on *undirected dyads*. That is, while we include the political orientation of each dyad member in the model and identify one as "ego" and the other as "alter" (a choice we describe in more detail below), these designations do not correspond to the initiator and target of a tie.

Moderated polynomial regression. Ultimately, we are interested in how the response

surface changes with variation in receptiveness to opposing views. This requires an elaboration on the analytic procedure described above: moderated polynomial regression. Such models extend the baseline model by including moderators (e.g., V, W) and their interactions and higher terms as follows (Edwards, 1996):

$$\begin{aligned} Z = {} & b_0 + b_1X + b_2Y + b_3X^2 + b_4XY + b_5Y^2 \\ & + b_6V + b_7W + b_8V^2 + b_9VW + b_{10}W^2 \\ & + b_{11}XV + b_{12}YV + b_{13}X^2V + b_{14}XYV + b_{15}Y^2V \\ & + b_{16}XW + b_{17}YW + b_{18}X^2W + b_{19}XYW + b_{20}Y^2W + e \end{aligned} \tag{2}$$

This can be reduced to a model in the form of Equation 1, as follows:

$$\begin{aligned} Z = {} & (b_0 + b_6V + b_7W + b_8V^2 + b_9VW + b_{10}W^2) \\ & + (b_1 + b_{11}V + b_{16}W)(X) \\ & + (b_2 + b_{12}V + b_{17}W)(Y) \\ & + (b_3 + b_{13}V + b_{18}W)(X^2) \\ & + (b_4 + b_{14}V + b_{19}W)(XY) \\ & + (b_5 + b_{15}V + b_{20}W)(Y^2) + e \\ & = d_0 + d_1X + d_2Y + d_3X^2 + d_4XY + d_5Y^2 + e \end{aligned} \tag{3}$$

By substituting desired levels of the moderators *V* and *W* (such as the mean and one standard deviation above and below the mean), the model is then in terms of X, Y, and Z only and can be more easily analyzed and interpreted. The statistics d_i (e.g., $d_1 = b_1 + b_{11}V + b_{16}W$) can be used to analyze key features of the response surface described above, such as the curvature along the ideological opposition line, and how these features change with different levels of *V* and *W*.

We included both ego and alter receptiveness in models and interacted each of these moderators with the political orientation terms (i.e., ego political orientation, alter political orientation, their interaction, and higher order terms). We also included interactions between ego and alter receptiveness and their respective squared terms. We implemented our analyses with and without the control variables described above (Becker, 2005). When we included control variables, we entered the values of those controls for ego and alter as separate regressors, just as with receptiveness and political orientation. To visualize and analyze key features of the

response surface, we computed surface statistics using chosen levels of individual-level receptiveness for ego and alter: both at the average level, both at low levels (i.e., one standard deviation below the mean), and both at high levels (i.e., one standard deviation above the mean) of receptiveness (Edwards, 1996).

Different random designations of who is "ego" and who is "alter" can result in different distributions for the "X," "Y," "V," and "W" variables. Accordingly, we conducted 10,000 bootstrap replications of our regression models using varying "ego" and "alter" assignments and, following Edwards (2002), obtain bias-corrected bootstrap confidence intervals (Efron & Tibshirani, 1993; Mooney & Duval, 1993; Stine, 1989). We describe our estimating equations and analytical strategy in more detail in the Appendix.[7]

***Estimation*.** Because the dependent variable in all models is dichotomous, we estimated logistic regression models. Although difficulties may arise when interpreting interactions in nonlinear models (Norton et al., 2004), polynomial regression is less concerned with the interpretation of individual coefficients and more focused on the shape of the response surface, which we assess visually and with tests on linear combinations of the coefficients (described below).[8]

Results

Descriptive statistics. Table 3 presents descriptive statistics and correlations for the individual-level sample. While extraversion and self-monitoring are positively and significantly

[7] As an alternative to moderated polynomial regression, we also estimated models following the approach of Fafchamps and Gubert (2007), which includes both dyad-level sums variables and absolute-value differences of individual-level variables. In this approach, we examined how the negative coefficient associated with ideological difference was positively moderated by the dyad-sum of receptiveness. In yet another alternative estimation approach, we modeled relationship formation as a function of indicators of ideological opposition (i.e., ego and alter were on opposite sides of the ideological spectrum), indicators of high and moderate dyad receptiveness, and interactions among these indicators. We obtained an identical pattern of evidence regardless of which modeling approach we used.

[8] We reach the same conclusions using linear probability models (ordinary least squares).

correlated with the number of reciprocated relationships ($r = 0.273$, $p < 0.001$; $r = 0.200$, $p < 0.001$), receptiveness is not ($r = 0.025$, $p = 0.469$). We find a modest negative correlation between political orientation (-3: "Very Conservative" to 3: "Very Liberal") and individual-level receptiveness ($r = -0.193$, $p < 0.001$), indicating that the more liberal individuals in our sample tended to be less receptive. Participant political orientation is strongly correlated with the measures of the political orientation of their pre-program network (e.g., Number Liberal: $r = 0.647$, $p < 0.001$), providing initial suggestive evidence of political homophily. As with individual political orientation, participants with more liberal pre-program networks were less receptive ($r = 0.121$, $p < 0.001$).

Because we randomly designated the assignment of which dyad member was "ego" and which was "alter" in our bootstrap replications, the dyad-level descriptive statistics for ego/alter receptiveness, ego/alter extraversion, and the other controls varied with each replication. However, since our dependent variable was set to 1 only if both members of the dyad recognized a relationship (and 0 otherwise), the number of reciprocated relationships was the same across all replication samples. Of our 63,775 undirected dyads, 2,200 (3.45%) reported reciprocated relationships.

Table 3

Descriptive statistics and pairwise Pearson correlations—Individual level (Study 2)

Variable	*M*	*SD*	Med.	Min.	Max	1	2	3	4	5	6	7	8	9	10
1. Number of Reciprocated Relationships	7.346	5.063	6.000	0.000	33.000	–	–	–	–	–	–				
2. Receptiveness	4.616	0.820	4.611	1.889	7.000	0.025	–	–	–	–	–				
3. Political Orientation	0.998	1.730	2.000	-3.000	3.000	-0.016	-0.193	–	–	–	–				
4. Female	0.404	0.491	0.000	0.000	1.000	-0.072	-0.145	0.269	–	–	–				
5. From U.S.	0.715	0.452	1.000	0.000	1.000	0.124	-0.159	-0.050	-0.014	–	–				
6. Extraversion	3.429	0.837	3.500	1.250	5.000	0.273	0.140	0.026	0.013	-0.031	–				
7. Self-monitoring	3.606	0.586	3.615	1.154	5.231	0.200	0.121	0.114	-0.002	-0.027	0.220				
8. Pre-Program Network: Total Size	7.194	2.428	7.000	1.000	10.000	0.075	-0.009	0.096	0.039	0.076	0.122	0.100			
9. Pre-Program Network: Nb. Liberal	4.144	2.929	4.000	0.000	10.000	0.022	-0.139	0.647	0.271	0.061	0.093	0.112	0.539		
10. Pre-Program Network: Nb. Conservative	1.836	2.020	1.000	0.000	10.000	0.093	0.107	-0.646	-0.254	0.062	0.004	-0.068	0.207	-0.535	
11. Pre-Program Network: Nb. Neither	0.589	0.974	0.000	0.000	10.000	-0.008	0.045	-0.046	-0.062	-0.084	0.035	0.066	0.215	-0.142	0.013

Note. $N = 599$. Correlations greater than 0.08 in absolute magnitude are statistically significant at $p < 0.05$.

Moderating effect of mutual receptiveness. Since our response surface analysis provides the most direct test of the moderating role of receptiveness, we focus on these statistics rather than on the logistic regressions that served as inputs to this analysis. See Table A1 of the appendix for a summary of the 10,000 bootstrapped logistic regressions. As in Study 1, we estimated models with and without control variables. Table 4 reports the response surface statistics derived from the logistic regressions without control variables; a similar table of statistics utilizing the regressions with control variables appears in Table A2 of the Appendix. The response surface statistics are consistent with those described in Equation 3 above; additional details about our full models appear in the Appendix.

These statistics were computed at selected values of individual-level receptiveness for ego and alter: both at the average level (Column 1), both at low levels (a standard deviation below the mean; Column 2), and both at high levels (a standard deviation above the mean; Column 3). The statistics have an intuitive interpretation. From Column 1 of Table 4, we see positive statistics for ego and alter political orientation (d_1 and d_2), and negative statistics for the quadratic terms (d_3 and d_5), suggesting a ridge-like surface. The three-dimensional response surface plot and accompanying contour plot corresponding to these statistics appear in Figure 1a. Indeed, we see that the predicted probability of relationship formation tends to be highest when dyad members have similar political orientations and lowest when political orientations diverge. This visual evidence is consistent with our baseline expectation that ideological alignment is associated with a higher likelihood of relationship formation than ideological opposition. A statistical test of the curvature along the ideological opposition line (see Table 4, Column 1) corroborates this interpretation: The curvature is negative (-0.063), and the bias-corrected 95% bootstrapped confidence interval for this value ([-0.099; -0.028]) excludes zero. In all, this

pattern of results is consistent with our baseline expectation of political homophily in relationship formation.

Table 4

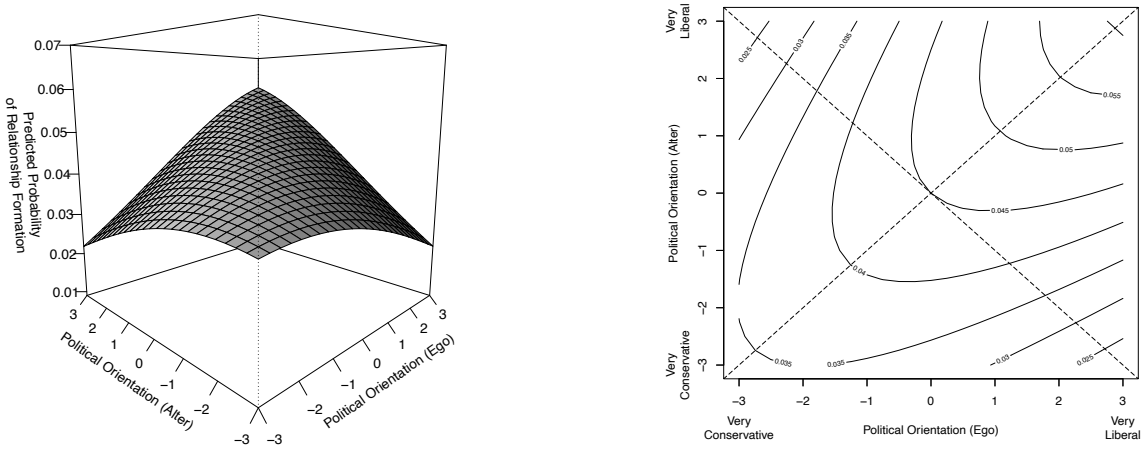
Response surface statistics derived from logistic regression: Reciprocated relationship (Study 2)

	Average Receptiveness	*Low Receptiveness*	*High Receptiveness*
$d_1 = b_1 + b_8RE + b_{13}RA$	0.052*	0.049	0.055
	[0.003; 0.102]	[-0.047; 0.147]	[-0.020; 0.131]
$d_2 = b_2 + b_9RE + b_{14}RA$	0.052*	0.048	0.056
	[0.003; 0.102]	[-0.049; 0.148]	[-0.019; 0.132]
$d_3 = b_5 + b_{10}RE + b_{15}RA$	-0.020	-0.048*	0.007
	[-0.043; 0.001]	[-0.091; -0.008]	[-0.030; 0.043]
$d_4 = b_6 + b_{11}RE + b_{16}RA$	0.022*	0.051*	-0.007
	[0.012; 0.032]	[0.032 0.071]	[-0.023; 0.009]
$d_5 = b_7 + b_{12}RE + b_{17}RA$	-0.021	-0.049*	0.007
	[-0.043; 0.000]	[-0.090; -0.009]	[-0.030; 0.044]
Ideological Alignment Line			
Slope ($d_1 + d_2$)	0.104*	0.096*	0.111*
	[0.052; 0.156]	[0.020; 0.177]	[0.030; 0.196]
Curvature ($d_3 + d_4 + d_5$)	-0.020	-0.046*	0.007
	[-0.044; 0.004]	[-0.089; -0.003]	[-0.035; 0.048]
Ideological Opposition Line			
Slope ($d_1 - d_2$)	0.000	0.001	-0.000
	[-0.084; 0.085]	[-0.180; 0.179]	[-0.126; 0.123]
Curvature ($d_3 - d_4 + d_5$)	-0.063*	-0.148*	0.022
	[-0.099; -0.028]	[-0.219; -0.082]	[-0.034; 0.074]

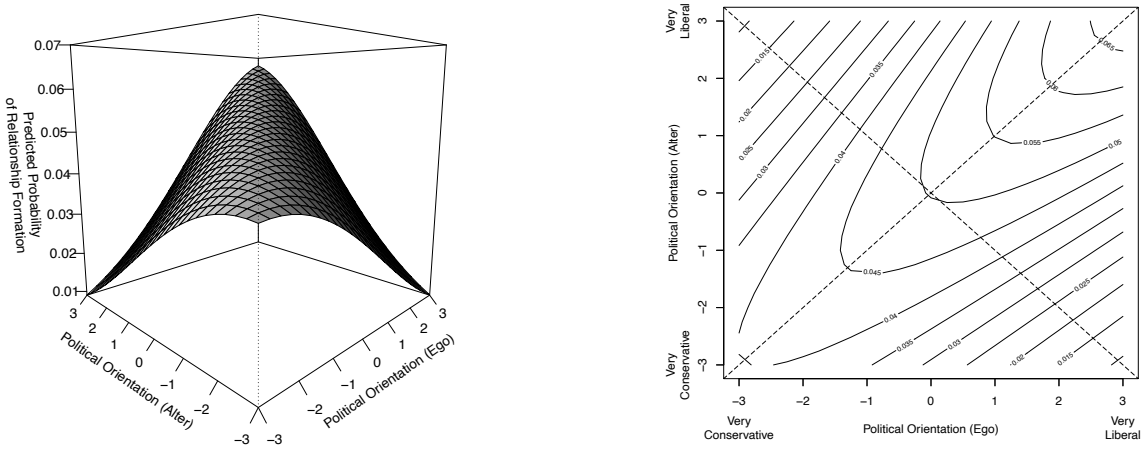
Note. Statistics are derived from 10,000 bootstrap replications of logistic regression. See Table 4 for a summary of these regressions. Bias-corrected 95% bootstrapped confidence intervals appear below statistics of interest. All models from which statistics are derived include school-section fixed effects. RE and RA refer to receptiveness of ego and alter.
* 95% confidence interval excludes zero.

Figure 1

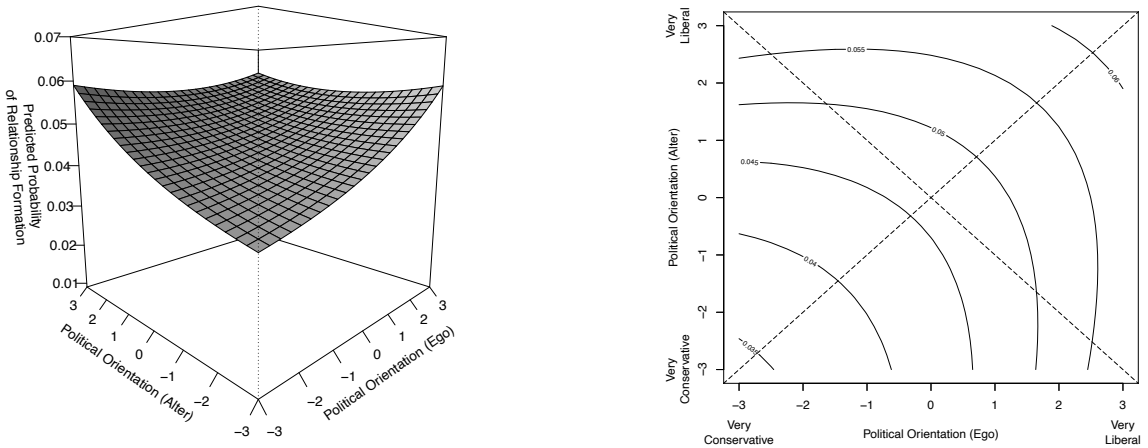
Predicted probability of reciprocated relationship formation across political orientation and receptiveness profiles (Study 2)



(a) Both dyad members have average receptiveness



(b) Both dyad members have low receptiveness



(c) Both dyad members have high receptiveness

Note: Figures correspond to results reported in Table 4. Dashed diagonal lines indicate ideological alignment and opposition lines. Political orientation ranges from Very Conservative (-3) to Very Liberal (3). 'Low' and 'high' receptiveness correspond to one standard deviation below and above average, respectively.

We now turn to our key question by examining how the response surface changes when the members of the dyad are both low or both high in receptiveness. In Column 2 of Table 4, we see a similar pattern of statistics for the low-receptiveness condition as in the average condition, but with higher magnitudes, especially for statistics describing curvature (d_3, d_4, and d_5). Indeed, in Figure 1b, we again see a ridge-like response surface generally maximized near the ideological alignment line, but with even sharper plummets in the likelihood of relationship formation as political orientations diverge. The curvature along the ideological opposition line is -0.148 (CI [-0.219; -0.082]), which is more than double the magnitude of the curvature obtained using average receptiveness (-0.063, CI [-0.099; -0.028]). This offers additional evidence that political homophily is amplified in the presence of mutually low receptiveness to opposing views.

The response surface for the model using mutually high receptiveness is quite different. In Column 3 of Table 4, we see a contrasting pattern of statistics: None of the base statistics (d_1 through d_5) is statistically significant, suggesting a relatively flat response surface. As is seen in the corresponding plot (Figure 1c), the surface is indeed much flatter than the other two surfaces (Figure 1a and 1b), with a slightly positive curvature along the ideological opposition line. Most strikingly, highly mutually receptive dyads experiencing the most ideological opposition (i.e., very liberal evaluators considering very conservative targets, and vice versa) have considerably higher predicted probabilities of relationship formation than dyads with average or low receptiveness. Statistical tests corroborate this interpretation of the response surface: The curvature along the ideological opposition line for this response surface is not statistically significantly different from zero (0.022, CI [-0.034; 0.074]), suggesting that when both members of the dyad are highly receptive, ideological opposition does not significantly change the likelihood of relationship formation.

These response surface plots help clarify that receptiveness is not merely a proxy for being politically moderate (i.e., neither liberal nor conservative). If receptiveness were simply a marker of political centrism, we would expect those with extreme political orientations—Very Conservative and Very Liberal—to avoid forming relationships with ideological opponents regardless of their level of receptiveness. However, the figures reveal that increasing receptiveness flattens the response surface across all political orientations. Even individuals at the midpoint of the political orientation scale ("0") are hesitant to form relationships with those who differ ideologically when receptiveness is low (Figure 1b), but show greater willingness as receptiveness increases (Figure 1c). This suggests that receptiveness moderates ideological barriers to relationship formation at all points along the political spectrum.

An unexpected feature of this response surface is the positive and statistically significant slope along the ideological alignment line (0.104, CI [0.052; 0.156]). This suggests that conservatives were generally less likely to form relationships—with anyone—than were liberals and were less sensitive to political orientation when forming relationships (i.e., the descent from the ridgeline was less steep for conservatives than for liberals). We hesitate to generalize from this feature, as it may merely reflect the fact that conservatives were in the minority for two of our three locations. More important for our purposes is the fact that the alignment effect pattern persists for conservatives as it does for liberals, albeit less dramatically: That is, when conservatives were forming relationships, they—like liberals—were still most likely to do so with other conservatives.

We replicated the analyses that produced Table 4 and Figure 1 using logistic regression models that included the control variables (extraversion, self-monitoring, same gender, same origin, and controls for the political orientation of participants' pre-program networks). We obtain identical support when including these controls. The corresponding table of statistics and

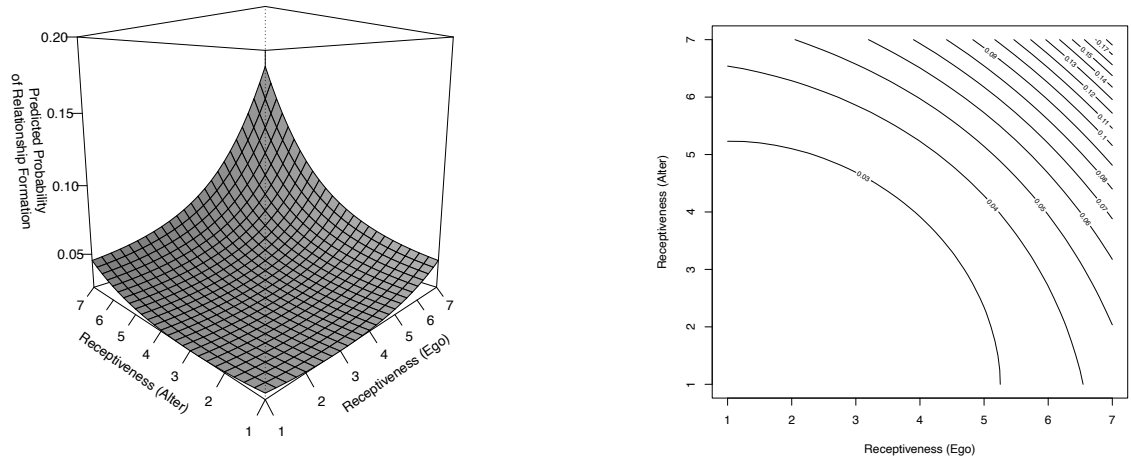
response surface plots appear in the Appendix.

Individual versus mutual receptiveness. The previous analysis has focused on the effects of dyads having the same level of receptiveness: both average, both low, or both high. We conducted additional analyses to examine whether high receptiveness on one side of the dyad only is sufficient to bridge ideological divides. Using our polynomial regression model described above, we estimated predicted probabilities of relationship formation for dyads in which the members held opposing political orientations (e.g., {-3,1}, {-3,2}, etc.) and prepared a new response surface plot using aggregates of these predictions. In this case, we used receptiveness of ego and alter as the bases of the plot rather than political orientation. Essentially, this plot allows us to see how the predicted probability of relationship formation across the ideological divide varies with changes in the receptiveness composition of the dyad.

Figure 2 reports this plot and its accompanying contour plot. As shown in the figure, the predicted probability of relationship formation among ideologically opposed individuals is highest when both members of the dyad are highly receptive. In particular, it is not until both members have receptiveness levels of about 5 out of 7 or greater (corresponding to the upper 34% of the distribution) that the probability of ideologically opposed partners forming a relationship begins to increase substantively. In all, it does not appear that the receptiveness of ego or alter alone is sufficient; both are necessary.

Figure 2

Predicted probability of reciprocated relationship formation in ideologically opposed dyads, by receptiveness profiles (Study 2)



Note: Predicted probabilities are derived from the same 10,000 bootstrap replications of logistic regression that contributed to the creation of Table 4 and Figure 1. These regressions are summarized in Table A2.

Additional analyses. An alternative interpretation of our results is that receptiveness partially reflects one's propensity to be more outgoing (i.e., extraversion) or to exercise chameleon-like adaptability in engaging with diverse interaction partners (i.e., self-monitoring orientation). To assess these possibilities, we performed analyses similar to those reported above but examined variation in extraversion and self-monitoring rather than receptiveness. Specifically, we assessed whether mutual extraversion and mutual self-monitoring countered the negative effect of ideological opposition on relationship formation to a similar degree as mutual receptiveness. In analyses reported in our Appendix, we find that neither variable significantly bridges ideological divides in the manner that receptiveness does above. While the likelihood of reciprocated relationships appears to increase generally with mutual extraversion and mutual self-monitoring, the likelihood of ideologically opposed dyads forming relationships varies little with these attributes. Indeed, if anything, the curvature along the ideological opposition line

becomes more negative as extraversion increases—from -0.053 (CI [-0.090; -0.019]) at average extraversion to -0.085 (CI [-0.135; -0.037]) at high extraversion, though this change is not statistically significant ($W(1) = 1.705$, $p = 0.192$). The corresponding change in curvature for self-monitoring is in the right direction—from -0.052 (CI [-0.087; -0.019]) to -0.042 (CI [-0.097; 0.011])—but this small change is also not statistically significant ($W(1) = 0.207$, $p = 0.649$).

Discussion

In line with our first study, Study 2 provides evidence that people who score higher (versus lower) in receptiveness report that a higher proportion of their close relationships are with ideological opponents. This result was obtained with a large sample of participants across three very different U.S. universities, with each sample featuring a high proportion of international students. The important new insight gained from Study 2 is that individual receptiveness tells only part of the story of relationships formation across ideological differences. By tracking the formation of new relationships in a closed network, we find that a dispositional orientation toward receptiveness leads to close bonds between ideological opposites only if that dispositional orientation is reciprocated. In other words, it is higher levels of dyadic receptiveness that appear to facilitate relationships across ideological divides.

Demonstration of the role of receptiveness in actual relationship *formation* (as opposed to *recollection* of past relationships, which could be impacted by a variety of biases) enhances the external validity of our findings and presents receptiveness as a promising catalyst for bridging ideological divides. However, one might wonder what the consequences of being in a "close relationship" are on real-world behavior. Our Study 1 elicitation required participants to name those whom they turn to for advice, mentorship, and discussion of difficult topics – i.e., behaviors that fill important functions in our social lives. In Study 3, we zero in on the specific consequences of close relationship formation. Specifically, we examine the proclivity of

receptive individuals to engage in costly supportive and collaborative relationships with those with whom they disagree.

Our next study also aims to improve the internal validity of our findings for the bridging role of receptiveness. Although Study 2 improved upon Study 1 in being time-lagged and collected receptiveness in advance of actual relationship formation, these studies cannot establish a causal link between receptiveness and bridging ideological divides. Thus, in Study 3, we complemented our correlational findings with an experimentally controlled study of how receptiveness influences individual responses to an ideological opponent in need of support.[9] Furthermore, we extend our investigation by including three new control variables that might play a similar bridging role as receptiveness: the Big Five traits of openness and agreeableness (John & Srivastava, 1999) and need for cognition (Cacioppo et al., 1984).

Study 3

In Study 3, we focus on the role of receptiveness in predicting the propensity to engage in helping and collaborative behaviors that might be costly to the self. In other words, does receptiveness lead to consequential changes in interaction quality among ideological opponents? We first test (1) whether ideological opposition has a negative effect on individuals' inclination to engage in collaborative behaviors and (2) whether this negative effect of ideological opposition is mitigated by respondents' receptiveness to opposing views.

We further measure whether agreeableness, openness, and need for cognition have similar effects as those documented for receptiveness or whether this trait is relatively unique in

[9] Although we found mutual receptiveness was necessary for close relationship formation in Study 2, our shift to an experimental design in Study 3 necessitated some adaptation. Since receptiveness is not amenable to experimental manipulation, we focused on experimentally controlling the perceived ideological profile of participants' targets and exploited natural variation in individual receptiveness to document our interaction effects of interest. The fact that we find willingness to collaborate with ideological opponents even when only one party's receptiveness is ensured nuances the findings of Study 2 and suggests we would observe even more collaboration among mutually receptive, ideologically opposed pairs.

its ability to support bridging behaviors. Need for cognition captures individuals' willingness to deeply consider ideas, which one might reasonably expect to support thoughtful engagement with holders of opposing views. Openness has been associated with network diversity (Baer, 2010; Selden & Goodie, 2018), and there is some evidence that people who are higher in agreeableness are more prone to boundary spanning (Cross & Prusak, 2003; Selden & Goodie, 2018).

Method

Participants. We recruited a politically balanced sample of 400 students residing in the United States through the Prolific platform. Per our pre-registration, we excluded 22 participants whose political orientation was "neither liberal nor conservative" to ensure that participants were unambiguously assigned to a condition of either ideological alignment or opposition. Our final sample consisted of 378 participants (*Female* = 43%).

Procedure. We explained to participants that the purpose of the study was to better understand student relationships. After completing a battery of personality measures (described below), we assigned them to one of six conditions in which we presented a profile of a fellow student. The profile described the student, who had the gender-ambiguous name Taylor, as "a strong performing student and a nice person" who has some similar hobbies to the participant. The profile then described comments that Taylor made at a happy hour that provided insight into their political orientation. Although the comments were held constant across conditions, the vignette ended with Taylor being described as coming across as very liberal, moderately liberal, slightly liberal, slightly conservative, moderately conservative, or very conservative.

After viewing their assigned profile, participants read three scenarios, each of which portrayed Taylor in a challenging situation. One scenario described Taylor needing to prepare for a class presentation, another described them recruiting a new team for a student community

service project, and the third described Taylor as having missed an important assignment deadline. After reading each of the scenarios, participants then indicated their willingness to engage in costly collaborative behaviors to assist Taylor (e.g., help them prepare the presentation, join the new team, or take part of the blame for the missed deadline). The survey then concluded with demographic questions.

Measures.

Dependent variable. Participants read scenarios involving the target student, Taylor, and used a six-point scale ranging from "Extremely Unlikely" to "Extremely Likely" to indicate their likelihood of (a) advising Taylor and helping them prepare for the presentation, (b) joining their team for a student service event, and (c) speaking up on their behalf after a missed a deadline. See the Appendix for more detail on the profiles and scenarios. As described in our pre-registration, we computed Willingness to Collaborate as the average of these measures.

Independent variables. We again elicited participants' political orientation using the seven-point scale described above (American National Election Studies, 2010) and used it to prepare a binary indicator (Ideologically Opposed) denoting that the participant's political orientation opposed that of the target.[10] We regressed our dependent variable on this indicator, receptiveness to opposing views (Minson et al., 2020), and the interaction of these variables. Our primary interest was in the interaction effect, particularly whether receptiveness dampened the effect of ideological opposition on willingness to engage in collaborative behaviors.

Control variables. To test whether receptiveness plays a distinctive role in promoting collaborative behaviors across ideological divides, we included a new set of personality variables

[10] Specifically, we coded participants as ideologically opposed to the target if they were on the other side of the political orientation spectrum of their assigned profile condition. For example, for the 'liberal' condition, participants who self-reported as 'Slightly Conservative' through 'Very Conservative' were coded as ideologically opposed to their target. Again, we did not recruit participants who were 'Neither Liberal nor Conservative' in this study.

that might be related to aspects of receptiveness. Specifically, we measured need for cognition (Cacioppo et al., 1984), as well as openness to experience and agreeableness (John & Srivastava, 1999).

Analytical procedure. Given the continuous nature of the dependent variable and our interest in interaction effects, we conducted moderated regression using OLS. As in prior studies, we standardized variables to ease interpretation of the coefficients.

Results

Table 5 presents the descriptive statistics for our balanced sample of conservative and liberal participants. Consistent with prior research, ideological opposition was negatively correlated ($r(376) = -0.301$, $p < 0.0001$) with collaborative behaviors. Interestingly, receptiveness to opposing views was positively correlated with collaboration, $r(376) = 0.196$, $p < 0.001$).

Table 5

Descriptive statistics (Study 3)

Variable	*M*	*SD*	*Med.*	*Min.*	*Max*	1	2	3	4	5
1. Willingness to collaborate	4.556	1.012	4.667	1.000	6.000	–	–	–	–	–
2. Ideological opposition	0.497	0.501	0.000	0.000	1.000	-0.301	–	–	–	–
3. Receptiveness	4.027	1.034	4.000	1.222	7.000	0.196	-0.029	–	–	–
4. Openness to Experience	3.641	0.688	3.700	1.000	5.000	0.106	0.087	0.032	–	–
5. Agreeableness	3.753	0.764	3.875	1.000	5.000	0.298	0.014	0.295	0.206	–
6. Need for Cognition	3.252	0.744	3.250	1.111	5.000	0.211	0.045	0.209	0.568	0.194

Note. $N = 378$. Correlations greater than 0.100 in absolute magnitude are statistically significant at $p < 0.05$.

Table 6 reports the results of the OLS regression. Model 1 is a minimal model regressing the likelihood of collaborative behaviors on the ideological opposition indicator, receptiveness, and their interaction. We find a negative and statistically significant main effect for ideological opposition (Table 6, Model 1: b = -0.596, $p < 0.0001$), which provides corroborating evidence of the disruptive role of ideological differences for collaboration. Participants were less willing to give advice, join a team, or take partial blame for a missed deadline when their evaluation target belonged to the opposing ideological group, despite that person being described in otherwise positive terms. This effect emerged consistently for all three behaviors we examined.

As predicted, we found a positive and significant interaction indicating that the negative effect of ideological opposition on collaboration is attenuated by higher individual receptiveness (Table 6, Model 1: b = 0.350, $p < 0.001$). We did not observe a statistically significant main effect for receptiveness (Table 6, Model 1: b = 0.025, p = 0.7), suggesting that this tendency does not generally increase the collaborative intentions studied but rather aids specifically in improving relations among ideologically opposed individuals.

Table 6

OLS regressions: Collaborative behaviors (Study 3)

Variable	Collaborative Behaviors			Advise	Join Team	Share Blame
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Ideological Opposition	-0.596***	-0.620***	-0.622***	-0.654***	-0.892***	-0.320*
	(0.096)	(0.092)	(0.091)	(0.117)	(0.117)	(0.126)
Receptiveness	0.025	-0.068	-0.086	-0.022	-0.059	-0.178†
	(0.066)	(0.065)	(0.066)	(0.085)	(0.085)	(0.092)
Ideological Opposition × Receptiveness	0.350***	0.319***	0.360***	0.385**	0.341**	0.354**
	(0.096)	(0.092)	(0.098)	(0.126)	(0.126)	(0.135)
Openness		-0.020	0.070	0.186†	0.032	-0.007
		(0.057)	(0.084)	(0.108)	(0.108)	(0.116)
Agreeableness		0.251***	0.369***	0.376***	0.272**	0.460***
		(0.049)	(0.069)	(0.088)	(0.088)	(0.095)
Need for Cognition		0.162**	0.074	-0.055	0.106	0.170
		(0.057)	(0.082)	(0.106)	(0.105)	(0.114)
Ideological Opposition × Openness			-0.148	-0.374*	-0.190	0.120
			(0.113)	(0.146)	(0.145)	(0.157)
Ideological Opposition × Agreeableness			-0.232	-0.214†	-0.226†	-0.257†
			(0.097)	(0.125)	(0.125)	(0.135)
Ideological Opposition × Need for Cognition			0.154	0.268†	0.247†	-0.051
			(0.114)	(0.147)	(0.146)	(0.158)
Intercept	4.857***	4.869***	4.875***	4.904***	4.839***	4.882***
	(0.068)	(0.065)	(0.064)	(0.083)	(0.082)	(0.089)
R^2	0.155	0.241	0.259	0.203	0.222	0.134
$R^2_{Adjusted}$	0.149	0.229	0.240	0.183	0.203	0.113

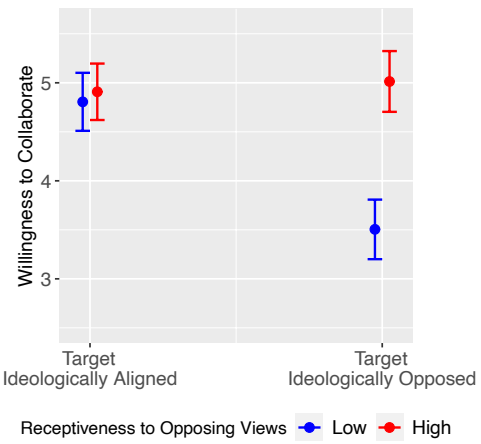
Note. $N = 378$.
***$p < 0.001$. **$p < 0.01$. *$p < 0.05$. $^{\dagger}p < 0.10$.

Figure 3a illustrates our results. We plotted predicted values of willingness to collaborate by target ideology and high and low levels of participant receptiveness, where "high" and "low" correspond to two standard deviations above and below the mean. When low-receptive individuals encounter targets that are ideologically aligned with them, their predicted willingness to collaborate is 4.81, a level very similar to that for high-receptive individuals considering ideologically aligned targets (4.91). However, when low-receptive individuals encounter ideologically opposed targets, their average willingness to collaborate is 3.50, a level that is statistically significantly lower. By contrast, high-receptive individuals are as willing to collaborate with ideologically opposed targets (5.01) as they are with ideologically aligned

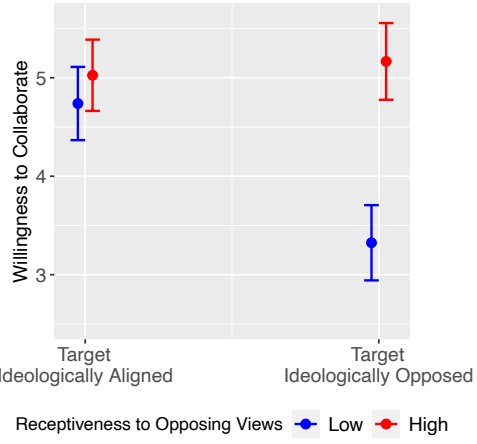
targets (4.91).

Figure 3

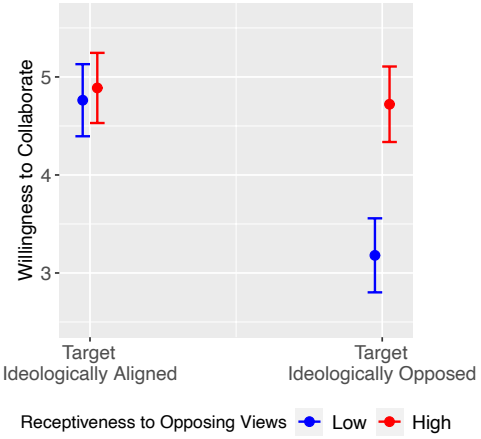
Interaction plot: Willingness to engage in collaborative behaviors by target ideology and participant receptiveness (Study 3)



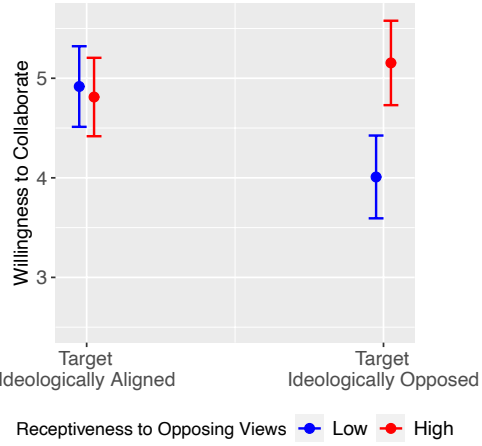
(a) Collaborative behaviors



(b) Advise



(c) Join team



(d) Share blame

This pattern of results is robust to controlling for openness to experience, agreeableness, and need for cognition (Table 6: Model 2), as well as their interactions with ideological opposition (Table 6: Model 3).

Although we pre-registered the average of our three collaborative behaviors as our dependent measure, it is worth noting that the pattern of results holds for each behavior separately ($p \leq .01$). As seen in Table 6, participants indicated they were less likely to advise

(Model 4: b = -0.654, p < 0.0001), join a team with (Model 5: b = -0.892, p < 0.0001), and share blame with (Model 6: b = -0.320, p = 0.011) an ideological opponent. Each of these negative effects of ideological opposition are significantly moderated by receptiveness (Table 6, Model 4: b = 0.385, p = 0.002; Model 5: b = 0.341, p = 0.007; Model 6: b = 0.354, p = 0.009). Figures 3b through 3d illustrate these interaction effects, where we see a similar pattern as in Figure 3a.

Examining the interactions between our other control personality traits and ideological opposition, we find that none of them reach statistical significance for the composite variable for collaborative behaviors (Table 6: Model 3). Indeed, when looking at each component of the composite separately, we find that several of the interaction effects were negative, indicating that the relevant trait decreased willingness to engage in the particular collaborative behavior with an ideological opponent. The one exception to this pattern was that the interaction between political opposition and need for cognition was marginally predictive of greater willingness to give advice to an ideological opponent.

General Discussion

The pervasive challenge of overcoming ideological division affects all human social endeavors, from forming healthy family bonds to building productive teams to orchestrating peaceful transitions of government power. This ability is particularly important in settings, such as institutions of higher learning, whose work is centered on collaborative problem-solving and information sharing. Our findings suggest that individual differences in receptiveness to opposing views (Minson et al., 2020) increase individuals' willingness to form close relationships with ideological opponents and, more specifically, that mutual receptiveness is the linchpin to counteracting the divisive effects of partisanship on close relationship formation.

In three studies using varying methods, we contribute to scholarship on the psychology of partisanship and on personality in social network formation by showing that receptiveness

enhances the propensity to form positive relationships with ideological opponents—above and beyond the effects of other traits previously implicated in the formation of network relationships.

Our multi-method approach allows us to leverage the tools of network analysis as well as experimental psychology to observe the formation of networks in a field context, while controlling for a variety of alternative explanations. For example, our time-lagged field study allowed us to collect self-reported measures of receptiveness and ideology from both sides of the dyad and document ties that were confirmed by both members. By contrast, our experiment allowed us to experimentally control for the characteristics of the relationship counterpart, eliminating unobservable characteristics of the target as potential confounds. Although receptiveness does not easily respond to experimental treatment, rendering strong causal claims difficult to make, our multi-pronged approach strongly suggests that receptive people are indeed more likely to form meaningful collaborative relationships with ideological opponents. In sum, leveraging research methods from psychology and sociology, this series of studies illuminates an urgently needed path for practice and research to bridge ideologically polarized communities.

Contributions

Our work documents that previously demonstrated effects of receptiveness on individuals' willingness to engage with opposing perspectives extend beyond laboratory settings and are perseverant enough—particularly if reciprocated—to survive the challenges of social relationship formation across ideological divides. Our findings thus broaden the literature on micro-to-macro links between individual differences and social structure (Burt et al., 2013; Coleman, 1990; Feiler & Kleinbaum, 2015; Gosling et al., 2011; Hedström & Swedberg, 1998; Sasovova et al., 2010; Selden & Goodie, 2018; Srivastava & Banaji, 2011).

Beyond adding receptiveness as another key individual difference that shapes the development of social networks, we extend the literature on psychological barriers to

engagement with opposing views by looking beyond individual effects to the dyadic level of analysis (see also Kleinbaum et al., 2015). We find that receptiveness inheres not only within individuals but also between pairs of prospective interaction partners. This broadening of the construct's scope opens the door to novel theorizing about and measurement of the construct at the level of work groups, organizations, and communities (Minson & Chen, 2022).

The finding that antipathy toward forming close relationships with holders of opposing views—a powerfully persistent effect driven by multiple forces—is moderated by an easily measurable personality characteristic opens new doors for conceptual and practical progress on the "echo chamber" conundrum. From a conceptual perspective, our results suggest that scholars of partisan conflict should look beyond mechanisms related to psychological biases (Babcock & Loewenstein, 1997; Kteily et al., 2016) and interpersonal interaction (Chen et al., 2010; Yeomans et al., 2020) to include strategies for the social engineering of relationships that bridge partisan divides (White et al., 2020). From a practical perspective, this research suggests new avenues for the design of large-scale interventions.

We see at least two avenues through which educational institutions, in particular, might use a better understanding of receptiveness to improve collaboration between ideologically divided students. First, receptiveness might be a valuable consideration in the selection of people into roles that require a capacity to form close relationships across ideological divides, such as university administrators, student affairs professionals, or even leaders of student organizations. Educators could also consider anonymous data on the distributions of receptiveness in an entering cohort, as well as demographic information and measures of ideological alignment, to construct sections and work groups in ways that decrease the likelihood of students splintering into politically homogeneous clusters.

Second, the receptiveness scale could be used as a learning and development tool to help

members of educational, community, and professional organizations recognize and reflect on the psychological and emotional barriers to engagement with ideologically diverse others. For example, onboarding programs and socialization efforts for new students could incorporate modules on receptiveness to enhance self-awareness and foster a culture that values engagement and collaboration across divides.

Limitations and Directions for Future Research

Our research is not without limitations, which also point to avenues for future investigations. First, although our studies drew upon data from multiple sources (e.g., Study 2 used data from three different field settings that varied in political orientation), our samples were largely North American (although 28.5% hailed from outside the United States). In our field study in particular, potential concerns about student privacy constrained us from controlling for many demographic characteristics. It is also important to note that the conservative students who chose to enroll in a liberal university and the liberal students who opted to join a conservative university likely differ in important respects from the general populations of conservatives and liberals. Future research could explore whether more balanced representation of both sides of the ideological spectrum moderate the influence of receptiveness in bridging ideological differences, or whether even in numerically balanced communities, less receptive people still flee toward ideologically homogenous subgroups. Replications of this design across a wider range of social contexts would help to identify potential boundary conditions to our effects.

Although our work focused on the role of receptiveness in bridging divides born of political ideology, prior research suggests that receptiveness may play a role in other situations where individuals disagree on strongly held, identity-relevant views. Minson and Chen (2022), for instance, found that highly receptive baseball fans were more willing to talk to rival fans than their less receptive counterparts were. Thus, future research should examine whether individuals

higher in receptiveness are better able to collaborate across other common conflicts. For example, although a community conflict over potential repairs to an aging school and tensions between attracting tourism versus preventing overcrowding in a town are not directly related to political ideology, they may still benefit from the participation of people who are curious about and emotionally tolerant of opposing perspectives.

Although across our studies, we collected survey data on receptiveness both before and after network relationships began to form, we cannot make strong causal claims. Prior work has demonstrated that receptiveness remains relatively stable over time (Minson et al., 2020). Thus, as with many prior investigations of individual differences, we are led to rely on time-lagged correlational evidence collected with appropriate controls and robustness checks. There remains, however, the possibility that unobserved heterogeneity—for example, opportunity structures that we could not observe in our data—might have differentially channeled receptive individuals, relative to non-receptive individuals, to form heterogeneous networks.

The design of our Study 2 mitigates against this possibility. Given that we investigated the formation of relationships among new entrants to exogenously and largely randomly assigned cohorts on three ideologically and professionally diverse campuses, it is hard to imagine how such unobserved opportunity structures would account for our pattern of effects. That said, the antecedents of receptiveness are not fully transparent. It is possible that as-yet-undocumented situational factors that foster a dispositional propensity toward receptiveness (e.g., positive intergroup work experiences, Barlow et al., 2012) could provide a deeper explanation of the observed effects of mutual receptiveness on bridging ideological gaps in network formation.

The design of our experiment in Study 3 implicitly controls for opportunity structures and provides further convergent evidence. We found that more receptive individuals were more willing to offer support and assistance to ideological opponents, even when controlling for other

relevant traits. Further research is needed to identify the antecedents of receptiveness and to more firmly articulate its causal role in enabling close relationship formation among partisans.

A final noteworthy limitation is that our methods relied on survey-based measures of network formation. Although we used the roster method to mitigate recall bias in the measurement of our dependent variable in Study 2 (Marsden, 2011) and an experiment with a fixed target in Study 3, self-report bias may still exist in our data (Feld & Carter, 2002). Future work could address this limitation by pairing a network survey with measures derived from electronic communications among group members (A. Goldberg et al., 2016; Kossinets & Watts, 2009; Quintane & Kleinbaum, 2011). Such data would also allow researchers to examine the extent to which mutual receptiveness leads to the formation of relationships between ideologically opposed others that are prone to persisting, rather than decaying, over time. Furthermore, it might enhance our ability to understand how receptiveness manifests in the language of interpersonal interactions and becomes recognizable to prospective counterparts (Srivastava et al., 2018; Yeomans et al., 2020).

Conclusion

This research illuminates the potential for receptive individuals acting in concert to counteract the forces that lead people to retreat into cognitively and emotionally reassuring ideological bubbles. For those who aim to prevent the splintering of society along ideological divides, this work reinforces the importance of addressing this challenge from a social-structural perspective. Along with the psychology of partisanship, we need to consider the potential for mutually receptive relationship formation to bridge partisan divides. Programs and interventions that channel the ideologically opposed and receptive into common social spaces may, over time, weaken the walls of our echo chambers.

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APPENDIX

Data Transparency Statement

The data reported in this manuscript have not been previously published and were collected by the authors. No concurrent or forthcoming papers use these data. Access to the data are available upon request, and the code used to replicate analyses have been provided to the editor.

Receptiveness to Opposing Views Items

Item	Subscale
1. I am willing to have conversations with individuals who hold strong views opposite to my own.	2
2. I like reading well thought-out information and arguments supporting viewpoints opposite to mine.	2
3. I find listening to opposing views informative.	2
4. I value interactions with people who hold strong views opposite to mine.	2
5. I am generally curious to find out why other people have different opinions than I do.	2
6. People who have opinions that are opposite to mine often have views which are too extreme to be taken seriously. (R)	3
7. People who have views that oppose mine rarely present compelling arguments. (R)	3
8. Information from people who have strong opinions that oppose mine is often designed to mislead less-informed listeners. (R)	3
9. Some points of view are too offensive to be equally represented in the media. (R)	4
10. Some issues are just not up for debate. (R)	4
11. Some ideas are simply too dangerous to be part of public discourse. (R)	4
12. I consider my views on some issues to be sacred. (R)	4
13. People who have views that oppose mine are often biased by what would be best for them and their group. (R)	3
14. People who have views that oppose mine often base their arguments on emotion rather than logic. (R)	3

15. Listening to people with views that strongly oppose mine tends to make me angry. (R)	1
16. I feel disgusted by some of the things that people with views that oppose mine say. (R)	1
17. I often feel frustrated when I listen to people with social and political views that oppose mine. (R)	1
18. I often get annoyed during discussions with people with views that are very different from mine. (R)	1

Study 1 Ideological Opposition Measures

Participants answered the following yes/no questions for each of the instrumental and friendship colleagues they identified:

Political Views. "This person and I tend to have similar political views; e.g., party affiliation or views about the role of government, taxation, etc."

Social Views. "This person and I tend to have similar views or values on contested social issues; e.g., gun rights, racial or gender inequality, religious expression."

We computed percentages of participants' networks that were opposed in political and social views, respectively. Since these measures were highly correlated within network type (Instrumental: $r = .44$, $p < 0.001$; Friendship: $r = .62$, $p < 0.001$), we collapsed the items and computed the percentage of each network type that was opposed in either political or social views. In other analyses available upon request, we replicated our Study 1 analyses using opposition in social views and opposition in political views separately, and we obtain an even stronger positive association between receptiveness and ideological diversity.

Additional Study 2 Model Details

A common approach to assessing how two independent variables jointly relate to an outcome of interest is to regress the outcome variable of interest on a *difference score*—for example, where two independent variables such as the political orientation of each relationship

partner might be reflected in the absolute difference in their political orientation ratings. Yet simple difference scores can be ambiguous. For example, an absolute difference of "3" in political orientation could be observed in very different types of dyads: e.g., ones with "Very conservative" and "Neither conservative nor liberal" members ({-3, 0}) and ones with "Slightly conservative" and "Somewhat liberal" ({-1, 2}) members. As a result, the difference score approach fails to account for *where* in the joint distribution of the two independent variables a hypothesized relationship to an outcome variable might be observed.

Polynomial regression and response surface analysis (Edwards, 2002; Edwards & Parry, 1993) are better-suited for building this fine-grained understanding. This approach permits more flexible examination of the three-dimensional relationships among component measures and the outcome of interest (see Edwards, 1994, for a more thorough discussion of these issues). We use a specific form of this technique, moderated polynomial regression, that can help to assess how such effects are moderated by other independent variables—in our case, how the effects of political congruence are moderated by receptiveness (Bono & Colbert, 2005; Edwards, 1996; Edwards & Rothbard, 1999; Wilson et al., 2018).

We began with a baseline model that includes political orientation and receptiveness of the focal actor (ego) and focal target (alter), as well as higher-order terms and interactions among complementary ego/alter variables:

$$\begin{aligned}\text{logit}\{Relationship\} = b_0 + b_1 POE + b_2 POA + b_3 POE^2 + b_4 POE \times POA + b_5 POA^2 \\ + b_6 RE + b_7 RA + b_8 RE^2 + b_9 RE \times RA + b_{10} RA^2 + e\end{aligned} \quad (2)$$

Here, *POE* and *POA* denote the political orientation of ego and alter, respectively, and *RE* and *RA* denote ego and alter receptiveness. This model allows dyad-member attributes to have nonlinear effects on the likelihood of relationship formation. In our moderated polynomial

regression models, we extended this baseline model by interacting ego and alter receptiveness with each set of five terms for ego and alter political orientation in Equation 1:

$$\begin{aligned}\text{logit}\{Relationship\} = {} & b_0 + b_1 POE + b_2 POA + b_3 POE^2 + b_4 POE \times POA + b_5 POA^2 \\ & + b_6 RE + b_7 RA + b_8 RE^2 + b_9 RE \times RA + b_{10} RA^2 \\ & + b_{11} POE \times RE + b_{12} POA \times RE + b_{13} POE^2 \times RE \\ & + b_{14} POE \times POA \times RE + b_{15} POA^2 \times RE \\ & + b_{16} POE \times RA + b_{17} POA \times RA + b_{18} POE^2 \times RA \\ & + b_{19} POE \times POA \times RA + b_{20} POA^2 \times RA + e\end{aligned} \tag{2}$$

Finally, we incorporated school-section fixed effects to account for stable differences between our data collection sites.

In a later version of our model, we also included the additional control variables described above; we report our results with and without these controls (Becker, 2005). Table A1 reports estimates of the models described above using 10,000 bootstrap replications of logistic regression. To interpret these models, we computed and compared models of the response surface by substituting different levels of ego and alter receptiveness into equation 2, which we observe can be rewritten as a simpler model, as follows:

$$\begin{aligned}logit\{Relationship\} = {} & (b_0 + b_6 RE + b_7 RA + b_8 RE^2 + b_9 RE \times RA + b_{10} RA^2) \\ & + (b_1 + b_{11} RE + b_{16} RA)(POE) \\ & + (b_2 + b_{12} RE + b_{17} RA)(POA) \\ & + (b_3 + b_{13} RE + b_{18} RA)(POE^2) \\ & + (b_4 + b_{14} RE + b_{19} RA)(POE \times POA) \\ & + (b_5 + b_{15} RE + b_{20} RA)(POA^2) + e \\ & = d_0 + d_1 POE + d_2 POA + d_3 POE^2 + d_4 POE \times POA + d_5 POA^2 + e\end{aligned} \tag{3}$$

After obtaining different estimates of the statistics (d) for varying levels of ego and alter receptiveness—mean, low, and high—we plotted the corresponding three-dimensional response surfaces and analyzed key features of these surfaces, including the slope and curvature along the ideological alignment ($POE = POA$) and opposition ($POE = -POA$) lines, which involves computing linear combinations of the *d* statistics (Edwards & Cable, 2009; Wilson et al., 2018).

We describe these results in Table 4 and Figure 1 in the main text of the article.

Additional Analyses for Study 2

We replicated the analyses that produced Table 4 and Figure 1 using models that included the following control variables: extraversion, self-monitoring, same gender, same origin, and controls for the political orientation of participants' pre-program networks. See Table A1, Column 2 for a summary of the bootstrapped logistic regressions that were the inputs to these results. The accompanying estimates of the response surface statistics appear in Table A2 below. Figure A1 reports the response surface and contour plots corresponding to the results reported in Table A2. We again find visual evidence in support of the receptiveness moderation effect described above: a steeper ridgeline for the low-receptiveness model (Figure A1b) and a flatter surface overall for the high-receptiveness model (Figure A1c). At baseline, the curvature along the ideological opposition line is negative (Table A2, Column 1: -0.074, CI [-0.110; -0.039] and becomes steeper with low receptiveness (Table A2, Column 2: -0.156, CI [-0.228; -0.090]) and flatter with high receptiveness (Table A2, Column 3: 0.009, CI [-0.048; 0.061]). As earlier, this change in curvature (~0.824) in either direction is statistically significant ($W(1) = 10.088$, $p = 0.001$). In all, we find support for the moderating role of receptiveness.

Table A1

Bootstrapped logistic regression: Reciprocated relationship (Study 2)

		Model 1	Model 2
b_0	Intercept	0.646	-1.575
		[-1.921; 2.990]	[-4.173; 0.758]
b_1	Political Orientation (Ego)	0.034	-0.057
		[-0.374; 0.449]	[-0.472; 0.367]
b_2	Political Orientation (Alter)	0.029	-0.061
		[-0.378; 0.452]	[-0.482; 0.366]
b_3	Political Orientation (Ego)^2	-0.175	-0.165
		[-0.361; 0.010]	[-0.355; 0.022]
b_4	Pol. Orien. (Ego) × Pol. Orien. (Alter)	0.365*	0.401*
		[0.205; 0.534]	[0.240; 0.572]
b_5	Political Orien. (Alter)^2	-0.176	-0.166
		[-0.356; 0.010]	[-0.352; 0.023]
b_6	Receptiveness (Ego)	-0.542	-0.720*
		[-1.178; 0.157]	[-1.368; -0.016]
b_7	Pol. Orien. (Ego) × Recept. (Ego)	-0.041	-0.019
		[-0.010; 0.017]	[-0.080; 0.041]
b_8	Pol. Orien. (Alter) × Recept. (Ego)	0.046	0.044
		[-0.012; 0.101]	[-0.014; 0.101]
b_9	Pol. Orien. (Ego)^2 × Recept. (Ego)	0.036*	0.032*
		[0.006; 0.066]	[0.001; 0.062]
b_{10}	Pol. Orien. (Ego) × Pol. Orien. (Alter) × Recept. (Ego)	-0.035*	-0.039*
		[-0.064; -0.007]	[-0.068; -0.010]
b_{11}	Pol. Orien. (Alter)^2 × Recept. (Ego)	-0.003	-0.002
		[-0.029; 0.024]	[-0.028; 0.025]
b_{12}	Receptiveness (Alter)	-0.541	-0.718*
		[-1.187; 0.161]	[-1.380; 0.011]
b_{13}	Pol. Orien. (Ego) × Recept. (Alter)	0.045	0.044
		[-0.011; 0.102]	[-0.014; 0.101]
b_{14}	Pol. Orien. (Alter) × Recept. (Alter)	-0.041	-0.018
		[-0.100; 0.018]	[-0.079; 0.043]
b_{15}	Pol. Orien. (Ego)^2 × Recept. (Alter)	-0.003	-0.002
		[-0.029; 0.024]	[0.028; 0.025]
b_{16}	Pol. Orien. (Ego) × Pol. Orien. (Alter) × Recept. (Alter)	-0.035*	-0.039*
		[-0.064; -0.007]	[-0.069; -0.010]
b_{17}	Pol. Orien. (Alter)^2 × Recept. (Alter)	0.036*	0.032*
		[0.007; 0.066]	[0.002; 0.063]
b_{18}	Receptiveness (Ego)^2	0.029	0.044
		[-0.031; 0.082]	[-0.017; 0.098]
b_{19}	Recept. (Ego) × Recept. (Alter)	0.055	0.051
		[-0.018; 0.127]	[-0.021; 0.124]
b_{20}	Receptiveness (Alter)^2	0.029	0.044
		[-0.030; 0.084]	[-0.016; 0.100]
b_{21}	Extraversion (Ego)		0.236*
			[0.168; 0.303]
b_{22}	Extraversion (Alter)		0.235*
			[0.167; 0.303]
b_{23}	Self-monitoring (Ego)		0.175*
			[0.066; 0.288]
b_{24}	Self-monitoring (Alter)		0.174*
			[0.065; 0.282]
b_{25}	Female (Ego)		-0.101
			[-0.213; 0.010]
b_{26}	Female (Alter)		-0.101
			[-0.216; 0.014]
b_{27}	From U.S. (Ego)		0.190*
			[0.069; 0.314]
b_{28}	From U.S. (Alter)		0.190*
			[0.069; 0.314]
b_{29}	Pre-Program Network: Size (Ego)		0.003
			[-0.059; 0.062]
b_{30}	Pre-Program Network: Size (Alter)		0.003
			[-0.058; 0.062]
b_{31}	Pre-Program Network: Nb. Conservative (Ego)		0.004
			[-0.021; 0.029]
b_{32}	Pre-Program Network: Nb. Conservative (Alter)		0.004
			[-0.021; 0.028]
b_{33}	Pre-Program Network: Nb. Neither (Ego)		0.025
			[-0.013; 0.063]
b_{34}	Pre-Program Network: Nb. Neither (Alter)		0.024
			[-0.014; 0.062]

Note. Estimates are from r = 10,000 bootstrapped logistic regressions. Data utilized were the 63,775 undirected dyads constructed from the within-school pairs of individuals described in the main text. Each bootstrap randomly designated one member of the dyad 'ego' and the other 'alter.' All models contained school-section fixed effects. Bias-corrected 95% confidence intervals appear below coefficients.
* Bias-corrected 95% confidence interval excludes zero.

Table A2

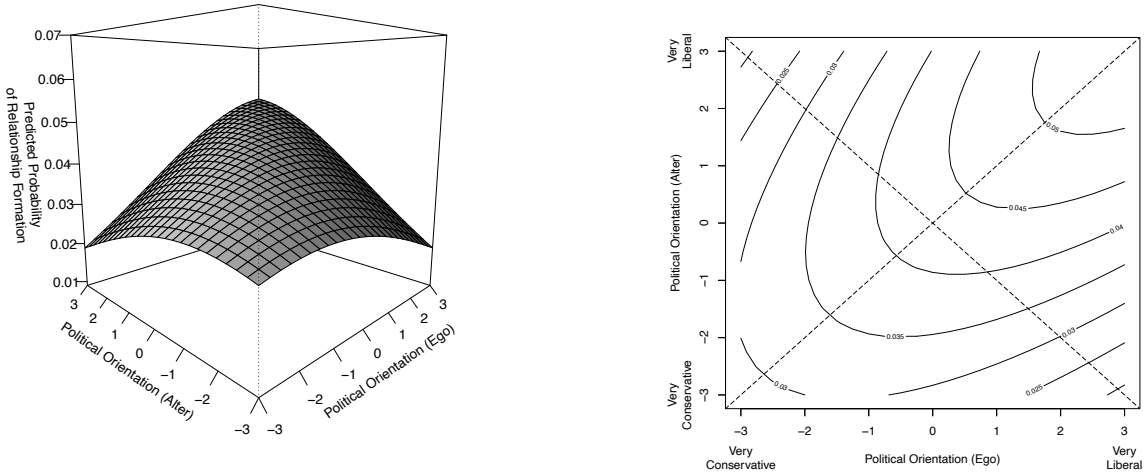
Response surface statistics derived from logistic regression: With controls (Study 2)

	Average Receptiveness	*Low Receptiveness*	*High Receptiveness*
$d_1 = b_1 + b_8RE + b_{13}RA$	0.058*	0.037	0.078
	[0.004; 0.114]	[-0.064; 0.141]	[-0.002; 0.160]
$d_2 = b_2 + b_9RE + b_{14}RA$	0.057*	0.036	0.079
	[0.002; 0.114]	[-0.066; 0.139]	[-0.001; 0.161]
$d_3 = b_5 + b_{10}RE + b_{15}RA$	-0.026*	-0.051*	-0.001
	[-0.049; -0.005]	[-0.095; -0.010]	[-0.040; 0.035]
$d_4 = b_6 + b_{11}RE + b_{16}RA$	0.021*	0.054*	-0.011
	[0.012; 0.032]	[0.035; 0.074]	[-0.026; 0.005]
$d_5 = b_7 + b_{12}RE + b_{17}RA$	-0.026*	-0.052*	-0.001
	[-0.049; -0.004]	[-0.094; -0.010]	[-0.040; 0.036]
Ideological Alignment Line			
Slope ($d_1 + d_2$)	0.115*	0.073	0.156*
	[0.056; 0.175]	[-0.011; 0.160]	[0.070; 0.248]
Curvature ($d_3 + d_4 + d_5$)	-0.031*	-0.049*	-0.013
	[-0.056; -0.007]	[-0.093; -0.006]	[-0.057; 0.028]
Ideological Opposition Line			
Slope ($d_1 - d_2$)	0.000	0.001	-0.000
	[-0.094; 0.095]	[-0.184; 0.186]	[-0.139; 0.134]
Curvature ($d_3 - d_4 + d_5$)	-0.074*	-0.156*	0.009
	[-0.110; -0.039]	[-0.228; -0.090]	[-0.048; 0.061]

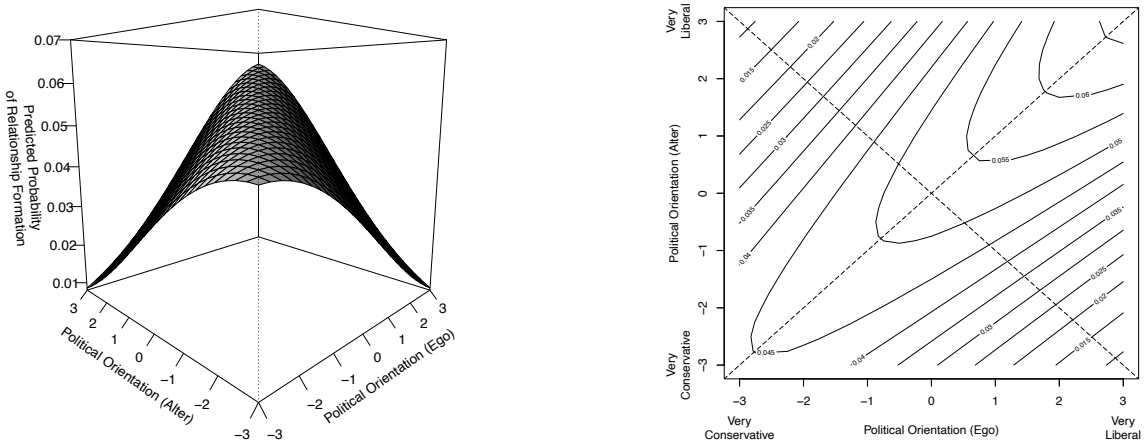
Note. Bias-corrected 95% bootstrapped confidence intervals appear below statistics of interest. All models from which statistics are derived include school-section fixed effects. RE and RA refer to receptiveness of ego and alter.
* 95% confidence interval excludes zero.

Figure A1

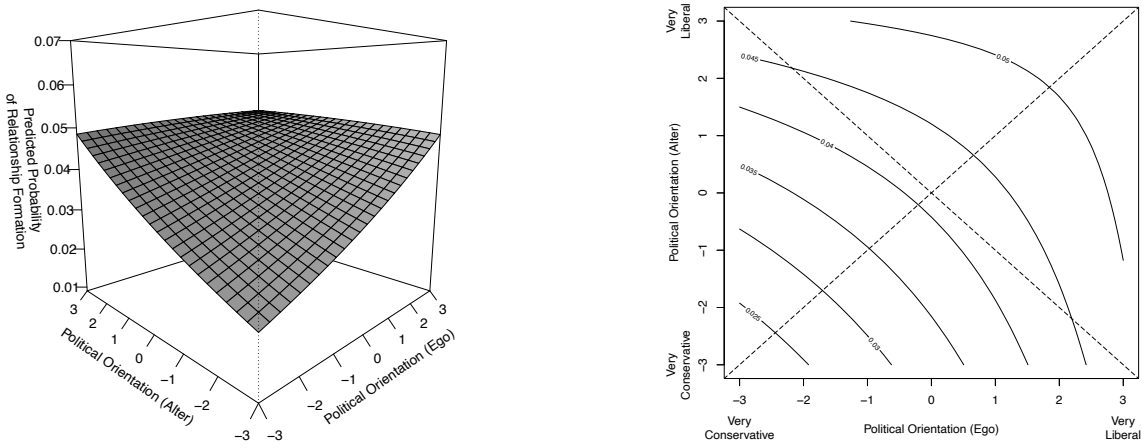
Predicted probability of reciprocated relationship formation across political orientation and receptiveness profiles—Models with additional controls (Study 2)



(a) Both dyad members have average receptiveness



(b) Both dyad members have low receptiveness



(c) Both dyad members have high receptiveness

Note: Figures correspond to results reported in Table A2. Dashed diagonal lines indicate ideological alignment and opposition lines. Political orientation ranges from Very Conservative (-3) to Very Liberal (3). 'Low' and 'high' receptiveness correspond to one standard deviation below and above average, respectively. As reported in Table A2, additional controls included extraversion, self-monitoring, gender, and U.S. origin for ego and alter, respectively. Models continued to include school-section fixed effects.

We also replicated the analyses reported in Table 4 and Figure 1 using extraversion and self-monitoring instead of receptiveness. Table A3 summarizes the 10,000 bootstrap replications of logistic regression that served as inputs for our response surface analysis. Tables A4 and A5 report the response surface statistics, and Figures A2 and A3 present the corresponding figures. Although we see evidence of positive main effects for extraversion and self-monitoring on the likelihood of relationship formation, neither extraversion nor self-monitoring contour this likelihood for ideologically opposed dyads. Particularly, while the response surface plots for receptiveness displayed a steep curvature along the ideological opposition line for low levels and relatively flat curvature for high levels (e.g., see Figures 1b and 1c), the corresponding curvatures for the extraversion and self-monitoring plots are relatively unchanged. Indeed, if anything, the curvature along the ideological opposition line becomes more negative for dyads with high extraversion: the curvature is -0.053 at average extraversion (Table A4, Column 1) and -0.085 at high extraversion (Table A4, Column 2). Wald tests of the change in curvature along the respective ideological opposition lines are not statistically significant ($W(1) = 1.704$, $p = 0.191$; $W(1) = 0.206$, $p = 0.649$), suggesting that neither attribute moderates the likelihood of relationship formation among ideological opponents.

Table A3

Bootstrapped logistic regression: Reciprocated relationship (Study 2)

	Model 1 *Variable* = Extraversion	Model 2 *Variable* = Self-Monitoring
b_0 Intercept	-3.230* [-4.688; -1.829]	-0.964 [-3.277; 1.208]
b_1 Political Orientation (Ego)	0.032 [-0.231; 0.307]	0.104 [-0.273; 0.478]
b_2 Political Orientation (Alter)	0.025 [-0.247; 0.302]	0.099 [-0.272; 0.484]
b_3 Political Orientation (Ego)^2	0.058 [-0.361; 0.010]	-0.021 [-0.202; 0.162]
b_4 Pol. Orien. (Ego) × Pol. Orien. (Alter)	0.081 [-0.033; 0.202]	0.148 [-0.005; 0.310]
b_5 Political Orien. (Alter)^2	0.059 [-0.071; 0.188]	-0.022 [-0.201; 0.157]
b_6 *Variable* (Ego)	0.021 [-0.535; 0.607]	-0.530 [-1.387; 0.397]
b_7 Pol. Orien. (Ego) × *Variable* (Ego)	-0.013 [-0.062; 0.036]	-0.067 [-0.140; 0.005]
b_8 Pol. Orien. (Alter) × *Variable* (Ego)	0.019 [-0.030; 0.068]	0.053 [-0.024; 0.131]
b_9 Pol. Orien. (Ego)^2 × *Variable* (Ego)	-0.010 [-0.036; 0.016]	0.016 [-0.027; 0.06]
b_{10} Pol. Orien. (Ego) × Pol. Orien. (Alter) × *Variable* (Ego)	-0.006 [-0.035; 0.022]	-0.016 [-0.060; 0.029]
b_{11} Pol. Orien. (Alter)^2 × *Variable* (Ego)	-0.012 [-0.039; 0.015]	-0.015 [-0.055; 0.025]
b_{12} *Variable* (Alter)	0.020 [-0.537; 0.606]	-0.521 [-1.371; 0.396
b_{13} Pol. Orien. (Ego) × *Variable* (Alter)	0.018 [-0.030; 0.065]	0.053 [-0.024; 0.129]
b_{14} Pol. Orien. (Alter) × *Variable* (Alter)	-0.012 [-0.061; 0.037]	-0.066 [-0.141; 0.005]
b_{15} Pol. Orien. (Ego)^2 × *Variable* (Alter)	-0.012 [-0.039; 0.014]	-0.015 [-0.055; 0.025]
b_{16} Pol. Orien. (Ego) × Pol. Orien. (Alter) × *Variable* (Alter)	-0.006 [-0.036; 0.023]	-0.016 [-0.062; 0.028]
b_{17} Pol. Orien. (Alter)^2 × *Variable* (Alter)	-0.010 [-0.037; 0.016]	0.016 [-0.026; 0.060]
b_{18} *Variable* (Ego)^2	0.000 [-0.074; 0.069]	-0.070 [-0.187; 0.035]
b_{19} *Variable* (Ego) × *Variable* (Alter)	0.094* [0.028; 0.159]	0.369* [0.214; 0.527]
b_{20} *Variable* (Alter)^2	0.000 [-0.073; 0.073]	-0.071 [-0.185; 0.033]

Note. Estimates are from r = 10,000 bootstrapped logistic regressions. Data utilized were the 63,775 undirected dyads constructed from the within-school pairs of individuals described in the main text. Each bootstrap randomly designated one member of the dyad 'ego' and the other 'alter.' In the model reported in column 1, *Variable* was Extraversion; for the model for column 2, *Variable* was self-monitoring. All models contained school-section fixed effects. Bias-corrected 95% confidence intervals appear below coefficients.

* Bias-corrected 95% confidence interval excludes zero.

Table A4

Response surface statistics derived from logistic regression: Reciprocated relationship (Study 2)

	Average Extraversion	*Low Extraversion*	*High Extraversion*
$d_1 = b_1 + b_8RE + b_{13}RA$	0.051*	0.046	0.056
	[0.004; 0.100]	[-0.040; 0.139]	[-0.011; 0.122]
$d_2 = b_2 + b_9RE + b_{14}RA$	0.050*	0.044	0.057
	[0.002; 0.099]	[-0.045; 0.134]	[-0.009; 0.125]
$d_3 = b_5 + b_{10}RE + b_{15}RA$	-0.016	0.002	-0.035*
	[-0.039; 0.005]	[-0.041; 0.043]	[-0.067; 0.004]
$d_4 = b_6 + b_{11}RE + b_{16}RA$	0.020*	0.025*	0.015*
	[0.010; 0.030]	[0.007; 0.045]	[0.002; 0.029]
$d_5 = b_7 + b_{12}RE + b_{17}RA$	-0.017	0.002	-0.035*
	[-0.039; 0.005]	[-0.041; 0.043]	[-0.068; -0.004]
Ideological Alignment Line			
Slope ($d_1 + d_2$)	0.102*	0.091*	0.112*
	[0.050; 0.154]	[0.021; 0.165]	[0.047; 0.178]
Curvature ($d_3 + d_4 + d_5$)	-0.013	0.029	-0.055*
	[-0.037; 0.010]	[-0.015; 0.072]	[-0.090; -0.021]
Ideological Opposition Line			
Slope ($d_1 - d_2$)	-0.001	0.002	-0.001
	[-0.081; 0.084]	[-0.161; 0.167]	[-0.117; 0.113]
Curvature ($d_3 - d_4 + d_5$)	-0.053*	-0.021	-0.085*
	[-0.090; -0.019]	[-0.092; 0.044]	[-0.135; -0.037]

Note. Bias-corrected 95% bootstrapped confidence intervals appear below statistics of interest. All models from which statistics are derived include school-section fixed effects. RE and RA refer to receptiveness of ego and alter.

* 95% confidence interval excludes zero.

Table A5

Response surface statistics derived from logistic regression: Reciprocated relationship (Study 2)

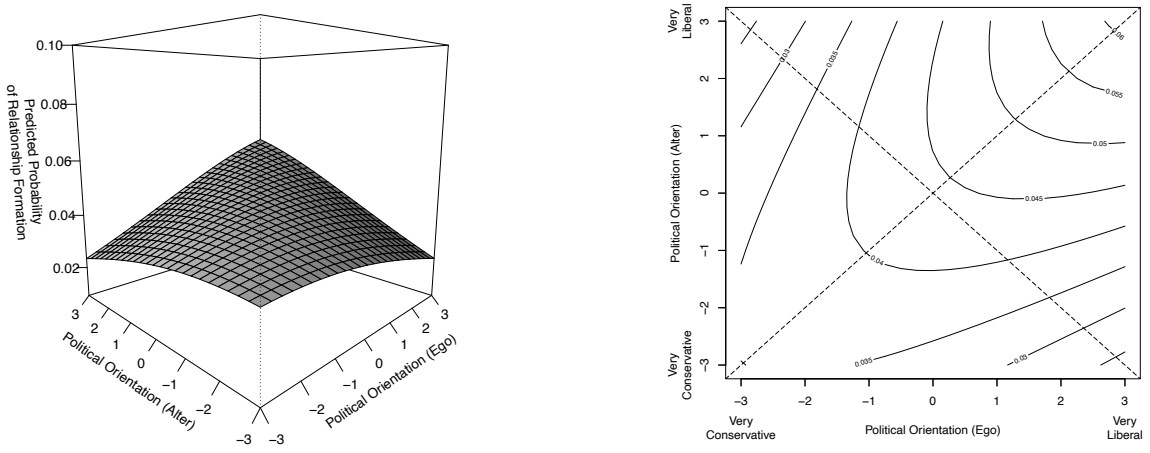
	Average Self-Monitoring	*Low Self-Monitoring*	*High Self-Monitoring*
$d_1 = b_1 + b_8RE + b_{13}RA$	0.052*	0.061	0.044
	[0.004; 0.101]	[-0.010; 0.133]	[-0.041; 0.128]
$d_2 = b_2 + b_9RE + b_{14}RA$	0.052*	0.060	0.045
	[0.003; 0.101]	[-0.012; 0.132]	[-0.039; 0.129]
$d_3 = b_5 + b_{10}RE + b_{15}RA$	-0.018	-0.018	-0.017
	[-0.039; 0.003]	[-0.054; 0.016]	[-0.056; 0.019]
$d_4 = b_6 + b_{11}RE + b_{16}RA$	0.017*	0.026*	0.007
	[0.007; 0.026]	[0.011; 0.043]	[-0.009; 0.024]
$d_5 = b_7 + b_{12}RE + b_{17}RA$	-0.018	-0.019	-0.017
	[-0.040; 0.002]	[-0.054; 0.015]	[-0.056; 0.019]
Ideological Alignment Line			
Slope ($d_1 + d_2$)	0.104*	0.120*	0.089*
	[0.049; 0.160]	[0.055; 0.186]	[0.001; 0.176]
Curvature ($d_3 + d_4 + d_5$)	-0.019	-0.011	-0.027
	[-0.043; 0.004]	[-0.049; 0.027]	[-0.067; 0.011]
Ideological Opposition Line			
Slope ($d_1 - d_2$)	0.000	0.001	-0.001
	[-0.078; 0.078]	[-0.125; 0.130]	[-0.147; 0.143]
Curvature ($d_3 - d_4 + d_5$)	-0.052*	-0.063*	-0.042
	[-0.087; -0.019]	[-0.123; -0.006]	[-0.097; 0.011]

Note. Bias-corrected 95% bootstrapped confidence intervals appear below statistics of interest. All models from which statistics are derived include school-section fixed effects. RE and RA refer to receptiveness of ego and alter.

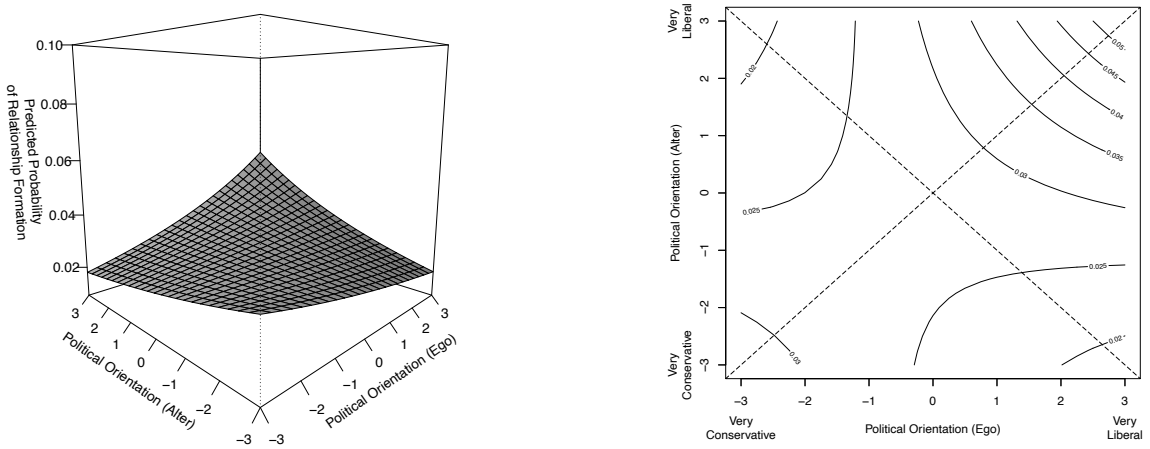
* 95% confidence interval excludes zero.

Figure A2

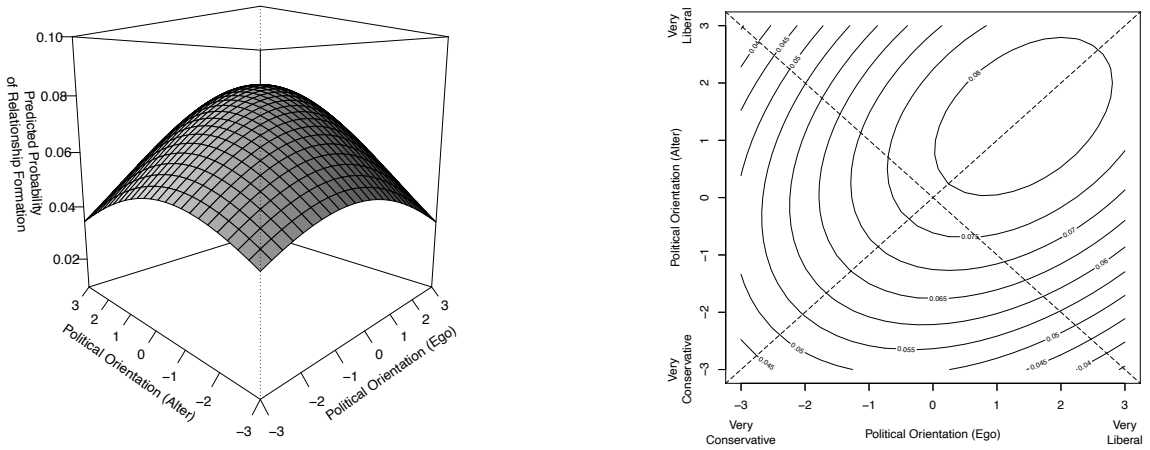
Predicted probability of reciprocated relationship formation across political orientation and extraversion profiles (Study 2)



(a) Both dyad members have average extraversion



(b) Both dyad members have low extraversion

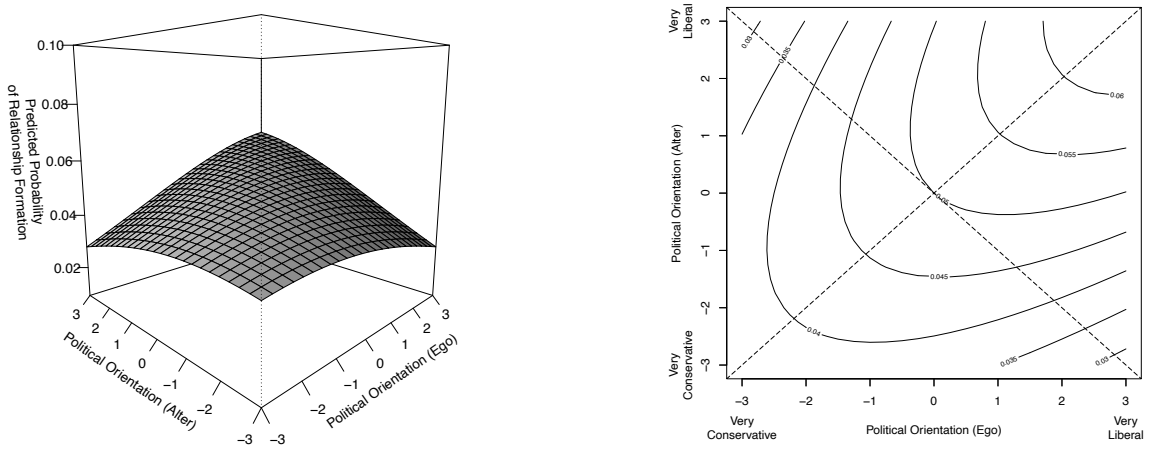


(c) Both dyad members have high extraversion

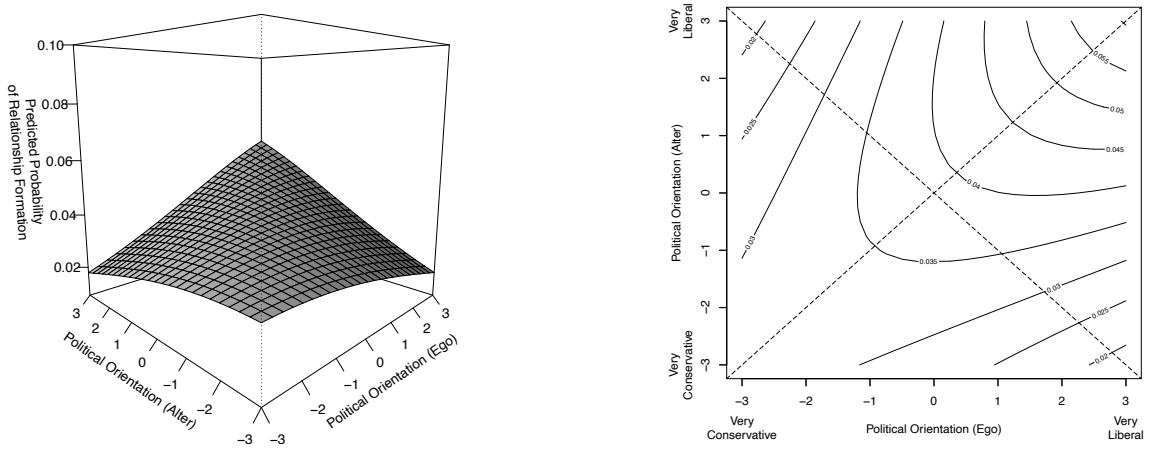
Note: Dashed diagonal lines indicate ideological alignment and opposition lines. Political orientation ranges from Very Conservative (-3) to Very Liberal (3). 'Low' and 'high' receptiveness correspond to one standard deviation below and above average, respectively.

Figure A3

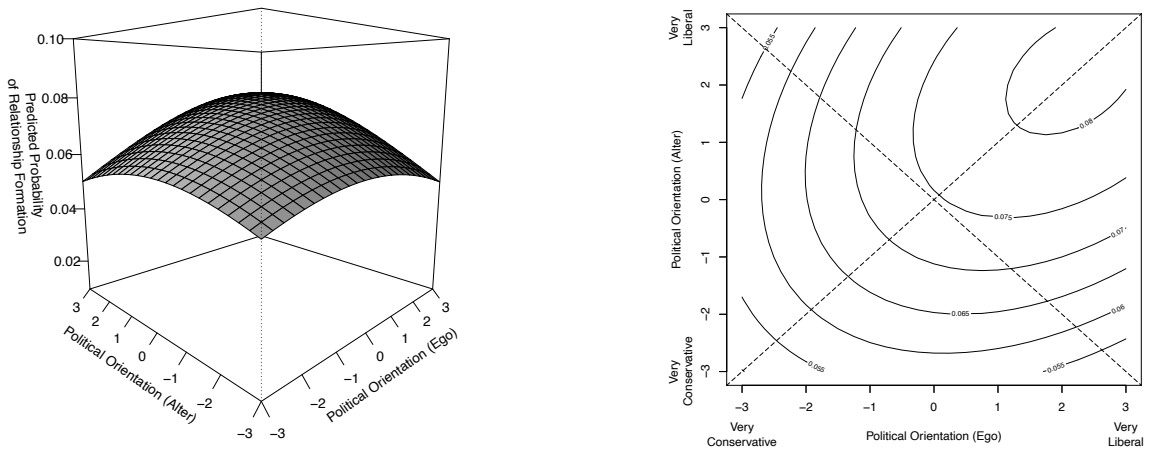
Predicted probability of reciprocated relationship formation across political orientation and self-monitoring profiles (Study 2)



(a) Both dyad members have average self-monitoring



(b) Both dyad members have low self-monitoring



(a) Both dyad members have high self-monitoring

Note: Dashed diagonal lines indicate ideological alignment and opposition lines. Political orientation ranges from Very Conservative (-3) to Very Liberal (3). 'Low' and 'high' receptiveness correspond to one standard deviation below and above average, respectively.

Additional Study 3 Details

The following describes the scenarios presented to participants in Study 3:

"The next set of questions deals with how you would act toward a hypothetical classmate, a person named Taylor, in a variety of school situations. Here is a little bit of information about Taylor:

"You have known Taylor for a few months because you have some similar hobbies. Taylor seems like a strong performing student and a nice person. At a recent happy hour, some people started discussing the upcoming elections and you heard Taylor say the following:"

We manipulated which statements were shown to participants, as follows:

"'I just think that the [liberal, conservative] platform makes [a LOT more; more; a little more] sense. I mean look at the economy, look at [what's happening with poor people and immigrants; hard-working Americans], look at [mass shootings; gun rights]. [Liberals; Conservatives] in Congress seem to have [much, much; stronger; somewhat stronger] plans to address some of these things.'"

"Based on these comments and some other cues, you have concluded that Taylor is probably [very; moderately; slightly] [liberal; conservative].

Participants then viewed each of the following workplace situations and indicated their likelihood of engaging in a given collaborative behavior related to their assigned target:

(1)

“Please imagine the following situation involving you and Taylor. Think about how you would be most likely to behave. Remember that there are no right or wrong answers:

“Taylor is preparing a class presentation and asks for your help and advice. You don't have a close relationship with Taylor and you are working hard on your own classes. However, you took a class from this professor last year and you understand their expectations and preferences, so you know you could help Taylor a lot.

“In this situation, how likely would you be to take time to advise Taylor and help prepare for the presentation?”

(2)

“A student organization has tasked Taylor with leading a student service activity, and Taylor is assembling a team to organize it. You expect the work to be interesting and really rewarding. One thing you know for sure is that it is likely to involve spending a lot of time with Taylor because the team will be small.

“In this situation, how likely would you be to agree to join the team?”

(3)

“A professor in a small seminar is criticizing Taylor in front of other students because your team did not turn in an important paper on time. You know that one of the things that made you miss the deadline is that Taylor was waiting for information from you that had to be included in the paper. Thus, you know the blame is partly yours.

“In this situation, how likely would you be to talk to the professor and explain that the missed deadline was partly your fault?”