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Attributes of Interpersonal Political Discussion as Antecedents of Cognitive Elaboration

Los atributos de la discusión política interpersonal como antecedentes de la elaboración cognitiva

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Key words

Interpersonal Communication • Political Communication • Social Networks • Interpersonal Relationships • Opinion

Abstract

Political discussion is a core element for the democratic wellbeing of any society. Recently, academics have turned their attention to exploring the different roles discussion-network-attributes may have in today's democracy, such as strength of discussion network ties (weak-strong), heterogeneity of discussion networks, exposure to disagreement, and level of reasoning in discussions. Less explored, however, is the connection of these discussion attributes as antecedents to cognitive elaboration – the extent to which individuals who engage in political discussions find themselves thinking and reflecting upon those discussions at a later time. Survey data from the United States indicates discussing public affairs in networks with strong-ties versus weak-ties has different implications in predicting other discussion attributes and cognitive elaboration.

Palabras clave

Comunicación interpersonal • Comunicación política • Redes sociales • Relaciones interpersonales • Opinión

Resumen

La discusión política es un elemento central para el bienestar democrático de las sociedades actuales. Estudios recientes han explorado algunos de los atributos de las redes de discusión política de los individuos, como la fuerza de los vínculos en estas redes (débiles-fuertes), su grado de heterogeneidad, la exposición al desacuerdo o el grado de razonamiento empleado en ellas. Sin embargo, el papel de estos atributos de las redes de discusión como antecedentes de la elaboración cognitiva –la reflexión y el pensamiento posterior sobre aquello de lo que se ha discutido– no ha sido abordado con detalle. A partir de datos procedentes de una encuesta realizada en Estados Unidos, el presente estudio muestra que la discusión sobre asuntos de interés público con «vínculos fuertes» o con «vínculos débiles» tiene efectos diferentes sobre los diversos atributos de las redes de discusión, así como sobre la elaboración cognitiva posterior.

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Introduction

The repercussions of political discussion (in the sense of carefully examining a political issue with one or more persons) on the democratic process has been explored in great detail in research on political communication (for example, Holbert *et al*., 2010; Kavanaugh *et al*., 2005; McLeod *et al*., 2001). Many of the studies on this issue have emphasised the important role that political discussion plays for the democratic well-being of society by contributing to the formation of a more deliberative system (Fischer, 2003; Gastil, 2008). Recent research in political science and communication has begun to focus attention on the effects that the different attributes of political discussion networks (hereafter, discussion network attributes or network attributes) can have on the frequency of discussion or on political participation (Hively and Eveland, 2009; Rojas 2008; Shah *et al*., 2001). Among the attributes of these networks we find, for example, the heterogeneity of the network and strength of the links between its nodes (what we hereafter refer to as "weak ties" or "strong ties "), as well as the level of disagreement and the level of reasoning that is employed during discussions (Valenzuela, *et al*., 2012).

These attributes should be studied closely, as previous research shows that they have differing effects on other factors, such as political knowledge, political efficacy and participation (Wojcieszak and Mutz, 2009; Yoo and Gil de Zúñiga, 2014). Starting from a communication mediation model and a cognitive mediation model (Eveland, 2001; McLeod *et al*., 2001), some researchers have broadened the notion of the *attributes of discussion networks* to integrate the cognitive elaboration of discussion (hereafter, elaboration of the discussion or cognitive elaboration) in the models that explain levels of political commitment. The concept of the elaboration of discussion refers to the process through which individuals that have carried out a political discussion subsequently think and reflect on that which was discussed and relate it to their environment and their own experiences. Different studies have shown that cognitive elaboration has a mediating role in the relationship between political discussion and participation (Eveland, 2001; Jung, *et al*., 2011).

This study attempts to contribute to greater understanding of the attributes of discussion networks, as well as the relationship that exists between them. To what extent can discussion with 'strong ties' or with 'weak ties' explain the exposure of individuals to more heterogeneous discussion networks, to debate with persons with whom they are in disagreement or to a more reasoned or argued conversation? In addition, this study uses structural equation modelling (SEM) to understand how, in an overall theoretical structure, the strength of the discussion ties are related to heterogeneity, disagreement, reasoning and the elaboration of the discussion.

Based on data from the second wave of a survey carried out in the United States in July 2009, the results indicate that discussion with strong ties is the most important predictor of cognitive elaboration. In addition, discussion with 'weak ties' is a better predictor of exposure to networks with more heterogeneous discussion, to more reasoned discussion and to discussion with persons with whom one is in disagreement.

The tests carried out through SEM techniques also indicate that political discussions with strong ties are related to cognitive elaboration both directly and through the heterogeneity of discussion networks and reasoned discussion. The influence of weak ties on cognitive elaboration, in contrast, is totally mediated (without direct effects) by the heterogeneity of discussion networks and exposure to reasoned discussion. Lastly, exposure to disagreement seems to have a negative effect on cognitive elaboration following what has been discussed.

Theoretical framework

Weak ties, strong ties and attributes of political discussion networks

The structure and functions of the social networks individuals belong to have been a recurring issue in sociological and communications research (for example, Bian, 1997; Granovetter, 1973, 1982; Montgomery, 1992). One of the characteristics of these networks that has captured the interest of researchers is the strength of the ties between their nodes. A tie between two or more individuals is more or less strong in function of the frequency with which it produces interactions and their duration, but also in function of the emotional intensity and degree of intimacy that characterizes it (Granovetter, 1973, p.1361). Far from being irrelevant to the individual, "weak ties provide individuals access to information and resources beyond those available in their own social circles" (Granovetter, 1982: 114).

The effect of the strength of discussion network ties has been the object of study in relation to a range of issues, such as the control of diseases (Terry, 2009), the integration of immigrants in local economies in the US (Pfeffer and Parra, 2009) and citizen participation (Kavanaugh *et al*., 2005; ; Kenny, 1994; Kotler-Berkowitz, 2005; La Due Lake and Huckfeldt, 1998; Wellman, 1997). Before the arrival of the internet, Granovetter (1973) argued that the majority of explanatory models of the structure of social networks at that time referred implicitly to *strong* ties, which were only adequate for describing small and well-defined groups. Granovetter thought that an emphasis on *weak* ties could contribute to a better explanation of inter-group discussion and even to the description of subsets of networks, difficult to understand from the perspective of the primary group (1973). In this pioneering work, Granovetter found that individuals who made use of their weak ties to increase their knowledge and access information not available in the primary group found themselves in an advantageous situation with respect to those who did not do so.

Granovetter's findings are explained by the fact that among the weak ties are frequently found individuals who are different in terms of their social and demographic characteristics: ethnicity, social class, religion, sexual orientation, etc. (Gil de Zúñiga and Valenzuela, 2011; Kotler-Berkowitz, 2005). In Burt's terminology (2004), weak ties often act as "bridges over structural holes" in a social organization. Burt (2004) found that the individuals who connect "structural holes" (that is, they serve as a nexus between relatively disconnected groups) benefit from a greater exposure to diverse - sometimes contradictory - information and to different ways of thinking about and doing things, which often provides them with greater creativity and facility for generating "good ideas" (2004: 349).

It is not difficult to imagine the implications of these studies on current research on internet-based networks - both social and personal. The main inconvenience of research in this field is in the diversity of theoretical and empirical approaches to the concepts of "strong and weak ties". While some studies do not adequately define these concepts, others operationalize them with a single question, instead of creating indices - for example, friends of the surveyed (strong ties), versus friends of friends of the surveyed (weak ties) (Marsden and Campbell, 1984). Only recently have some researchers (for example, Himelboim *et al*., 2013) begun to more exhaustively analyse the strength of these network ties.

Churchill and Halverson (2005) have revealed the complex nature of the ties between nodes in social networks: "In analysing the flows between nodes along links, we can characterize nodes as powerless, active, stationary, transient, or permanent. Links can be strong or weak, private or public, singular or multiple, unique or redundant, and parallel or intersecting (2005: 14)." In this study we

propose a more exhaustive measure of strong and weak ties. Not only do we distinguish between online and face-to-face interactions, but we also attempt to capture with greater precision the nature of the connection. To operationalize concepts, we record the frequency of interactions (through a number of different questions) that are produced with persons with whom the subjects maintain more or less close relations (see measurement section).

This study examines whether the type of ties in discussion networks are related to other attributes of these networks (heterogeneity, disagreement and reasoning), and if so, how. Some earlier studies have shown that clear connections exist between the type of ties (strong or weak) and political participation (for example, Scott, 1991), as well as between different network attributes and civic participation (Eveland and Hively, 2009; Gil de Zúñiga and Valenzuela, 2011; Shah *et al*., 2001). The size and strength of network ties may, among other things, also condition certain civic behaviours and attitudes (McLeod *et al*., 1999), membership in volunteer organisations (Rojas, 2008) and involvement in local communities (Kavanaugh *et al*., 2005).

Although the influence of the strength of discussion network ties on attitudes and behaviours related to participation seems clear, the connection with network attributes is much less studied. The discussions that take place between persons with weak ties could expose participants to opposing, different or complementary views more easily than when the discussion takes place among persons with strong ties. The discussion with weak or strong ties could also influence the degree of reasoning or argumentation that is employed during the conversation, as well as contact with persons of a different ethnicity and social class. In this study we consider *heterogeneous discussion networks* as those in which there are socioeconomic, ethnic and racial differences among its members (Clough, 2007). In addition, *exposure to disagreement* refers to the frequency of discussion with persons with whom the participant is not in agreement. The level of reasoning of the discussion, in contrast, is the degree to which participants employ logic, reasoning and contribute arguments regarding that which is being discussed (Kim *et al*., 1999; Moy and Gastil, 2006).

Given that political discussion is characterized by the exchange of information between persons (Bennett, 2008; Smith *et al*., 2009), it is logical to assume that the frequency of discussion is related to all of the attributes of the networks. In the end, to explain any of these network attributes, some type of political discussion must take place with people the individual feels close to or not. However, what is not so clear is what type of ties - weak or strong - better explain each of the attributes. Based on previous studies, we propose our first hypothesis and three initial research questions:

H1: The frequency of discussion is positively related to all the discussion network attributes: heterogeneity, disagreement and reasoning.

RQ1a: Is the relationship between weak ties and the heterogeneity of the discussion network stronger than the relationship between strong ties and heterogeneity?

RQ1b: Is the relationship between weak ties and exposure to disagreement in the discussion network stronger than the relationship between strong ties and exposure to disagreement?

RQ1c: Is the relationship between weak ties and rational discussion stronger than the relationship between strong ties and rational discussion?

Cognitive elaboration, strength of ties and discussion network attributes

Research in political communication has emphasized the value of the discussion of political ideas among members of a specific community, as it is considered the foundation of a healthy democracy and one that functions adequately (Shmitt-Beck, 2008). Some studies have pointed out the importance of continuing to study the potential effects of political discussion, a well as its antecedents (McLeod *et al.,* 1999). Regarding the consequences of political discussion, over the last decade the central role of *cognitive elaboration* has been identified as a factor that mediates between the discussion - both face-to-face and in virtual environments - and learning and political participation (Eveland, 2001; Jung *et al*., 2011). Cognitive elaboration refers to the intellectual effort necessary to integrate new information with previous knowledge (Perse, 1990). In the framework of political discussion, elaboration requires the (re)consideration of arguments - both one's own as well as those of other participants in the discussion - , which results in a greater recall and understanding of what is discussed (Cacioppo and Petty, 1983; Hively and Eveland, 2009). In this study we intend to clarify the role of different discussion network attributes as antecedents of cognitive elaboration.

Discussions can take place among individuals with different connections and degrees of closeness and intimacy (Kenny, 1994). Initial studies on personal influence found that strong-tie networks had significant influence on political involvement, perhaps offering an ad hoc explanation on how individuals elaborated on the information they discuss with others with whom they have strong ties (see, for example, Katz & Lazarsfeld, 1955). However, with the arrival of new information and communication technologies, weak-tie networks have become more prominent and relevant to political matters. In the current context, political discussion with persons who are more distant could be essential to obtaining new and diverse information, which can stimulate both political knowledge and cognitive elaboration (Huckfeldt *et al*., 1995). Following earlier research, this study will examine if conversations about political matters have different effects on information processing in function of whether the participants have weak or strong ties. Therefore, the following hypothesis and research questions are proposed:

H2: The frequency of discussion will be positively related to the cognitive elaboration from the discussion.

RQ2: Is the relationship between a discussion with weak ties and cognitive elaboration stronger than the relationship between a discussion with strong ties and cognitive elaboration?

Not all political discussions are structured equally or motivated by the same factors (Schudson, 1997). Some authors have found that, in general, the degree of reasoning in political conversations has a positive effect on the frequency of discussion (that is, the fact that a reasoned discussion occurs favours the occurrence of more political discussions in the future) (Kim *et al*., 1999), and on political commitment and participation as well (Dryzek, 2000; Rojas, 2008). It is not difficult to imagine that reasoned discussion can have a positive effect on the level of cognitive elaboration, as understanding the proposals and arguments of the other, as well as the ability to explain one's own, require a certain mental effort (see, for example, Gastil and Dillard, 1999). It is also possible that discussion in heterogeneous networks, in which participants find themselves in discussion with individuals with different perspectives and less familiar arguments, has a positive effect on the individual process of cognitive elaboration. To study the functioning and mutual influence of all these variables in a

theoretical and empirical model, we formulate our final research question:

RQ3: How do we explain (within a theoretical structure) the effects of weak ties, strong ties, heterogeneity, disagreement and reasoning on cognitive elaboration from political discussion?

Methods

Sample

For this study we used data obtained from a panel study carried out on the internet in the United States. Only data from the second wave of the study were used, as it is the only one that included all the questions in the study related to the attributes of political discussion networks and the cognitive elaboration of the discussion. For the distribution of the questionnaires and the gathering of the data, technical support was provided by Qualtrics (www.qualtrics.com), to which the author had access through a university account.

The University of Texas at Austin maintains an *opt-in* panel that can be used to distribute surveys for research. The university promotes the panel in different social networks and popular websites, with the aim of reaching a broad and diverse group of participants. Participation in the survey from which the data for this study comes, was encouraged through providing gifts and small economic incentives. For the first wave, 10,000 persons were randomly selected from among those inscribed in the panel so that the distribution by age and sex was the same as in the US census (50.2% men and 49.8% women, 30% between the ages of 18 and 34, 39% between 35 and 54, and 31% over 55 years of age). Although, strictly speaking, this sample cannot be considered random, *opt-in* panels with adjustments made for socio-demographic variables have demonstrated their validity in many studies (see, for example, Bosnjak, Das and Linn, 2016; Iyengar and Hann, 2009).

The first wave of questionnaires was distributed between the end of December 2008 and the beginning of January 2009. In total, 1,159 questionnaires with valid information were received. The response rate (AAPOR, RR3)[1] was 23%, comparable to that obtained in other studies that employed *online* panels (Iyengar and Hann, 2009), and also similar to other surveys that used randomly placed telephone calls (Pew Internet & American Life Project, 2009). The data corresponding to the second wave was gathered in July 2009. In this case, 312 of those interviewed in the first wave responded to the questionnaire, generating a retention rate of 27%. In comparison with US census data, the sample from the second wave was older, contained a greater proportion of women and had a higher education level. To compensate for these differences, the data were weighted to coincide with the census distribution.

Measures

The analyses carried out in this study are based on five groups of variables. The first three groups were introduced into the models as control variables. The fourth group includes the independent variables of interest, and the last group corresponds to the criterion variables of this study. For more detailed information on the variables (disaggregated by sex and age group) consult the Appendix.

Control variables

Demographic variables. Age, education level, sex, race and economic income are related to certain cognitive processes (Eveland, 2001; McLeod *et al*., 1999) and discussion network attributes (Eveland and Hively,

[1] The formula for RR3 is (complete interviews) / (complete interviews + eligible non-response + *e* (unknown eligibility)), where *e* was estimated using the proportional allocation method, i.e., (eligible cases) / (eligible cases + ineligible cases).

2009). The age (*M*[2] = 49.32, *SD*[3] = 12.25), sex (67% women) and race (67% white) of survey participants were measured directly through individual survey questions. The education variable was operationalized as the highest level of formal studies completed (*M* = 4.49, *Med*[4] = 2 years of university studies). For income level, each participant chose one of 15 categories based on annual gross income of the family unit (*M* = 6.18, *Med* = 50,000 to 59,999 dollars).

Network size. The size of discussion networks can significantly affect the level of political participation (see, for example, La Due Lake and Huckfeldt, 1998; Mutz, 2002). Survey respondents were asked in open-ended fashion to provide an estimate of the number of people they "talked to face-to-face or over the phone about politics or public affairs," and "talked to via the Internet, including e-mail, chat rooms and social networking sites about politics or public affairs" during the past month. As would be expected, the variable was highly skewed (*M* = 6.21, *Med* = 3.00, *SD* = 43.19, skewness = 12.33), so it was also transformed using the natural logarithm (*M* = 0.61, *Med* = 0.54, *SD* = 0.48, skewness = 0.82)[5]

Strength of party identification (partisanship). Some previous studies have found that the strength of identification with a party is directly related to levels of political participation (Lee *et al*.; 2012, McClurg, 2006). Survey participants were asked to rate their party identification on an eleven point scale, in which one of the extremes represented a high identification with the Republican Party (7.1% of those surveyed), and the other extreme represented a high identification with the Democratic Party (15.1%), with the middle point of the scale referring to those who considered themselves independents (23.4%). This scale was subsequently transformed into another that did not take into account the party survey participants identified with, but rather the values on the scale simply representing strength of partisan identification (whether in regard to the Democrats or Republicans) (M=3.3, SD=1.5).

Internal political efficacy. This construct has been shown to have a strong relationship to political participation (Pingree, Hill and McLeod, 2012). Due to validity problems found with some of the traditional scales used to measure internal efficacy (Morrell, 2003), this study follows the operationalization of the concept suggested by Bennet (1997), using only one item: "I think people like me can influence government." The responses to this item, on a Likert type scale, can take values between '1'= *never* (11.9% of the responses) and '10'=*always* (8%) (M=5.14, SD=2.65).

News media use. Another control introduced into the statistical models captures the degree to which subjects are exposed to information from different sources, both *online* and *offline.* It is important to control the effects of this variable in the model, as previous studies have shown that a direct relationship exists between consumption of the news and cognitive elaboration (Eveland *et al*., 2003). Respondents were asked to rate on a 7-point scale (where 1 = *every day* and 7 = *never*) how often they used the following media to get information about current events, public issues, or politics: network TV news, cable TV news, local TV news, print newspapers, online newspapers, online news magazines and citizen journalism websites. A subsequent scale was created based on the sum of the averages for the seven elements that composed it (Cronbach's alpha=0.73, M=13.97, SD=5.39).

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2 Average.

3 Standard deviation.

4 Median.

5 The authors also tried recoding the values over a specific threshold into a single category. For four different thresholds (10, 20, 25 and 30), the relationship between the transformed variable and the dependent variables did not change significantly. To avoid the inherent arbitrariness of picking a threshold value, we opted for a logarithmic transformation.

Endogenous and exogenous variables

Weak ties. The extent to which individuals discuss politics and public issues with persons with whom they do not have close ties is one of the independent variables of interest in this study. On a Likert type scale ('1'= *never* and '10= *always*), this group of four items reflects the frequency with which survey respondents discuss politics with "known persons" *online* and *offline*, and with "strangers", *online* and *offline* (Cronbach's alpha= 0.88, *M* = 2.6, *SD* = 1.8).

Strong ties. This variable refers to the frequency of discussion with persons that form part of a narrow circle of social relations, such as a 'partner', 'friends' and 'family', both *online* and *offline* (6 items, Cronbach's alpha = 0.81, *M* = 4.3, *SD* = 4.4)[6].

Discussion network heterogeneity. This construct is formed by four items that refer to the frequency with which survey participants participated in discussion of a political nature with persons of a 'different race or ethnicity' and 'from other social classes', both *online* and *offline* (Chronbach's alpha= 0.94, *M* = 3.4, *SD* = 2.5).

Discussion disagreement. Also measured through the use of a Likert type scale (1 = *never*, 10 = *all the time*), participants were asked about the frequency with which they spoke about political matters or public affairs with persons with which they were in agreement (conversely coded) or in disagreement (Spearman-Brown = 0.81, *M* = 3.4, *SD* = 3.0).

Discussion reasoning. In a similar manner to other discussion network attributes, this construct is measured on a ten point scale (1 = *never*, 10 = *always*) that evaluates the frequency with which subjects discussed politics with persons with the capacity to provide counterarguments with facts and reasoned examples, or with persons that proposed political alternatives or solutions to problems, both *online* and *offline* (4 items, Cronbach's alpha = 0.93, *M* = 3.6, *SD* = 3.0).

Discussion cognitive elaboration. This construct is operationalized through the average scores obtained for the responses (1 = *never*, 10 = *all the time*) to questions regarding the frequency with which survey respondents reflected on what they discussed and tried to make sense of acquired information. The specific items were the following: how frequently they "think about how my conversations with other people about politics and public affairs relate to other things I know," find themselves "thinking about my conversations with other people about politics and public affairs after the discussion has ended," and finally, how often they "try to relate my talks with other people about politics and public affairs to my own personal experiences" (3 items, Cronbach's α = 0.91, *M* = 13.8, *SD* = 8.1).

Statistical analysis

To test the hypotheses proposed in this study, we carried out a series of hierarchical regressions in which the independent variables were strong-tie discussion and weak-tie discussion. To avoid spurious correlations between the variables, analysis was carried out controlling for the effect of four blocks of variables. The first block corresponds to demographic variables, the second to variables related to political antecedents, the third to variables that measure media consumption, and the fourth to variables regarding the strength of ties. We also used the technique of structural equation modelling (SEM) to examine the theoretical structure and functioning of the overall model. The regression coefficients were calculated with the help of the SPSS statistical package, version 18.0, while the programme Mplus, version 6.0, was used for the SEM.

[6] In this study, discussion with neighbours or work colleagues has intentionally been left out. These items are often considered 'strong ties', however, in this study this is considered to be a theoretical weakness, as the relationship with neighbours and colleagues may or may not be 'close', therefore, they can be strong or weak ties.

Results

The study's first hypothesis refers to the positive relationship between discussion frequency, whether with strong or weak ties, and the general attributes of discussion networks. The results of the regression analysis confirm this hypothesis: discussion on politics and other public affairs is related to the heterogeneity of discussion networks (total model R^2 = 40.2%), exposure to disagreement (total model R^2 = 71.4%), and reasoned discussion (total model R^2 = 33.2%). More specifically, weak-tie discussions are a more important predictor of several discussion network attributes (heterogeneity, $\beta = .565$, $p < 0.001$; disagreement, $\beta = 0.654$, $p < 0.001$; and reasoning, $\beta = 0.441$, $p < 0.001$). Discussions with strong-ties also show a positive and statistically significant relationship with these three attributes ($\beta = 0.256$, $p < 0.001$; $\beta = 0.189$, $p < 0.001$; $\beta = 0.297$, $p < 0.001$, respectively, see Table I). The greater the impression individuals have that they can influence the democratic process, the greater is their exposure to heterogeneity, disagreement and reasoning ($\beta = 0.139$, $p < 0.001$; $\beta = 0.163$, $p < 0.001$; $\beta = .116$, $p < 0.001$, respectively, see Table I).

TABLE 1. *Regression Models of Offline & Online Political Participation*

	Heterogeneity	Disagreement	Reasoning	Discussion Elaboration
Block 1 - Demographics				
Age	–0.026	–0.102**	0.045	0.035
Education	0.088*	0.017	0.087#	0.201***
Gender (female)	0.069	0.039	0.062	0.112**
Race (white)	0.094*	0.100**	0.092*	0.076
Income	–0.013	0.012	0.032	0.018
ΔR^2	4.3%	2.1%	6.6%	10.8%
Block 2 – Political Antecedents				
Political Efficacy	0.163***	0.116**	0.265***	0.139**
Strength of Partisanship	–0.035	–0.003	–0.029	0.065
ΔR^2	16.3%	15.1%	21.6%	11.7%
Block 3 – Media Use & Discussion				
Media Use	0.037	0.047	0.064	0.004
Discussion Network Size	0.036	0.062#	0.029	0.005
ΔR^2	4.2%	8.0%	2.6%	2.1%
Block 4 – Strength Discussion Ties				
Strong Ties	0.256***	0.179***	0.297***	0.402***
Weak Ties	0.565***	0.654***	0.441***	0.284***
ΔR^2	42.3%	46.2%	33.2%	28.9%
Total R^2	67.1%	71.4%	64.0%	53.4%

Note: Standardized regression coefficients (Betas). N = 271 # p < 0.10; * $p < 0.05$; ** $p < 0.10$; *** $p < 0.001$.

To respond to the first series of research questions (*RQ1a*, *RQ1b* and *RQ1c*), the authors compared the statistical significance of the difference between the beta coefficients of strong-ties and weak-ties regarding their prediction of exposure to heterogeneity, disagreement and reasoning. The results indicate that, although both types of discussion are positive predictors of exposure to these three attributes, weak-ties have a greater predictive power than strong-ties (see Table II). In other words, talking about politics with acquaintances and strangers is more important than discussing politics with a partner, family or friends in terms of exposure to more diverse, heterogeneous and reasoned discussion.

The second hypothesis predicts that the frequency of discussion, for both weak-ties and strong-ties, will be positively related to the degree of discussion elaboration. This hypothesis was also confirmed by the results (total model R^2 = 53.4 %; see Table I). The more politics is discussed, whether with persons with weak or strong ties, the greater is the tendency of individuals to elaborate and reflect on the information that is exchanged during the discussion ($\beta = 0.284$, $p < 0.001$; $\beta = 0.402$, $p < 0.001$; Table I). It is also interesting to note that (*RQ2*) conversations and discussions with strong-ties are a more robust predictor of reflection and elaboration (Table II).

Lastly, in this study we also want to know the way in which these variables relate together in a theoretical structure, as shown in Figure 1 (RQ3). The SEM tests show that strong ties have both a direct effect ($\beta = 0.221$, $p < 0.001$; Fig. I) and an indirect effect on cognitive elaboration (Table III). Discussion with strong ties predicts exposure to heterogeneity $\beta = 0.375$, $p < 0.001$) and to reasoned discussion ($\beta = 0.429$, $p < 0.001$), which has an influence on the cognitive elaboration of political discussion ($\beta = 0.190$,

TABLE 2. *Comparison of standardised coefficients of discussion ties as predictive variables of other discussion network attributes and on cognitive elaboration*

	Heterogeneity	Disagreement	Reasoning	Discussion Elaboration
Strong Ties	0.256[b]	0.179[b]	0.297[a]	0.402[a]
Weak Ties	0.565[b]	0.654[b]	0.441[a]	0.284[a]

Note: Cell entries correspond to the standardized regression coefficients of weak ties and strong ties (see table 1) predicting discussion elaboration, heterogeneity, disagreement, and reasoning. The comparisons of marked with (a) superscript denotes that their difference is statistically significant at the $p < 0.05$ level. The comparisons of marked with (b) superscript denotes that their difference is statistically significant at the $p < 0.01$ level. The formulas employed to calculate the differences between the standardised regression coefficients (betas) are based on 1) the value of the beta, 2) the value of t and 3) the standard error. When the standard scores are obtained, the differences, which are $z > 1.96$ and $z > 2.56$, represent a statistically significant different at the $p < 0.05$ and $p < 0.01$, respectively.

TABLE 3. *Indirect Effects of Strength of Ties on Political Discussion Elaboration*

Indirect Effects	ß
Strong Ties → Heterogeneity → Discussion Elaboration	0.047**
Strong Ties → Reasoning → Discussion Elaboration	0.097***
Weak Ties → Heterogeneity → Discussion Elaboration	0.096**
Weak Ties → Reasoning → Discussion Elaboration	0.114**

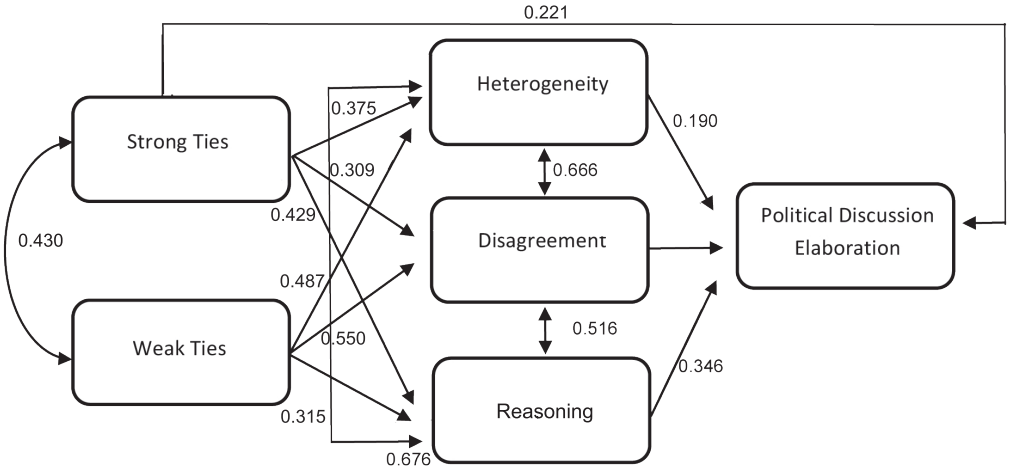
Note: Standardized regression coefficients. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. N = 271.

$p < 0.001$; $\beta = 0.346$, $p < 0.001$; respectively; Fig. I). Weak tie discussion is shown to only have indirect effects on political discussion through heterogeneity ($\beta = 0.487$, $p < 0.001$) and reasoning ($\beta = 0.315$, $p < 0.001$) (Table III). These results reveal a totally mediated relationship, in contrast to what we see with strong tie discussion. Finally, exposure to other points of view (disagreement) has no statistically significant influence on cognitive elaboration (Fig. I).

Discussion

To begin with, this study is a theoretical advance in regard to measuring the strength of ties (weak or strong) in discussion networks. In addition, the article has examined empirically if these ties a) are related to certain network attributes - heterogeneity, disagreement and reasoning; and b) are associated with cognitive elaboration of political discussion. The results indicate that both types of networks examined (those based on strong ties and those based on weak ties) are associated with all of these variables. It is interesting to see that networks with weak ties are more likely to have greater discussion heterogeneity and reasoned discussion. We can assume that conversations with acquaintances and strangers will contain more disagreements and greater heterogeneity than conversation among members of a primary group. Persons who are less well-known to us will tend to come from more diverse contexts than those who belong to circles that are closer to us, and they will also provide more diverse opinions (Granovetter, 1973). These findings are consistent with other studies that have explored these relationships (for example, Kavanaugh *et al*., 2005; Pfeffer and Parra, 2009; Terry, 2009). What might not be clear is the reason why political discussion with weak ties leads to conversations of a more reasoned character more often than do those with strong ties. A possible explanation could be

FIGURE 1. *SEM Model of Strength of Ties, Discussion Network Attributes, and Political Discussion Elaboration*



Note: N = 271. The figure shows the standardised scores (ß) for the SEM with a significance level of p < 0.05 or higher. The effect of the demographic variables, political antecedents, media use and discussion network size (online and offline) on the endogenous and exogenous variables was residualized. Goodness of fit of the model: $\chi^2 = 0.014$; g.l., = 1; p = 0.91; RMSEA = 0.000, CFI = 1.000, TLI = 1.012, SRMR = 0.001. The variance explained by the criteria variables: discusssion heterogeneity $R^2 = 53.4\%$; exposure to disagreement $R^2 = 54.53\%$; exposure to reasoning $R^2 = 39.9\%$; and elaboration of political discussion $R^2 = 44.7\%$. The model was submitted to a bootstrap method (5,000 iterations).

related to a greater tendency to behave in a more courteous or civic manner in these types of discussions, which can lead to more reasoned arguments for one's point of view. Another complementary possibility could be that discussions between persons with closer ties contain less new information, as arguments tend to be repeated and, therefore, are familiar to the participants in the discussion. This repetition of discourses and arguments could reduce the level of reasoning in discussion, at least in comparison with the more robust effect that discussions with weak ties have on reasoning.

Regarding cognitive elaboration, in contrast, stronger connections seem to foster more reflective and mediated mental processes. Discussion with partners, friends and family tend to have a greater degree of intimacy (Kavanaugh and Patterson, 2002), which could favour deeper reflection and more intense cognitive or mental processes. Similarly, conversation in strong-tie networks involves a level of trust that has also been explained in earlier studies on cognitive elaboration as, for example, related to trust in information (see Kotler-Berkowitz, 2005).

It is also important to analyse the specific mechanisms through which the strength of network ties, as well as discussion network attributes, impact cognitive elaboration. While discussion networks characterised by strong-ties are shown to have both direct and indirect effects on cognitive elaboration, networks with weak ties only explain cognitive elaboration through network heterogeneity and reasoning. In addition, exposure to disagreement does not explain cognitive elaboration of political discussion. As far as we know, no other study has explicitly revealed this important association. The heterogeneity of results reveals the need to explore this issue, which could represent a fertile area for future study.

From a positive perspective, there are various paths to improving individuals' processes of cognitive elaboration that, ultimately, would lead to a more reflective and informed community (Eveland, 2001), and, as a result, to a more participatory society (Shah *et al*., 2005). The results suggest that strong-tie connections lead individuals to a higher level of cognitive elaboration, not only directly, but also in an indirect manner through more heterogeneous networks and more reasoned conversations. Weak-tie discussions do not have a direct effect on elaboration, but they could contribute significantly to this cognitive process by providing stronger connections to reasoned and more diverse and heterogeneous discussions. The results also suggest that exposure to disagreement does not provoke greater reflection and cognitive elaboration in individuals exposed to new points of view. This could perhaps revive academic discussion about the virtues and risks for the democratic process of exposure to different points of view (Mutz, 2006; Wojcieszak and Mutz, 2009).

However, certain limitations to our study suggest the need to be cautious in interpreting our findings. First, the data analysed in this study come from the second wave of a longitudinal study, as the first wave did not include many of the questions used to construct the variables we are interested in. As the analyses carried out are of a cross-sectional nature, suggesting the direction of the effects can be problematic. Although panel data would contribute greater solidity to interpreting directionality, it seems clear that the direction most frequently theorised in the literature is from discussion (behaviours) to cognitive elaboration (mental process). Future research could use longitudinal data and a larger sample size to confirm the internal and external validity of the results.

Secondly, the sample is exclusively composed of residents of the United States, so that the results are generalizable to the population of that country. Future studies should study the relationships between type of ties (strong or weak) and discussion network attributes in other contexts. Nevertheless, the

common characteristics of the United States and other western democracies (freedom of expression, plurality of media, a developed public sphere, regular elections, etc.) permit us to assume that these findings could be reasonably similar to those we would find in other countries.

Finally, we have excluded from the analysis conversations with neighbours and work colleagues. These types of ties can be strong or weak, and including them in any of the categories would increase measurement error. The only way to adequately classify neighbours and work colleagues as strong or weak ties would be to reformulate the questions, distinguishing among, for example, "neighbours that are well-know", "neighbours that are not well-known", "colleagues that are well-known" and "colleagues that are not well-known". Future research should include this type of distinction to construct a more inclusive measure.

Despite these limitations, this study contributes additional support to the idea that the force of ties is related to other discussion network attributes. In addition, it explores their connections with cognitive mental processes, as well as with the way in which individuals reflect on the information they receive when they discuss politics and public affairs. This study, therefore, is an additional step toward understanding of how certain attributes of political discussion explain why persons reflect on the information they find in their interpersonal exchanges, contributing to developing alternative ways to strengthen the democratic process.

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APPENDIX

Descriptive statistics for the variables of interest, by age and sex

	M	S. D.	Range
Heterogeneity			
Women	3.37	2.70	1-10
Men	3.30	2.13	1-10
18-34 years of age	3.67	2.40	1-10
35-55	3.41	3.56	1-10
More than 55	3.21	2.59	1-10
Total	3.36	2.55	1-10
Disagreement			
Women	3.45	2.60	1-10
Men	3.55	2.28	1-10
18-34 years of age	3.81	2.34	1-10
35-55	3.69	2.49	1-10
More than 55	3.11	2.55	1-10
Total	3.48	2.51	1-10
Reasoning			
Women	3.54	2.84	1-10
Men	3.65	2.03	1-10
18-34 years of age	3.91	2.49	1-10
35-55	3.49	2.53	1-10
More than 55	3.62	2.82	1-10
Total	3.58	2.63	1-10
Elaboration			
Women	13.93	8.46	3-30
Men	13.36	6.79	3-30
18-34 years of age	14.66	8.64	3-30
35-55	13.39	8.17	3-30
More than 55	14.17	7.68	3-30
Total	13.79	8.01	3-30
Discussion w/ strong-ties			
Women	4.36	2.21	1-10
Men	4.20	1.97	1-10
18-34 years of age	4.81	2.07	1-10
35-55	4.17	2.28	1-10
More than 55	4.40	2.95	1-10
Total	4.32	2.14	1-10

...

Descriptive statistics for the variables of interest, by age and sex (continueed)

	M	S. D.	Range
Discussion w/ weak-ties			
Women	2.52	2.25	1-10
Men	2.71	1.66	1-10
18-34 years of age	2.33	1.94	1-10
35-55	2.70	2.06	1-10
More than 55	2.47	2.20	1-10
Total	2.58	2.10	1-10

Note: N = 272. M = average; S.D. = standard deviation.

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Los atributos de la discusión política interpersonal como antecedentes de la elaboración cognitiva

Attributes of Interpersonal Political Discussion as Antecedents of Cognitive Elaboration

Homero Gil de Zúñiga

Palabras clave

Comunicación interpersonal
• Comunicación política
• Redes sociales
• Relaciones interpersonales
• Opinión

Resumen

La discusión política es un elemento central para el bienestar democrático de las sociedades actuales. Estudios recientes han explorado algunos de los atributos de las redes de discusión política de los individuos, como la fuerza de los vínculos en estas redes (débiles-fuertes), su grado de heterogeneidad, la exposición al desacuerdo o el grado de razonamiento empleado en ellas. Sin embargo, el papel de estos atributos de las redes de discusión como antecedentes de la elaboración cognitiva –la reflexión y el pensamiento posterior sobre aquello de lo que se ha discutido– no ha sido abordado con detalle. A partir de datos procedentes de una encuesta realizada en Estados Unidos, el presente estudio muestra que la discusión sobre asuntos de interés público con «vínculos fuertes» o con «vínculos débiles» tiene efectos diferentes sobre los diversos atributos de las redes de discusión, así como sobre la elaboración cognitiva posterior.

Key words

Interpersonal Communication
• Political Communication
• Social Networks
• Interpersonal Relationships
• Opinion

Abstract

Political discussion is a core element for the democratic wellbeing of any society. Recently, academics have turned their attention to exploring the different roles discussion-network-attributes may have in today's democracy, such as strength of discussion network ties (weak-strong), heterogeneity of discussion networks, exposure to disagreement, and level of reasoning in discussions. Less explored, however, is the connection of these discussion attributes as antecedents to cognitive elaboration – the extent to which individuals who engage in political discussions find themselves thinking and reflecting upon those discussions at a later time. Survey data from the United States indicates discussing public affairs in networks with strong-ties versus weak-ties has different implications in predicting other discussion attributes and cognitive elaboration.

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Introducción

Las repercusiones de la *discusión* política (en su acepción de examinar atenta y particularmente una materia política con una o varias personas) en el proceso democrático han sido exploradas con gran detalle en investigaciones sobre comunicación política (por ejemplo, Holbert *et al*., 2010; Kavanaugh *et al*., 2005; McLeod *et al*., 2001). Gran parte de los estudios sobre esta cuestión han resaltado el importante papel que desempeña la discusión política en el bienestar democrático de las sociedades, al contribuir a la formación de un sistema más deliberativo (Fischer, 2003; Gastil, 2008). Recientemente, la investigación en ciencias políticas y de la comunicación ha comenzado a dirigir su atención hacia los efectos que los diferentes atributos de las redes de discusión política de los ciudadanos (en adelante, atributos de las redes de discusión o atributos de las redes) pueden tener sobre la frecuencia de la discusión en sí o la participación política (Hively y Eveland, 2009; Rojas, 2008; Shah *et al*., 2001). Entre estos atributos de las redes se encuentran, por ejemplo, la heterogeneidad de la red y la fortaleza de los vínculos entre sus nodos (a la que en adelante nos referiremos como «vínculos débiles» o «vínculos fuertes»); pero también el grado de desacuerdo y el nivel de razonamiento que se emplea durante las discusiones (Valenzuela *et al*., 2012).

Estos atributos merecen ser estudiados con atención, pues investigaciones anteriores muestran que unos y otros tienen diferentes efectos sobre otras variables como el conocimiento político, la eficacia política o la participación (Wojcieszak y Mutz, 2009; Yoo y Gil de Zúñiga, 2014). Partiendo del modelo de mediación de la comunicación y del modelo de la mediación cognitiva (Eveland, 2001; McLeod *et al*., 2001), algunos investigadores han ampliado la noción de *atributos de las redes de discusión* al integrar la elaboración cognitiva de la discusión (en adelante, elaboración de la discusión o elaboración cognitiva) en los modelos que explican los niveles de compromiso político. El concepto de *elaboración de la discusión* se refiere al proceso mediante el cual los individuos que han mantenido una discusión política piensan y reflexionan posteriormente sobre aquello que han discutido y lo relacionan con su entorno y sus propias experiencias. Diversos estudios han mostrado que la elaboración cognitiva tiene un papel mediador en la relación entre discusión política y participación (Eveland, 2001; Jung *et al*., 2011).

El presente estudio pretende contribuir a la mejor comprensión de los atributos de las redes de discusión, así como de la relación que existe entre ellos. ¿Hasta qué punto la discusión con «vínculos fuertes» o con «vínculos débiles» puede explicar que los individuos se expongan a redes de discusión más heterogéneas, al debate con otras personas con las que están en desacuerdo o a una conversación más razonada o argumentada? Además, este estudio emplea modelización de ecuaciones estructurales (SEM, en sus siglas en inglés) para conocer cómo se relacionan, en una estructura teórica conjunta, la fuerza de los vínculos de discusión con la heterogeneidad, el desacuerdo, el razonamiento y la elaboración de la discusión.

Basados en datos de la segunda ola de una encuesta realizada en Estados Unidos en julio de 2009, los resultados indican que la discusión con vínculos fuertes es el predictor más importante de la elaboración de la discusión. Por otro lado, la discusión con «vínculos débiles» predice con mayor intensidad la exposición a redes de discusión más heterogéneas, a discusiones más razonadas y a discusiones con personas con las que se está en desacuerdo.

Los test llevados a cabo mediante técnicas de SEM indican, además, que las discusiones políticas con vínculos fuertes se relacionan con la elaboración cognitiva tanto directamente como a través de la heteroge-

neidad de las redes de discusión y de la discusión razonada. La influencia de los vínculos débiles en la elaboración cognitiva, en cambio, se encuentra totalmente mediada (sin efectos directos) por la heterogeneidad de las redes de discusión y la exposición a discusiones razonadas. Finalmente, la exposición al desacuerdo parece tener un efecto negativo sobre la elaboración cognitiva de aquello sobre lo que se ha discutido.

Marco teórico

Vínculos débiles, vínculos fuertes y atributos de las redes de discusión política

La estructura y las funciones de las redes sociales de las que forman parte los individuos han sido temas recurrentes de investigación en sociología y comunicación (por ejemplo, Bian, 1997; Granovetter, 1973, 1982; Montgomery, 1992). Una de las características de estas redes que ha capturado el interés de los investigadores es la fortaleza de los vínculos entre sus nodos. Un vínculo entre dos o más individuos es más o menos fuerte en función de la frecuencia con la que se produzca la interacción y su duración, pero también de la intensidad emocional y el grado de intimidad que la caractericen (Granovetter, 1973: 1361). Lejos de resultar irrelevantes para el individuo, los vínculos débiles «dan acceso a los individuos a información y recursos que no se encuentran disponibles en sus propios círculos sociales» (Granovetter, 1982: 114).

El efecto de la fortaleza de los vínculos de las redes de discusión ha sido objeto de estudio en relación con diversidad de temas, como el control de las enfermedades (Terry, 2009), la integración de los inmigrantes en economías locales de Estados Unidos (Pfeffer y Parra, 2009) o la participación ciudadana (Kavanaugh *et al*., 2005; Kenny, 1994; Kotler-Berkowitz, 2005; La Due Lake y Huckfeldt, 1998; Wellman, 1997). Ya antes de la llegada de internet, Granovetter (1973) afirmaba que la mayoría de los modelos explicativos de las estructuras de las redes sociales del momento se referían, de manera implícita, a vínculos *fuertes*, lo que los hacía adecuados solo para describir a grupos pequeños y bien definidos. Granovetter consideraba que el énfasis en los vínculos *débiles* podría contribuir a una mejor explicación de las discusiones intergrupales e incluso a la descripción de subconjuntos de redes, difícilmente abordables desde la perspectiva del grupo primario (Granovetter, 1973). Este trabajo pionero encontró que los individuos que hacen uso de sus vínculos débiles para aumentar su conocimiento y acceder a información no disponible en su grupo primario se encuentran en situación de ventaja con respecto a los que no lo hacen.

Los hallazgos de Granovetter se explican porque entre los vínculos débiles se encuentran con frecuencia personas diferentes en cuanto a sus características sociales y demográficas: etnia, clase social, religión, orientación sexual, etc. (Gil de Zúñiga y Valenzuela, 2011; Kotler-Berkowitz, 2005). En la terminología de Burt (2004), los vínculos débiles serían a menudo «puentes sobre los agujeros estructurales» en una organización social. Burt encontró que los individuos que conectan «agujeros estructurales» (es decir, que sirven de nexo entre grupos relativamente desconectados entre sí) se benefician de una mayor exposición a información diversa —a veces contradictoria— y a maneras diferentes de pensar y comportarse, lo que a menudo les proporciona una mayor creatividad y facilidad para generar «buenas ideas» (2004: 349).

No resulta complicado imaginar las implicaciones de estos trabajos en la investigación actual sobre redes —personales y sociales— en el ámbito de internet. El principal inconveniente de la investigación en este campo reside en la diversidad de aproximaciones teóricas y empíricas a los conceptos de «vínculos fuertes» y «vínculos débiles». Mien-

tras algunos estudios no definen adecuadamente estos conceptos, otros los operacionalizan con una única pregunta, en lugar de crear índices —por ejemplo, amigos de los encuestados (vínculos fuertes) frente a amigos de los amigos de los encuestados (vínculos débiles) (Marsden y Campbell, 1984)—. Solo recientemente algunos investigadores (por ejemplo, Himelboim *et al*., 2013) han comenzado a analizar de manera más exhaustiva la fortaleza de los vínculos de estas redes.

Churchill y Halverson han puesto de manifiesto la naturaleza compleja de los vínculos entre nodos en las redes sociales: «Al analizar los flujos entre los nodos de una red, podemos caracterizar a los nodos como ineficaces, activos, estacionarios, transitorios o permanentes. Las conexiones pueden ser fuertes o débiles, públicas o privadas, singulares o múltiples, únicas o redundantes, y paralelas o perpendiculares» (2005: 14). En este estudio se propone una medida más exhaustiva de vínculos fuertes y vínculos débiles. No solo se distingue entre las interacciones *online* frente a las presenciales, sino que además se trata de capturar con mayor precisión la naturaleza de la conexión. Para operacionalizar los conceptos, se registra, a través de varias preguntas diferentes, la frecuencia de las interacciones que se producen con personas con las que se mantienen relaciones más o menos cercanas (ver sección de medidas).

El presente estudio pretende comprobar si el tipo de vínculo en las redes de discusión se relaciona con otros atributos de esas redes —heterogeneidad, desacuerdo y razonamiento—, y, en caso de hacerlo, cómo lo hace. Algunas investigaciones previas han determinado que existen claras conexiones entre el tipo de vínculos (fuertes-débiles) y la participación política (por ejemplo, Scott, 1991), así como entre los diferentes atributos de las redes y la participación cívica (Eveland y Hively, 2009; Gil de Zúñiga y Valenzuela, 2011; Shah *et al*., 2001). El tamaño y la fuerza de los vínculos de las redes también pueden condicionar ciertas actitudes y conductas cívicas (McLeod *et al*., 1999), la pertenencia a entidades de voluntariado (Rojas, 2008) o la implicación en comunidades locales (Kavanaugh *et al.*, 2005), entre otros.

Aunque la influencia de la fortaleza de los vínculos de las redes de discusión en actitudes y comportamientos relacionados con la participación parece clara, su conexión con los atributos de las redes de discusión está mucho menos estudiada. Las discusiones que tienen lugar entre personas con vínculos débiles podrían permitir la exposición de los participantes a puntos de vista opuestos, diferentes o complementarios con más facilidad que cuando la discusión tiene lugar entre vínculos fuertes. La discusión con vínculos débiles o fuertes podría también influir en el grado de razonamiento y argumentación que se emplea durante la conversación, así como en el contacto con personas de diferentes etnias o clases sociales. En este estudio se entenderá como *redes de discusión heterogéneas* aquellas en las que existan diferencias de carácter socioeconómico, étnico y racial entre sus miembros (Clough, 2007). Por otro lado, *exposición al desacuerdo* se referirá a la frecuencia de discusión con personas con cuyas opiniones no se está de acuerdo. El nivel de razonamiento de la discusión, en cambio, es el grado en el que sus participantes emplean la lógica, razonan y proporcionan argumentos sobre aquello de lo que discuten (Kim *et al*., 1999; Moy y Gastil, 2006).

Dado que la discusión política se caracteriza por el intercambio de información entre personas (Bennett, 2008; Smith *et al*., 2009), resulta lógico esperar que la frecuencia de la discusión se relacione con todos los atributos de las redes. Al fin y al cabo, para poder explicar cualquiera de estos atributos de las redes tiene que producirse algún tipo de discusión política —con gente con la que el individuo se sienta cercano o no—. Sin embargo, lo que no parece tan claro es qué tipo de vínculos —débiles o fuertes— explican mejor cada uno los atributos. A la luz de los estudios anteriores,

se plantea la primera hipótesis y las tres primeras preguntas de investigación:

H1: La frecuencia de la discusión se relaciona positivamente con todos los atributos de las redes de discusión: heterogeneidad, desacuerdo y razonamiento.

PI1a: ¿Es más intensa la relación entre vínculos débiles y heterogeneidad de la red de discusión que la relación entre vínculos fuertes y heterogeneidad?

PI1b: ¿Es más intensa la relación entre vínculos débiles y exposición al desacuerdo en la red de discusión que la relación entre vínculos fuertes y exposición al desacuerdo?

PI1c: ¿Es más intensa la relación entre vínculos débiles y discusión razonada que la relación entre vínculos fuertes y discusión razonada?

Elaboración cognitiva, fuerza de los vínculos y atributos de las redes de discusión

La investigación en comunicación política ha resaltado el valor de la discusión de ideas políticas entre los miembros de una determinada comunidad, ya que supone la base de una democracia saludable y que funcione adecuadamente (Schmitt-Beck, 2008). Algunos estudios han señalado la importancia de continuar investigando sobre los efectos potenciales de la discusión política, pero también sobre sus antecedentes (McLeod *et al*., 1999). En cuanto a las consecuencias de la discusión política, a lo largo de la última década se ha podido determinar el papel central de la *elaboración cognitiva*, ya que es una variable mediadora entre la discusión —tanto cara a cara como en entornos virtuales— y el aprendizaje y la participación política (Eveland, 2001; Jung *et al*., 2011). La elaboración cognitiva se refiere al esfuerzo intelectual necesario para integrar la información nueva con el conocimiento previo (Perse, 1990). En el marco de la discusión política, la elaboración requiere de la (re) consideración de los argumentos —tanto propios como de los demás participantes en la discusión—, lo que redunda en una mayor tasa de recuerdo y comprensión de lo discutido (Cacioppo y Petty, 1983; Hively y Eveland, 2009). En el presente estudio se pretende esclarecer el rol de los diferentes atributos de las redes de discusión como antecedentes de la elaboración cognitiva.

Las discusiones pueden desarrollarse entre individuos con diferentes grados de vinculación, cercanía e intimidad (Kenny, 1994). Los primeros estudios sobre la influencia personal encontraron que las redes de vínculos fuertes influían en gran medida en la implicación y participación política, ofreciendo entonces una explicación *ad hoc* sobre cómo los individuos elaboraban la información a la que habían accedido en la discusión con este tipo de lazos fuertes (por ejemplo, Katz y Lazarsfeld, 1955). Sin embargo, con la llegada de las nuevas tecnologías de la información y de la comunicación, las redes de vínculos débiles han ganado prominencia y relevancia en lo referido a asuntos políticos. En el contexto actual, la discusión política con estos vínculos menos cercanos podría ser un requisito fundamental para la obtención de información no redundante y diversa, que pueda estimular tanto el aprendizaje político como la elaboración (Huckfeldt *et al*., 1995). Siguiendo las líneas de investigación previa, se pretende comprobar si las conversaciones sobre asuntos públicos tienen efectos diferentes sobre el procesamiento de la información en función de si se producen entre vínculos fuertes o débiles. Se propone por tanto la siguiente hipótesis y pregunta de investigación:

H2: La frecuencia de la discusión estará relacionada positivamente con la elaboración cognitiva de la discusión.

PI2: ¿Es más intensa la relación entre la discusión con vínculos débiles y la elaboración

cognitiva que la relación entre la discusión con vínculos fuertes y elaboración cognitiva?

No todas las discusiones políticas están igualmente estructuradas ni tienen las mismas motivaciones (Schudson, 1997). Algunos autores han encontrado que, en general, el grado de razonamiento de las conversaciones políticas tiene un efecto positivo sobre la frecuencia de la discusión (es decir, el hecho de que se produzca una discusión razonada favorece que en el futuro se produzcan más discusiones políticas) (Kim *et al*., 1999), así como con el compromiso y la participación política (Dryzek, 2000; Rojas, 2008). No resulta difícil imaginar que las discusiones razonadas pueden también tener un efecto positivo sobre el grado de elaboración cognitiva, ya que la comprensión de las propuestas y argumentos del otro, así como la exposición de las propias, requieren de cierto esfuerzo mental (véase, por ejemplo, Gastil y Dillard, 1999). También es posible que la discusión en redes heterogéneas, en las que se encuentran individuos con pensamientos diferentes y argumentos menos familiares para los participantes en la discusión, tenga un efecto positivo en el proceso individual de elaboración cognitiva. Para estudiar el funcionamiento y la influencia mutua de todas estas variables en un modelo teórico y empírico, formulamos la última pregunta de investigación:

PI3: ¿Cómo se explican de manera conjunta (en una estructura teórica) los efectos de los vínculos débiles, los vínculos fuertes, la heterogeneidad, el desacuerdo y el razonamiento sobre la elaboración cognitiva de la discusión política?

Métodos

Muestra

Para este estudio se emplearon datos obtenidos de un panel a través de internet desarrollado en Estados Unidos. Solo se utilizaron los datos de la segunda ola, ya que es la única que incluía todas las cuestiones relativas a los atributos de las redes de discusión política y la elaboración cognitiva de la discusión. Para la distribución de los cuestionarios y la recogida de datos se contó con el soporte informático proporcionado por Qualtrics (www.qualtrics.com), al que se tuvo acceso a través de una cuenta contratada por la universidad.

La Universidad de Texas mantiene un panel *opt-in* que puede contratarse para distribuir encuestas de investigación. La Universidad promociona el panel en diferentes redes sociales y sitios web populares, con objeto de llegar a un número de personas lo más amplio y diverso posible. La participación en la encuesta de la que proceden los datos para este estudio se impulsó mediante regalos y pequeños incentivos económicos. Para la primera ola se seleccionaron al azar 10.000 personas entre las inscritas en el panel, de modo que la distribución de edades y sexos fuese la misma que la del censo de Estados Unidos (50,2% hombres y 49,2% mujeres, 30% entre 18 y 34 años, 39% entre 35 y 54, y 31% mayores de 55). A pesar de que, en rigor, esta muestra no puede considerarse aleatoria sino de conveniencia, los paneles *opt-in* con ajuste por variables sociodemográficas han demostrado su validez en gran cantidad de estudios previos (véanse, por ejemplo, Bosnjak, Das y Linn, 2016; Iyengar y Hann, 2009).

La primera ola se distribuyó entre finales de diciembre de 2008 y principios de enero de 2009. En total se recibieron 1.159 con información válida. La tasa de respuesta (AAPOR, RR3)[1] fue del 23%, comparable a la obtenida por otros estudios que emplean paneles *online* (Iyengar y Hann, 2009), y tam-

[1] La fórmula para RR3 es (encuestas completas) / (encuestas completas + elegible, no respuesta + e (elegibilidad desconocida), donde *e* se estima mediante el método de distribución proporcional, es decir, (casos elegibles) / (casos elegibles + casos no elegibles).

bién similar a la de otras encuestas que utilizan marcación aleatoria de números de teléfono (Pew Internet & American Life Project, 2009). Los datos correspondientes a la segunda ola se recogieron en julio de 2009. En este caso, 312 de los entrevistados en la primera ola respondieron al cuestionario, generando una tasa de retención del 27%. En comparación con los datos del censo de Estados Unidos, la muestra de encuestados de la segunda ola era más vieja, contenía una mayor proporción de mujeres y presentaba un nivel educativo algo superior. Para compensar estas disparidades, los datos fueron ponderados de manera que coincidiesen con la distribución del censo.

Medidas

Los análisis de este estudio incluyeron cinco grupos de variables. Los tres primeros grupos se introdujeron en los modelos como variables de control. El cuarto grupo incluye las variables independientes de interés, y el grupo final corresponde a las variables criterio de este estudio. Para información más detallada sobre las variables de interés (desglosada por sexo y grupo de edad) puede consultarse el Apéndice.

Variables de control

Variables demográficas. La edad, el nivel educativo, el sexo, la raza y los ingresos económicos se relacionan con algunos procesos cognitivos (Eveland, 2001; McLeod *et al*., 1999) y atributos de las redes de discusión (Eveland y Hively, 2009). La edad de los encuestados (*M*[2] = 49,32, *DT*[3] = 12,25), su sexo (67% mujeres) y raza (67% blancos) se midieron de manera directa, con una sola pregunta del cuestionario. La variable educación se operacionalizó como el nivel más alto de estudios formales terminados (*M* = 4,49, *Mdn*[4] = 2 años de estudios universitarios). Para el nivel de ingresos, cada encuestado eligió una de las 15 categorías en las que se dividieron los ingresos brutos anuales de la unidad familiar (*M* = 6,18, *Mdn* = 50.000 a 59.999 dólares).

Tamaño de la red. El tamaño de las redes de discusión puede afectar de manera significativa al nivel de participación política (consúltese, por ejemplo, La Due Lake y Huckfeldt, 1998; Mutz, 2002). Se pidió a los encuestados, mediante una pregunta abierta, que estimaran el número aproximado de personas con el que hablaron «cara a cara, o por teléfono, sobre política o asuntos de interés público», así como la cantidad de personas con las que hablaron sobre política o asuntos de interés público «a través de Internet, incluyendo el correo electrónico, las salas de chat y las redes sociales» a lo largo del mes anterior a la realización de la encuesta. Como se esperaba, la variable presentaba un elevado grado de asimetría (*M* = 6,21, *Mdn* = 3,00, *DT* = 43,19, asimetría = 12.33), por lo que se optó por su transformación mediante el empleo del logaritmo natural (*M* = 0,61, *Mdn* = 0,54, *DT* = 0,48, asimetría = 0,82)[5].

Grado de identificación con un partido (partidismo). Algunos estudios realizados con anterioridad han encontrado que el grado de identificación con un partido se relaciona directamente con los niveles de participación política (Lee *et al*., 2012; McClurg, 2006). Se pidió a los encuestados que valoraran su

[2] Media.

[3] Desviación típica.

[4] Mediana.

[5] Los autores trataron de recodificar los valores situados por encima de un valor determinado en una categoría única. Para cuatro valores diferentes (10, 20, 25 y 30), la relación entre la variable transformada y la variable dependiente no cambió de manera significativa. Sin embargo, para evitar la arbitrariedad en la elección de un determinado valor-umbral, se optó por una transformación logarítmica.

grado de identificación con un partido político mediante una escala de once puntos, en la que uno de los extremos representaba una elevada identificación con el Partido Republicano (7,1% de los encuestados), mientras el otro extremo se correspondía con una alta identificación con el Partido Demócrata (15,1%), con un punto medio referido a los que se consideraban independientes (23,4%). Esta escala se transformó posteriormente en otra diferente que no tenía en cuenta el partido con el que el encuestado se identificaba, sino que los valores bajos representaban un bajo grado de partidismo mientras los valores altos representaban una intensidad alta de identificación partidista (ya fuera con los demócratas o con los republicanos) (*M* = 3,3, *DT* = 1,5).

Eficacia política interna. Este constructo ha demostrado mantener una fuerte relación con la participación política (por ejemplo, Pingree, Hill y McLeod, 2012). Debido a los problemas de validez encontrados en algunas de las escalas tradicionales para medir eficacia interna (Morrell, 2003), este estudio sigue la operacionalización del concepto sugerida por Bennet (1997), utilizando un solo ítem: «Creo que la gente como yo puede ejercer influencia en el Gobierno». Las respuestas a este *ítem*, en una escala tipo Likert, podían tomar valores comprendidos entre «1» = *nunca* (11,9% de las respuestas) y «10» = *siempre* (8,0%) (*M* = 5,14, *DT* = 2,65).

Uso de los medios de comunicación. Otro de los controles introducidos en los modelos estadísticos captura el grado en el que los sujetos se exponen a información procedente de diferentes fuentes, tanto *online* como *offline*. Es importante controlar los efectos de esta variable en el modelo, ya que estudios anteriores han demostrado que existe una relación directa entre consumo de noticias y elaboración cognitiva (Eveland *et al*., 2003). Se pidió a los encuestados que valoraran con qué frecuencia (entre 1 = *nunca* y 7 = *todos los días*) utilizaban los siguientes medios de comunicación para informarse sobre los acontecimientos de actualidad, de interés público o de naturaleza política: televisión nacional, televisión por cable, televisión local, prensa en papel, prensa digital, revistas digitales y *webs* de periodismo ciudadano. Se procedió después a crear una escala formada por la suma promedio de los siete elementos que la componen (alfa de Cronbach = 0,73, *M* = 13,97, *DT* = 5,39).

Variables endógenas y exógenas

Vínculos débiles. La medida en la que los individuos discuten sobre política y asuntos de interés público con personas con las que mantienen una vinculación menos estrecha es una de las variables independientes de interés para este estudio. En una escala tipo Likert («1» = *nunca* y «10» = *todo el tiempo*), este conjunto de cuatro ítems refleja la frecuencia con que los encuestados discuten sobre política con «conocidos», *online* y *offline*; y con «extraños», *online* y *offline* (alfa de Cronbach = 0,88, *M* = 2,6, *DT* = 1,8).

Vínculos fuertes. Esta variable se refiere a la frecuencia de discusión de los encuestados con personas que forman parte de su círculo estrecho de relaciones sociales, como su «cónyuge o pareja», «amigos» y «familiares», tanto *online* como *offline* (6 ítems, alfa de Cronbach = 0,81, *M* = 4,3, *DT* = 4,4)[6].

Heterogeneidad de la red de discusión. Este constructo está formado por cuatro ítems referidos a la frecuencia con la que los en-

[6] En el estudio se dejó fuera, de manera intencionada, la discusión que se produce con vecinos o compañeros de trabajo. Con frecuencia, estos ítems se consideran «vínculos fuertes». En este estudio se entiende que esta opción es una debilidad teórica, ya que la relación con vecinos y compañeros de trabajo puede ser más o menos cercana, por lo que estos pueden ser «vínculos fuertes» o «vínculos débiles».

cuestados participan en discusiones de carácter político con personas «de raza o etnia diferente» y «de otra clase social», tanto *online* como *offline* (alfa de Cronbach = 0,94, *M* = 3,4, *DT* = 2,5).

Desacuerdo en la discusión. También mediante el empleo de una escala de tipo Likert (1 = *nunca*, 10 = *todo el tiempo*) se preguntó a los encuestados por la frecuencia con la que hablaban sobre política o asuntos de interés público con gente con la que estaban de acuerdo (recodificado a la inversa) o en desacuerdo (Spearman-Brown = 0,81, *M* = 3,4, *DT* = 3,0).

Razonamiento en la discusión. De manera similar a otros atributos de la red de discusión, este constructo se midió a través de una escala de 10 puntos (1 = *nunca*, 10 = *todo el tiempo*) que valoraba la frecuencia con la que los sujetos discutían sobre política con personas con la capacidad de contraargumentar con pruebas y ejemplos razonados o que proponen alternativas o soluciones políticas para solucionar los problemas, tanto *online* como *offline* (4 ítems, alfa de Cronbach = 0,93, *M* = 3,6, *DT* = 3,0).

Elaboración cognitiva de la discusión. Este constructo se operacionalizó mediante el promedio de las puntuaciones obtenidas en las respuestas (1 = *nunca*, 10 = *todo el tiempo*) a las preguntas acerca de la frecuencia con la que los encuestados reflexionaban sobre lo discutido y trataban de dar sentido a la información adquirida. La redacción literal de los ítems fue la siguiente: «¿con qué frecuencia pienso sobre cómo mis conversaciones sobre política o asuntos de interés público con otras personas se relacionan con otras cosas que sé?»; «¿con qué frecuencia reflexiono sobre mis conversaciones sobre política o asuntos de interés público con otras personas después de haber terminado la discusión?» y «¿con qué frecuencia trato de relacionar el contenido de mis conversaciones sobre política o asuntos de interés público con mis experiencias personales?» (3 ítems, alfa de Cronbach = 0,91, *M* = 13,8, *DT* = 8,1).

Análisis estadísticos

Para comprobar las hipótesis planteadas en este estudio se llevó a cabo una serie de regresiones jerárquicas en las que las variables independientes eran «discusión con vínculos fuertes» y «discusión con vínculos débiles». Para evitar correlaciones espurias entre las variables de interés, estos análisis se realizaron controlando el efecto de cuatro bloques de variables. El primer bloque corresponde a las variables demográficas; el segundo, a variables relacionadas con los antecedentes políticos; el tercero, a variables que miden el consumo de medios; y el cuarto, a variables sobre la fuerza de los vínculos. Se emplearon también técnicas de modelización de ecuaciones estructurales (SEM) para examinar la estructura teórica y el funcionamiento del modelo de manera conjunta. Los coeficientes de regresión se calcularon con la ayuda del paquete estadístico SPSS, versión 18.0, mientras que para la modelización (SEM) se empleó el programa Mplus, versión 6.0.

Resultados

La primera hipótesis del estudio se refería a la relación positiva entre la frecuencia de la discusión, ya fuera con vínculos débiles o fuertes, y los atributos generales de las redes de discusión. Los resultados del análisis de regresión confirman la hipótesis: la discusión sobre política y asuntos de interés público se relaciona con la heterogeneidad de las redes de discusión (R^2 total del modelo = 40,2%), exposición al desacuerdo (R^2 total del modelo = 71,4%), y a la discusión razonada (R^2 total del modelo 33,2%). De manera específica, la discusión con vínculos de carácter débil resulta un predictor muy relevante de

varios de los atributos de las redes de discusión (heterogeneidad, ß = 0,565, $p < 0,001$; desacuerdo, ß = 0,654, $p < 0,001$; y razonamiento, ß = 0,441, $p < 0,001$). Por otro lado, la discusión con vínculos de carácter fuerte también mostró una relación positiva y estadísticamente significativa con los tres atributos medidos (ß = 0,256, $p < 0,001$; ß = 0,189, $p < 0,001$; ß = 0,297, $p < .001$, respectivamente; véase la tabla 1). Entre las variables de control, eficacia política muestra un importante poder predictor sobre las tres variables dependientes. Cuanto mayor es la impresión de los individuos de que pueden influir en el proceso democrático, mayor es su exposición a la heterogeneidad, el desacuerdo y el razonamiento (ß = 0,139, $p < 0,001$; ß = 0,163, $p < 0,001$; ß = 0,116, $p < 0,001$, respectivamente; véase la tabla 1).

Para responder al primer conjunto de preguntas de investigación de este estudio (*PI1a*, *PI1b* y *PI1c*), los autores compararon la significación estadística de la diferencia entre los valores de los coeficientes beta de los vínculos fuertes y los vínculos débiles referidos a la predicción de la exposición a la heterogeneidad, al desacuerdo y al razonamiento. Los resultados indican que, aunque ambos tipos de discusión resultan predicto-

TABLA 1. *Modelos de regresión de participación política* offline *y* online

	Heterogeneidad	Desacuerdo	Razonamiento	Elaboración de discusión
Bloque 1 – V. Demográficas				
Edad	–0,026	–0,102**	0,045	0,035
Educación	0,088*	0,017	0,087#	0,201***
Sexo (mujer)	0,069	0,039	0,062	0,112**
Raza (blanco)	0,094*	0,100**	0,092*	0,076
Ingresos	–0,013	0,012	0,032	0,018
ΔR^2	4,3%	2,1%	6,6%	10,8%
Bloque 2 – Antecedentes pol.				
Eficacia política	0,163***	0,116**	0,265***	0,139**
Partidismo	–0,035	–0,003	–0,029	0,065
ΔR^2	16,3%	15,1%	21,6%	11,7%
Bloque 3 – Consumo de medios y discusión				
Consumo de medios	0,037	0,047	0,064	0,004
Tamaño de las redes de discusión	0,036	0,062#	0,029	0,005
ΔR^2	4,2%	8,0%	2,6%	2,1%
Bloque 4 – Fuerza de vínculos				
Vínculos fuertes	0,256***	0,179***	0,297***	0,402***
Vínculos débiles	0,565***	0,654***	0,441***	0,284***
ΔR^2	42,3%	46,2%	33,2%	28,9%
Total R^2	67,1%	71,4%	64,0%	53,4%

Nota: Coeficientes estandarizados (ß). N = 271 # p < 0,10; * p < 0,05; ** p < 0,10; *** p < 0,001.

res positivos de la exposición al desacuerdo, a la discusión razonada y a la heterogeneidad, los «vínculos débiles» tienen un mayor poder predictor que los «vínculos fuertes» (véase la tabla 2). En otras palabras, hablar sobre política con conocidos y con extraños resulta más relevante que discutir sobre política con la pareja, familia o amigos cuando se trata de exponerse a discusiones más diversas, heterogéneas y razonadas.

La segunda hipótesis predecía que la frecuencia de la discusión, tanto con vínculos débiles como fuertes, estaría relacionada positivamente con el grado de elaboración de las discusiones. Esta hipótesis también se confirma de acuerdo con los resultados (R^2 total del modelo = 53,4%; véase la tabla 1). Cuanto más se discute sobre política, ya sea con vínculos débiles o fuertes, mayor es la tendencia de los individuos a elaborar y reflexionar sobre la información que han intercambiado durante la discusión (ß = 0,284, $p < 0,001$; ß = 0,402, $p < 0,001$; tabla 1). También resulta interesante señalar *(PI2)* que las conversaciones y discusiones con vínculos fuertes predicen con mayor intensidad la reflexión y elaboración (tabla 2).

Finalmente, este estudio pretendía también conocer la manera en la que todas estas variables se relacionan entre sí globalmente, en una estructura teórica, tal y como se muestra en la figura 1 *(PI3)*. Los test de SEM muestran que los vínculos fuertes tienen tanto un efecto directo (ß = 0,221, $p < 0,001$; figura 1) como indirecto sobre la elaboración cognitiva (tabla 3). La discusión con vínculos fuertes predice la exposición a la heterogeneidad (ß = 0,375, $p < 0,001$) y a la discusión razonada (ß = 0,429, $p < 0,001$), lo que acaba teniendo una influencia sobre la elaboración cognitiva de la discusión política (ß = 0,190, $p < 0,001$; ß = 0,346, $p < 0,001$, respectivamente; figura 1). La discusión con vínculos débiles solo demostró tener efectos indirec-

TABLA 2. *Comparación de los coeficientes estandarizados de los vínculos como variables predictoras de otros atributos de las redes de discusión y de elaboración cognitiva*

	Heterogeneidad	Desacuerdo	Razonamiento	Elaboración
Vínculos fuertes	0,256[b]	0,179[b]	0,297[a]	0,402[a]
Vínculos débiles	0,565[b]	0,654[b]	0,441[a]	0,284[a]

Nota: Coeficientes estandarizados de regresión de «vínculos fuertes» y «vínculos débiles» (véase la tabla 1) como predictores de «elaboración de la discusión», «heterogeneidad», «desacuerdo» y «razonamiento». Las comparaciones marcadas con el superíndice (a) se refieren a diferencias significativas al nivel $p < 0,05$. Las comparaciones marcadas con el superíndice (b) se refieren a diferencias significativas al nivel $p < 0,01$. Las fórmulas empleadas para calcular las diferencias entre los coeficientes de regresión estandarizados (betas) están basadas en: 1) el valor de beta, 2) el valor de *t* y 3) el error típico. Cuando se obtienen las puntuaciones típicas, las diferencias que son $z > 1,96$ y $z > 2,56$ representan una diferencia estadísticamente significativa al nivel $p < 0,05$ y $p < 0,01$, respectivamente.

TABLA 3. *Efectos indirectos de la fuerza de los vínculos en la elaboración de la discusión*

Efectos indirectos	ß
Vínculos fuertes → Heterogeneidad → Elaboración	0,047**
Vínculos fuertes → Razonamiento → Elaboración	0,097***
Vínculos débiles → Heterogeneidad → Elaboración	0,096**
Vínculos débiles → Razonamiento → Elaboración	0,114**

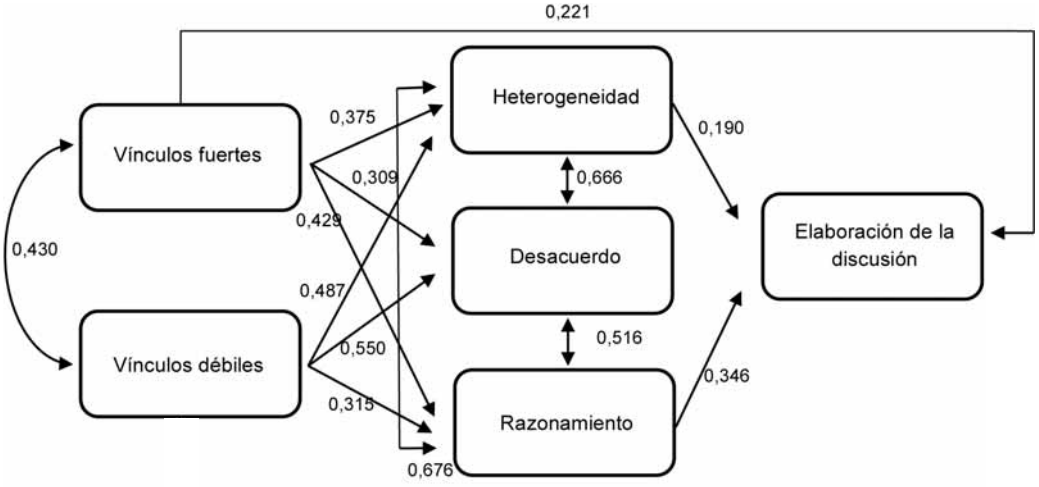
Nota: Coeficientes estandarizados de regresión. * $p < 0,05$; ** $p < 0,01$; *** $p < 0,001$. $N = 271$.

tos en la discusión política a través de la heterogeneidad (ß = 0,487, $p < 0,001$) y el razonamiento (ß = 0,315, $p < 0,001$) (tabla 3). Estos resultados revelan una relación totalmente mediada, al contrario de lo que sucedía con las discusiones con vínculos fuertes. Para terminar, la exposición a puntos de vista contrarios (desacuerdo) no tiene una influencia estadísticamente significativa sobre la elaboración cognitiva (figura 1).

Discusión

En primer lugar, este estudio supone un progreso teórico en lo referido a las medidas de la fortaleza de los vínculos (débiles o fuertes) en las redes de discusión de los individuos. Además, a lo largo del artículo se comprueba de manera empírica si estos lazos: a) se relacionan con algunos de los atributos o atributos de las redes —heterogeneidad, desacuerdo y razonamiento—, y b) se asocian a la elaboración cognitiva de la discusión política. Los resultados indican que ambos tipos de redes (las basadas en vínculos fuertes, pero también las basadas en vínculos débiles) están asociadas a todas estas variables. Resulta interesante comprobar que las redes de vínculos débiles tienen una mayor capacidad de predicción de la heterogeneidad de la discusión y de las discusiones razonadas. Se puede imaginar que las conversaciones con conocidos y extraños contendrán mayores dosis de desacuerdo y heterogeneidad, ya que sus miembros no pertenecen al grupo primario. La gente a la que se conoce menos tenderá a proceder de contextos más variados que las personas que pertenecen a los círculos más cercanos, y ofrecerá también opiniones más diversas (Granovetter, 1973). Estos hallazgos resultan coherentes con otros estudios que han explorado estas relaciones (por ejemplo, Kavanaugh *et al*., 2005; Pfeffer y Parra, 2009; Terry, 2009). Lo que

FIGURA 1. *Modelo SEM sobre fuerza de los vínculos, atributos de las redes de discusión y elaboración de la discusión*



Nota: N = 271. La figura muestra puntuaciones típicas (ß) en el SEM con un nivel de significación $p < 0,05$ o superior. El efecto de las *variables demográficas*, *antecedentes políticos*, *consumo de medios* y *tamaño de las redes de discusión* (*online* y *offline*) sobre las variables endógenas y exógenas ha sido residualizado. Bondad de ajuste del modelo: $\chi^2 = 0,014$; g.l., = 1; $p = 0,91$; RMSEA = 0,000, CFI = 1,000, TLI = 1,012, SRMR = 0,001. Varianza explicada de las variables criterio: heterogeneidad de la discusión $R^2 = 53,4\%$; exposición al desacuerdo $R^2 = 54,53\%$; exposición al razonamiento $R^2 = 39,9\%$; y elaboración de la discusión política $R^2 = 44,7\%$. El modelo se ha sometido a un método *bootstrap* (5.000 iteraciones).

quizá resulte menos evidente es la razón por la que la discusión política con vínculos débiles conduzca a conversaciones de carácter más razonado con más fortaleza de la que las conversaciones con vínculos fuertes lo llegan a hacer. Una posible explicación podría basarse en la mayor tendencia a comportarse de manera más cortés o cívica en este tipo de conversaciones, lo que puede conducir a proponer más razones y argumentos para los puntos de vista propios. Otra posibilidad complementaria podría ser que las discusiones entre personas más cercanas contengan menos información nueva, ya que los argumentos tienden a repetirse y, por tanto, son conocidos por los que participan en la discusión. Esta reiteración de discursos y argumentos podría hacer que disminuya el nivel de discusiones razonadas. Al menos, al ser comparadas con el efecto más robusto que tienen las discusiones con vínculos débiles y el razonamiento.

En lo relativo a la elaboración cognitiva, por el contrario, las conexiones de naturaleza más fuerte parecen estar en una mejor posición para incentivar estos procesos mentales de carácter reflexivo y meditado. Las discusiones con la pareja, los amigos o la familia tienden a tener un mayor grado de intimidad (Kavanaugh y Patterson, 2002), lo que podría favorecer una reflexión más profunda o procesos mentales y cognitivos más intensos. De manera similar, la conversación con redes de vínculos más fuertes implica un nivel de confianza que también ha sido explicada en estudios anteriores de elaboración mental, como por ejemplo confianza en la información (consúltese Kotler-Berkowitz, 2005).

Resulta también importante analizar los mecanismos específicos por los cuales la fortaleza de los vínculos, así como otros atributos de las redes de discusión, predicen la elaboración cognitiva. Mientras que las redes de discusión caracterizadas por lazos más fuertes demuestran tener efectos directos e indirectos sobre la elaboración, las redes con lazos más débiles solamente explicarían la elaboración a través de la heterogeneidad y el razonamiento. Del mismo modo, la exposición al desacuerdo no explica la elaboración de la discusión política. Hasta donde sabe el autor, ningún otro estudio ha revelado de manera explícita esta importante asociación. La heterogeneidad de los resultados pone de relieve la necesidad de exploración de esta parcela de investigación, que podría representar un área fértil para investigaciones futuras.

Analizando el lado positivo, existen varias vías para la mejora de los procesos de elaboración cognitiva de los individuos que, en última instancia, conducirán a una comunidad más reflexiva e informada (Eveland, 2001) y, por extensión, a una sociedad más participativa (Shah *et al*., 2005). Los resultados sugieren que las conexiones de carácter fuerte conducen a las personas a un mayor grado de elaboración cognitiva, de manera directa, pero también de manera indirecta, a través de redes de naturaleza heterogénea y de conversaciones más razonadas. Las discusiones con vínculos más débiles no tendrían un efecto directo en la elaboración, pero podrían contribuir de manera significativa a ese proceso cognitivo al proporcionar conexiones más fuertes con discusiones razonadas y redes de discusión diversas y heterogéneas. Los resultados sugieren, por otra parte, que la exposición al desacuerdo no provoca en los individuos una mayor tendencia a la reflexión y elaboración cognitiva de la información que recibieron al exponerse a nuevos puntos de vista. Esto podría quizá reavivar la discusión académica en torno a las virtudes y riesgos para el proceso democrático que puede tener la exposición a diferentes puntos de vista (Mutz, 2006; Wojcieszak y Mutz, 2009).

Existen, sin embargo, algunas limitaciones que nos invitan a ser cautos a la hora de interpretar los hallazgos de este artículo. En primer lugar, los datos analizados en este estudio proceden de la segunda ola de un estudio de

carácter longitudinal, ya que la primera ola no disponía de muchas de las preguntas utilizadas para construir las variables de interés. Debido a que los análisis realizados son de naturaleza transversal, sugerir la dirección de los efectos puede resultar problemático. Aunque los datos de panel aportarían mayor solidez a la interpretación de la dirección de los efectos, parece claro que las vías teorizadas con mayor frecuencia en la bibliografía van desde la discusión (comportamientos) a la elaboración cognitiva (proceso mental). No obstante, futuras investigaciones podrían emplear datos longitudinales y un mayor tamaño muestral para confirmar la validez interna y externa de los resultados.

En segundo lugar, la muestra se compone exclusivamente de residentes en Estados Unidos, por lo que los resultados son generalizables a la población de este país. Investigaciones futuras deberían tratar de estudiar las relaciones entre el tipo de vínculo (fuerte o débil) y los atributos de las redes de discusión en contextos diferentes. Sin embargo, las características comunes entre Estados Unidos y otras democracias occidentales (libertad de expresión, pluralidad de medios de comunicación, esfera pública desarrollada, elecciones periódicas, etc.) permiten suponer que los hallazgos podrían ser razonablemente similares en otros países.

Finalmente, se ha excluido del análisis la conversación con vecinos y compañeros de trabajo. Estos tipos de vínculos pueden ser fuertes o débiles, e incluirlos en cualquiera de las categorías aumentaría el error de medición. La única forma de clasificar adecuadamente a vecinos y colegas como vínculos fuertes o débiles sería reformulando las preguntas, distinguiendo entre «vecinos que conoce bien», «vecinos que no conoce bien», «compañeros de trabajo que conoce bien» y «compañeros de trabajo que no conoce bien». Investigaciones futuras deberían incluir este tipo de distinción para construir una medida más inclusiva.

A pesar de estas limitaciones, este estudio proporciona apoyo adicional a la noción de que la fuerza de los vínculos se relaciona con otros atributos de las redes de discusión. Además, explora sus conexiones con procesos mentales cognitivos, así como con la manera en la que los individuos reflexionan acerca de la información a la que acceden cuando discuten sobre política y asuntos de carácter público. Este estudio, por tanto, supone un paso más hacia la comprensión sobre cómo ciertos atributos de la discusión política explican que las personas reflexionen acerca de la información con la que se encuentran en sus intercambios personales, contribuyendo a desarrollar vías alternativas para fortalecer el proceso democrático.

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APÉNDICE

Estadísticos descriptivos de las variables de interés, por edad y sexo

	M	D. T.	Rango
Heterogeneidad			
Mujeres	3.37	2.70	1-10
Hombres	3.30	2.13	1-10
18-34 años	3.67	2.40	1-10
35-55	3.41	3.56	1-10
Más de 55	3.21	2.59	1-10
Total	3.36	2.55	1-10
Desacuerdo			
Mujeres	3.45	2.60	1-10
Hombres	3.55	2.28	1-10
18-34 años	3.81	2.34	1-10
35-55	3.69	2.49	1-10
Más de 55	3.11	2.55	1-10
Total	3.48	2.51	1-10
Razonamiento			
Mujeres	3.54	2.84	1-10
Hombres	3.65	2.03	1-10
18-34 años	3.91	2.49	1-10
35-55	3.49	2.53	1-10
Más de 55	3.62	2.82	1-10
Total	3.58	2.63	1-10
Elaboración			
Mujeres	13.93	8.46	3-30
Hombres	13.36	6.79	3-30
18-34 años	14.66	8.64	3-30
35-55	13.39	8.17	3-30
Más de 55	14.17	7.68	3-30
Total	13.79	8.01	3-30
Discusión vínculos fuertes			
Mujeres	4.36	2.21	1-10
Hombres	4.20	1.97	1-10
18-34 años	4.81	2.07	1-10
35-55	4.17	2.28	1-10
Más de 55	4.40	2.95	1-10
Total	4.32	2.14	1-10

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Estadísticos descriptivos de las variables de interés, por edad y sexo (continuación)

	M	D. T.	Rango
Discusión vínculos débiles			
Mujeres	2.52	2.25	1-10
Hombres	2.71	1.66	1-10
18-34 años	2.33	1.94	1-10
35-55	2.70	2.06	1-10
Más de 55	2.47	2.20	1-10
Total	2.58	2.10	1-10

Nota: *N* = 272. *M* = media; *D.T*. = desviación típica.

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Attributes of Interpersonal Political Discussion as Antecedents of Cognitive Elaboration

Los atributos de la discusión política interpersonal como antecedentes de la elaboración cognitiva

Homero Gil de Zúñiga

Key words

Interpersonal Communication • Political Communication • Social Networks • Interpersonal Relationships • Opinion

Abstract

Political discussion is a core element for the democratic wellbeing of any society. Recently, academics have turned their attention to exploring the different roles discussion-network-attributes may have in today's democracy, such as strength of discussion network ties (weak-strong), heterogeneity of discussion networks, exposure to disagreement, and level of reasoning in discussions. Less explored, however, is the connection of these discussion attributes as antecedents to cognitive elaboration – the extent to which individuals who engage in political discussions find themselves thinking and reflecting upon those discussions at a later time. Survey data from the United States indicates discussing public affairs in networks with strong-ties versus weak-ties has different implications in predicting other discussion attributes and cognitive elaboration.

Palabras clave

Comunicación interpersonal • Comunicación política • Redes sociales • Relaciones interpersonales • Opinión

Resumen

La discusión política es un elemento central para el bienestar democrático de las sociedades actuales. Estudios recientes han explorado algunos de los atributos de las redes de discusión política de los individuos, como la fuerza de los vínculos en estas redes (débiles-fuertes), su grado de heterogeneidad, la exposición al desacuerdo o el grado de razonamiento empleado en ellas. Sin embargo, el papel de estos atributos de las redes de discusión como antecedentes de la elaboración cognitiva –la reflexión y el pensamiento posterior sobre aquello de lo que se ha discutido– no ha sido abordado con detalle. A partir de datos procedentes de una encuesta realizada en Estados Unidos, el presente estudio muestra que la discusión sobre asuntos de interés público con «vínculos fuertes» o con «vínculos débiles» tiene efectos diferentes sobre los diversos atributos de las redes de discusión, así como sobre la elaboración cognitiva posterior.

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Introduction

The repercussions of political discussion (in the sense of carefully examining a political issue with one or more persons) on the democratic process has been explored in great detail in research on political communication (for example, Holbert *et al*., 2010; Kavanaugh *et al*., 2005; McLeod *et al*., 2001). Many of the studies on this issue have emphasised the important role that political discussion plays for the democratic well-being of society by contributing to the formation of a more deliberative system (Fischer, 2003; Gastil, 2008). Recent research in political science and communication has begun to focus attention on the effects that the different attributes of political discussion networks (hereafter, discussion network attributes or network attributes) can have on the frequency of discussion or on political participation (Hively and Eveland, 2009; Rojas 2008; Shah *et al*., 2001). Among the attributes of these networks we find, for example, the heterogeneity of the network and strength of the links between its nodes (what we hereafter refer to as "weak ties" or "strong ties "), as well as the level of disagreement and the level of reasoning that is employed during discussions (Valenzuela, *et al*., 2012).

These attributes should be studied closely, as previous research shows that they have differing effects on other factors, such as political knowledge, political efficacy and participation (Wojcieszak and Mutz, 2009; Yoo and Gil de Zúñiga, 2014). Starting from a communication mediation model and a cognitive mediation model (Eveland, 2001; McLeod *et al*., 2001), some researchers have broadened the notion of the *attributes of discussion networks* to integrate the cognitive elaboration of discussion (hereafter, elaboration of the discussion or cognitive elaboration) in the models that explain levels of political commitment. The concept of the elaboration of discussion refers to the process through which individuals that have carried out a political discussion subsequently think and reflect on that which was discussed and relate it to their environment and their own experiences. Different studies have shown that cognitive elaboration has a mediating role in the relationship between political discussion and participation (Eveland, 2001; Jung, *et al*., 2011).

This study attempts to contribute to greater understanding of the attributes of discussion networks, as well as the relationship that exists between them. To what extent can discussion with 'strong ties' or with 'weak ties' explain the exposure of individuals to more heterogeneous discussion networks, to debate with persons with whom they are in disagreement or to a more reasoned or argued conversation? In addition, this study uses structural equation modelling (SEM) to understand how, in an overall theoretical structure, the strength of the discussion ties are related to heterogeneity, disagreement, reasoning and the elaboration of the discussion.

Based on data from the second wave of a survey carried out in the United States in July 2009, the results indicate that discussion with strong ties is the most important predictor of cognitive elaboration. In addition, discussion with 'weak ties' is a better predictor of exposure to networks with more heterogeneous discussion, to more reasoned discussion and to discussion with persons with whom one is in disagreement.

The tests carried out through SEM techniques also indicate that political discussions with strong ties are related to cognitive elaboration both directly and through the heterogeneity of discussion networks and reasoned discussion. The influence of weak ties on cognitive elaboration, in contrast, is totally mediated (without direct effects) by the heterogeneity of discussion networks and exposure to reasoned discussion. Lastly, exposure to disagreement seems to have a negative effect on cognitive elaboration following what has been discussed.

Theoretical framework

Weak ties, strong ties and attributes of political discussion networks

The structure and functions of the social networks individuals belong to have been a recurring issue in sociological and communications research (for example, Bian, 1997; Granovetter, 1973, 1982; Montgomery, 1992). One of the characteristics of these networks that has captured the interest of researchers is the strength of the ties between their nodes. A tie between two or more individuals is more or less strong in function of the frequency with which it produces interactions and their duration, but also in function of the emotional intensity and degree of intimacy that characterizes it (Granovetter, 1973, p.1361). Far from being irrelevant to the individual, "weak ties provide individuals access to information and resources beyond those available in their own social circles" (Granovetter, 1982: 114).

The effect of the strength of discussion network ties has been the object of study in relation to a range of issues, such as the control of diseases (Terry, 2009), the integration of immigrants in local economies in the US (Pfeffer and Parra, 2009) and citizen participation (Kavanaugh *et al*., 2005; ; Kenny, 1994; Kotler-Berkowitz, 2005; La Due Lake and Huckfeldt, 1998; Wellman, 1997). Before the arrival of the internet, Granovetter (1973) argued that the majority of explanatory models of the structure of social networks at that time referred implicitly to *strong* ties, which were only adequate for describing small and well-defined groups. Granovetter thought that an emphasis on *weak* ties could contribute to a better explanation of inter-group discussion and even to the description of subsets of networks, difficult to understand from the perspective of the primary group (1973). In this pioneering work, Granovetter found that individuals who made use of their weak ties to increase their knowledge and access information not available in the primary group found themselves in an advantageous situation with respect to those who did not do so.

Granovetter's findings are explained by the fact that among the weak ties are frequently found individuals who are different in terms of their social and demographic characteristics: ethnicity, social class, religion, sexual orientation, etc. (Gil de Zúñiga and Valenzuela, 2011; Kotler-Berkowitz, 2005). In Burt's terminology (2004), weak ties often act as "bridges over structural holes" in a social organization. Burt (2004) found that the individuals who connect "structural holes" (that is, they serve as a nexus between relatively disconnected groups) benefit from a greater exposure to diverse - sometimes contradictory - information and to different ways of thinking about and doing things, which often provides them with greater creativity and facility for generating "good ideas" (2004: 349).

It is not difficult to imagine the implications of these studies on current research on internet-based networks - both social and personal. The main inconvenience of research in this field is in the diversity of theoretical and empirical approaches to the concepts of "strong and weak ties". While some studies do not adequately define these concepts, others operationalize them with a single question, instead of creating indices - for example, friends of the surveyed (strong ties), versus friends of friends of the surveyed (weak ties) (Marsden and Campbell, 1984). Only recently have some researchers (for example, Himelboim *et al*., 2013) begun to more exhaustively analyse the strength of these network ties.

Churchill and Halverson (2005) have revealed the complex nature of the ties between nodes in social networks: "In analysing the flows between nodes along links, we can characterize nodes as powerless, active, stationary, transient, or permanent. Links can be strong or weak, private or public, singular or multiple, unique or redundant, and parallel or intersecting (2005: 14)." In this study we

propose a more exhaustive measure of strong and weak ties. Not only do we distinguish between online and face-to-face interactions, but we also attempt to capture with greater precision the nature of the connection. To operationalize concepts, we record the frequency of interactions (through a number of different questions) that are produced with persons with whom the subjects maintain more or less close relations (see measurement section).

This study examines whether the type of ties in discussion networks are related to other attributes of these networks (heterogeneity, disagreement and reasoning), and if so, how. Some earlier studies have shown that clear connections exist between the type of ties (strong or weak) and political participation (for example, Scott, 1991), as well as between different network attributes and civic participation (Eveland and Hively, 2009; Gil de Zúñiga and Valenzuela, 2011; Shah *et al*., 2001). The size and strength of network ties may, among other things, also condition certain civic behaviours and attitudes (McLeod *et al*., 1999), membership in volunteer organisations (Rojas, 2008) and involvement in local communities (Kavanaugh *et al*., 2005).

Although the influence of the strength of discussion network ties on attitudes and behaviours related to participation seems clear, the connection with network attributes is much less studied. The discussions that take place between persons with weak ties could expose participants to opposing, different or complementary views more easily than when the discussion takes place among persons with strong ties. The discussion with weak or strong ties could also influence the degree of reasoning or argumentation that is employed during the conversation, as well as contact with persons of a different ethnicity and social class. In this study we consider *heterogeneous discussion networks* as those in which there are socioeconomic, ethnic and racial differences among its members (Clough, 2007). In addition, *exposure to disagreement* refers to the frequency of discussion with persons with whom the participant is not in agreement. The level of reasoning of the discussion, in contrast, is the degree to which participants employ logic, reasoning and contribute arguments regarding that which is being discussed (Kim *et al*., 1999; Moy and Gastil, 2006).

Given that political discussion is characterized by the exchange of information between persons (Bennett, 2008; Smith *et al*., 2009), it is logical to assume that the frequency of discussion is related to all of the attributes of the networks. In the end, to explain any of these network attributes, some type of political discussion must take place with people the individual feels close to or not. However, what is not so clear is what type of ties - weak or strong - better explain each of the attributes. Based on previous studies, we propose our first hypothesis and three initial research questions:

H1: The frequency of discussion is positively related to all the discussion network attributes: heterogeneity, disagreement and reasoning.

RQ1a: Is the relationship between weak ties and the heterogeneity of the discussion network stronger than the relationship between strong ties and heterogeneity?

RQ1b: Is the relationship between weak ties and exposure to disagreement in the discussion network stronger than the relationship between strong ties and exposure to disagreement?

RQ1c: Is the relationship between weak ties and rational discussion stronger than the relationship between strong ties and rational discussion?

Cognitive elaboration, strength of ties and discussion network attributes

Research in political communication has emphasized the value of the discussion of political ideas among members of a specific community, as it is considered the foundation of a healthy democracy and one that functions adequately (Shmitt-Beck, 2008). Some studies have pointed out the importance of continuing to study the potential effects of political discussion, a well as its antecedents (McLeod *et al.,* 1999). Regarding the consequences of political discussion, over the last decade the central role of *cognitive elaboration* has been identified as a factor that mediates between the discussion - both face-to-face and in virtual environments - and learning and political participation (Eveland, 2001; Jung *et al*., 2011). Cognitive elaboration refers to the intellectual effort necessary to integrate new information with previous knowledge (Perse, 1990). In the framework of political discussion, elaboration requires the (re)consideration of arguments - both one's own as well as those of other participants in the discussion - , which results in a greater recall and understanding of what is discussed (Cacioppo and Petty, 1983; Hively and Eveland, 2009). In this study we intend to clarify the role of different discussion network attributes as antecedents of cognitive elaboration.

Discussions can take place among individuals with different connections and degrees of closeness and intimacy (Kenny, 1994). Initial studies on personal influence found that strong-tie networks had significant influence on political involvement, perhaps offering an ad hoc explanation on how individuals elaborated on the information they discuss with others with whom they have strong ties (see, for example, Katz & Lazarsfeld, 1955). However, with the arrival of new information and communication technologies, weak-tie networks have become more prominent and relevant to political matters. In the current context, political discussion with persons who are more distant could be essential to obtaining new and diverse information, which can stimulate both political knowledge and cognitive elaboration (Huckfeldt *et al*., 1995). Following earlier research, this study will examine if conversations about political matters have different effects on information processing in function of whether the participants have weak or strong ties. Therefore, the following hypothesis and research questions are proposed:

H2: The frequency of discussion will be positively related to the cognitive elaboration from the discussion.

RQ2: Is the relationship between a discussion with weak ties and cognitive elaboration stronger than the relationship between a discussion with strong ties and cognitive elaboration?

Not all political discussions are structured equally or motivated by the same factors (Schudson, 1997). Some authors have found that, in general, the degree of reasoning in political conversations has a positive effect on the frequency of discussion (that is, the fact that a reasoned discussion occurs favours the occurrence of more political discussions in the future) (Kim *et al*., 1999), and on political commitment and participation as well (Dryzek, 2000; Rojas, 2008). It is not difficult to imagine that reasoned discussion can have a positive effect on the level of cognitive elaboration, as understanding the proposals and arguments of the other, as well as the ability to explain one's own, require a certain mental effort (see, for example, Gastil and Dillard, 1999). It is also possible that discussion in heterogeneous networks, in which participants find themselves in discussion with individuals with different perspectives and less familiar arguments, has a positive effect on the individual process of cognitive elaboration. To study the functioning and mutual influence of all these variables in a

theoretical and empirical model, we formulate our final research question:

RQ3: How do we explain (within a theoretical structure) the effects of weak ties, strong ties, heterogeneity, disagreement and reasoning on cognitive elaboration from political discussion?

Methods

Sample

For this study we used data obtained from a panel study carried out on the internet in the United States. Only data from the second wave of the study were used, as it is the only one that included all the questions in the study related to the attributes of political discussion networks and the cognitive elaboration of the discussion. For the distribution of the questionnaires and the gathering of the data, technical support was provided by Qualtrics (www.qualtrics.com), to which the author had access through a university account.

The University of Texas at Austin maintains an *opt-in* panel that can be used to distribute surveys for research. The university promotes the panel in different social networks and popular websites, with the aim of reaching a broad and diverse group of participants. Participation in the survey from which the data for this study comes, was encouraged through providing gifts and small economic incentives. For the first wave, 10,000 persons were randomly selected from among those inscribed in the panel so that the distribution by age and sex was the same as in the US census (50.2% men and 49.8% women, 30% between the ages of 18 and 34, 39% between 35 and 54, and 31% over 55 years of age). Although, strictly speaking, this sample cannot be considered random, *opt-in* panels with adjustments made for socio-demographic variables have demonstrated their validity in many studies (see, for example, Bosnjak, Das and Linn, 2016; Iyengar and Hann, 2009).

The first wave of questionnaires was distributed between the end of December 2008 and the beginning of January 2009. In total, 1,159 questionnaires with valid information were received. The response rate (AAPOR, RR3)[1] was 23%, comparable to that obtained in other studies that employed *online* panels (Iyengar and Hann, 2009), and also similar to other surveys that used randomly placed telephone calls (Pew Internet & American Life Project, 2009). The data corresponding to the second wave was gathered in July 2009. In this case, 312 of those interviewed in the first wave responded to the questionnaire, generating a retention rate of 27%. In comparison with US census data, the sample from the second wave was older, contained a greater proportion of women and had a higher education level. To compensate for these differences, the data were weighted to coincide with the census distribution.

Measures

The analyses carried out in this study are based on five groups of variables. The first three groups were introduced into the models as control variables. The fourth group includes the independent variables of interest, and the last group corresponds to the criterion variables of this study. For more detailed information on the variables (disaggregated by sex and age group) consult the Appendix.

Control variables

Demographic variables. Age, education level, sex, race and economic income are related to certain cognitive processes (Eveland, 2001; McLeod *et al*., 1999) and discussion network attributes (Eveland and Hively,

[1] The formula for RR3 is (complete interviews) / (complete interviews + eligible non-response + *e* (unknown eligibility)), where *e* was estimated using the proportional allocation method, i.e., (eligible cases) / (eligible cases + ineligible cases).

2009). The age (*M*[2] = 49.32, *SD*[3] = 12.25), sex (67% women) and race (67% white) of survey participants were measured directly through individual survey questions. The education variable was operationalized as the highest level of formal studies completed (*M* = 4.49, *Med*[4] = 2 years of university studies). For income level, each participant chose one of 15 categories based on annual gross income of the family unit (*M* = 6.18, *Med* = 50,000 to 59,999 dollars).

Network size. The size of discussion networks can significantly affect the level of political participation (see, for example, La Due Lake and Huckfeldt, 1998; Mutz, 2002). Survey respondents were asked in open-ended fashion to provide an estimate of the number of people they "talked to face-to-face or over the phone about politics or public affairs," and "talked to via the Internet, including e-mail, chat rooms and social networking sites about politics or public affairs" during the past month. As would be expected, the variable was highly skewed (*M* = 6.21, *Med* = 3.00, *SD* = 43.19, skewness = 12.33), so it was also transformed using the natural logarithm (*M* = 0.61, *Med* = 0.54, *SD* = 0.48, skewness = 0.82)[5]

Strength of party identification (partisanship). Some previous studies have found that the strength of identification with a party is directly related to levels of political participation (Lee *et al*.; 2012, McClurg, 2006). Survey participants were asked to rate their party identification on an eleven point scale, in which one of the extremes represented a high identification with the Republican Party (7.1% of those surveyed), and the other extreme represented a high identification with the Democratic Party (15.1%), with the middle point of the scale referring to those who considered themselves independents (23.4%). This scale was subsequently transformed into another that did not take into account the party survey participants identified with, but rather the values on the scale simply representing strength of partisan identification (whether in regard to the Democrats or Republicans) (M=3.3, SD=1.5).

Internal political efficacy. This construct has been shown to have a strong relationship to political participation (Pingree, Hill and McLeod, 2012). Due to validity problems found with some of the traditional scales used to measure internal efficacy (Morrell, 2003), this study follows the operationalization of the concept suggested by Bennet (1997), using only one item: "I think people like me can influence government." The responses to this item, on a Likert type scale, can take values between '1'= *never* (11.9% of the responses) and '10'=*always* (8%) (M=5.14, SD=2.65).

News media use. Another control introduced into the statistical models captures the degree to which subjects are exposed to information from different sources, both *online* and *offline.* It is important to control the effects of this variable in the model, as previous studies have shown that a direct relationship exists between consumption of the news and cognitive elaboration (Eveland *et al*., 2003). Respondents were asked to rate on a 7-point scale (where 1 = *every day* and 7 = *never*) how often they used the following media to get information about current events, public issues, or politics: network TV news, cable TV news, local TV news, print newspapers, online newspapers, online news magazines and citizen journalism websites. A subsequent scale was created based on the sum of the averages for the seven elements that composed it (Cronbach's alpha=0.73, M=13.97, SD=5.39).

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2 Average.

3 Standard deviation.

4 Median.

5 The authors also tried recoding the values over a specific threshold into a single category. For four different thresholds (10, 20, 25 and 30), the relationship between the transformed variable and the dependent variables did not change significantly. To avoid the inherent arbitrariness of picking a threshold value, we opted for a logarithmic transformation.

Endogenous and exogenous variables

Weak ties. The extent to which individuals discuss politics and public issues with persons with whom they do not have close ties is one of the independent variables of interest in this study. On a Likert type scale ('1'= *never* and '10= *always*), this group of four items reflects the frequency with which survey respondents discuss politics with "known persons" *online* and *offline*, and with "strangers", *online* and *offline* (Cronbach's alpha= 0.88, *M* = 2.6, *SD* = 1.8).

Strong ties. This variable refers to the frequency of discussion with persons that form part of a narrow circle of social relations, such as a 'partner', 'friends' and 'family', both *online* and *offline* (6 items, Cronbach's alpha = 0.81, *M* = 4.3, *SD* = 4.4)[6].

Discussion network heterogeneity. This construct is formed by four items that refer to the frequency with which survey participants participated in discussion of a political nature with persons of a 'different race or ethnicity' and 'from other social classes', both *online* and *offline* (Chronbach's alpha= 0.94, *M* = 3.4, *SD* = 2.5).

Discussion disagreement. Also measured through the use of a Likert type scale (1 = *never*, 10 = *all the time*), participants were asked about the frequency with which they spoke about political matters or public affairs with persons with which they were in agreement (conversely coded) or in disagreement (Spearman-Brown = 0.81, *M* = 3.4, *SD* = 3.0).

Discussion reasoning. In a similar manner to other discussion network attributes, this construct is measured on a ten point scale (1 = *never*, 10 = *always*) that evaluates the frequency with which subjects discussed politics with persons with the capacity to provide counterarguments with facts and reasoned examples, or with persons that proposed political alternatives or solutions to problems, both *online* and *offline* (4 items, Cronbach's alpha = 0.93, *M* = 3.6, *SD* = 3.0).

Discussion cognitive elaboration. This construct is operationalized through the average scores obtained for the responses (1 = *never*, 10 = *all the time*) to questions regarding the frequency with which survey respondents reflected on what they discussed and tried to make sense of acquired information. The specific items were the following: how frequently they "think about how my conversations with other people about politics and public affairs relate to other things I know," find themselves "thinking about my conversations with other people about politics and public affairs after the discussion has ended," and finally, how often they "try to relate my talks with other people about politics and public affairs to my own personal experiences" (3 items, Cronbach's α = 0.91, *M* = 13.8, *SD* = 8.1).

Statistical analysis

To test the hypotheses proposed in this study, we carried out a series of hierarchical regressions in which the independent variables were strong-tie discussion and weak-tie discussion. To avoid spurious correlations between the variables, analysis was carried out controlling for the effect of four blocks of variables. The first block corresponds to demographic variables, the second to variables related to political antecedents, the third to variables that measure media consumption, and the fourth to variables regarding the strength of ties. We also used the technique of structural equation modelling (SEM) to examine the theoretical structure and functioning of the overall model. The regression coefficients were calculated with the help of the SPSS statistical package, version 18.0, while the programme Mplus, version 6.0, was used for the SEM.

[6] In this study, discussion with neighbours or work colleagues has intentionally been left out. These items are often considered 'strong ties', however, in this study this is considered to be a theoretical weakness, as the relationship with neighbours and colleagues may or may not be 'close', therefore, they can be strong or weak ties.

Results

The study's first hypothesis refers to the positive relationship between discussion frequency, whether with strong or weak ties, and the general attributes of discussion networks. The results of the regression analysis confirm this hypothesis: discussion on politics and other public affairs is related to the heterogeneity of discussion networks (total model R^2 = 40.2%), exposure to disagreement (total model R^2 = 71.4%), and reasoned discussion (total model R^2 = 33.2%). More specifically, weak-tie discussions are a more important predictor of several discussion network attributes (heterogeneity, $\beta = .565$, $p < 0.001$; disagreement, $\beta = 0.654$, $p < 0.001$; and reasoning, $\beta = 0.441$, $p < 0.001$). Discussions with strong-ties also show a positive and statistically significant relationship with these three attributes ($\beta = 0.256$, $p < 0.001$; $\beta = 0.189$, $p < 0.001$; $\beta = 0.297$, $p < 0.001$, respectively, see Table I). The greater the impression individuals have that they can influence the democratic process, the greater is their exposure to heterogeneity, disagreement and reasoning ($\beta = 0.139$, $p < 0.001$; $\beta = 0.163$, $p < 0.001$; $\beta = .116$, $p < 0.001$, respectively, see Table I).

TABLE 1. *Regression Models of Offline & Online Political Participation*

	Heterogeneity	Disagreement	Reasoning	Discussion Elaboration
Block 1 - Demographics				
Age	–0.026	–0.102**	0.045	0.035
Education	0.088*	0.017	0.087#	0.201***
Gender (female)	0.069	0.039	0.062	0.112**
Race (white)	0.094*	0.100**	0.092*	0.076
Income	–0.013	0.012	0.032	0.018
ΔR^2	4.3%	2.1%	6.6%	10.8%
Block 2 – Political Antecedents				
Political Efficacy	0.163***	0.116**	0.265***	0.139**
Strength of Partisanship	–0.035	–0.003	–0.029	0.065
ΔR^2	16.3%	15.1%	21.6%	11.7%
Block 3 – Media Use & Discussion				
Media Use	0.037	0.047	0.064	0.004
Discussion Network Size	0.036	0.062#	0.029	0.005
ΔR^2	4.2%	8.0%	2.6%	2.1%
Block 4 – Strength Discussion Ties				
Strong Ties	0.256***	0.179***	0.297***	0.402***
Weak Ties	0.565***	0.654***	0.441***	0.284***
ΔR^2	42.3%	46.2%	33.2%	28.9%
Total R^2	67.1%	71.4%	64.0%	53.4%

Note: Standardized regression coefficients (Betas). N = 271 # p < 0.10; * $p < 0.05$; ** $p < 0.10$; *** $p < 0.001$.

To respond to the first series of research questions (*RQ1a*, *RQ1b* and *RQ1c*), the authors compared the statistical significance of the difference between the beta coefficients of strong-ties and weak-ties regarding their prediction of exposure to heterogeneity, disagreement and reasoning. The results indicate that, although both types of discussion are positive predictors of exposure to these three attributes, weak-ties have a greater predictive power than strong-ties (see Table II). In other words, talking about politics with acquaintances and strangers is more important than discussing politics with a partner, family or friends in terms of exposure to more diverse, heterogeneous and reasoned discussion.

The second hypothesis predicts that the frequency of discussion, for both weak-ties and strong-ties, will be positively related to the degree of discussion elaboration. This hypothesis was also confirmed by the results (total model R^2 = 53.4 %; see Table I). The more politics is discussed, whether with persons with weak or strong ties, the greater is the tendency of individuals to elaborate and reflect on the information that is exchanged during the discussion ($\beta = 0.284$, $p < 0.001$; $\beta = 0.402$, $p < 0.001$; Table I). It is also interesting to note that (*RQ2*) conversations and discussions with strong-ties are a more robust predictor of reflection and elaboration (Table II).

Lastly, in this study we also want to know the way in which these variables relate together in a theoretical structure, as shown in Figure 1 (RQ3). The SEM tests show that strong ties have both a direct effect ($\beta = 0.221$, $p < 0.001$; Fig. I) and an indirect effect on cognitive elaboration (Table III). Discussion with strong ties predicts exposure to heterogeneity $\beta = 0.375$, $p < 0.001$) and to reasoned discussion ($\beta = 0.429$, $p < 0.001$), which has an influence on the cognitive elaboration of political discussion ($\beta = 0.190$,

TABLE 2. *Comparison of standardised coefficients of discussion ties as predictive variables of other discussion network attributes and on cognitive elaboration*

	Heterogeneity	Disagreement	Reasoning	Discussion Elaboration
Strong Ties	0.256[b]	0.179[b]	0.297[a]	0.402[a]
Weak Ties	0.565[b]	0.654[b]	0.441[a]	0.284[a]

Note: Cell entries correspond to the standardized regression coefficients of weak ties and strong ties (see table 1) predicting discussion elaboration, heterogeneity, disagreement, and reasoning. The comparisons of marked with (a) superscript denotes that their difference is statistically significant at the $p < 0.05$ level. The comparisons of marked with (b) superscript denotes that their difference is statistically significant at the $p < 0.01$ level. The formulas employed to calculate the differences between the standardised regression coefficients (betas) are based on 1) the value of the beta, 2) the value of t and 3) the standard error. When the standard scores are obtained, the differences, which are $z > 1.96$ and $z > 2.56$, represent a statistically significant different at the $p < 0.05$ and $p < 0.01$, respectively.

TABLE 3. *Indirect Effects of Strength of Ties on Political Discussion Elaboration*

Indirect Effects	ß
Strong Ties → Heterogeneity → Discussion Elaboration	0.047**
Strong Ties → Reasoning → Discussion Elaboration	0.097***
Weak Ties → Heterogeneity → Discussion Elaboration	0.096**
Weak Ties → Reasoning → Discussion Elaboration	0.114**

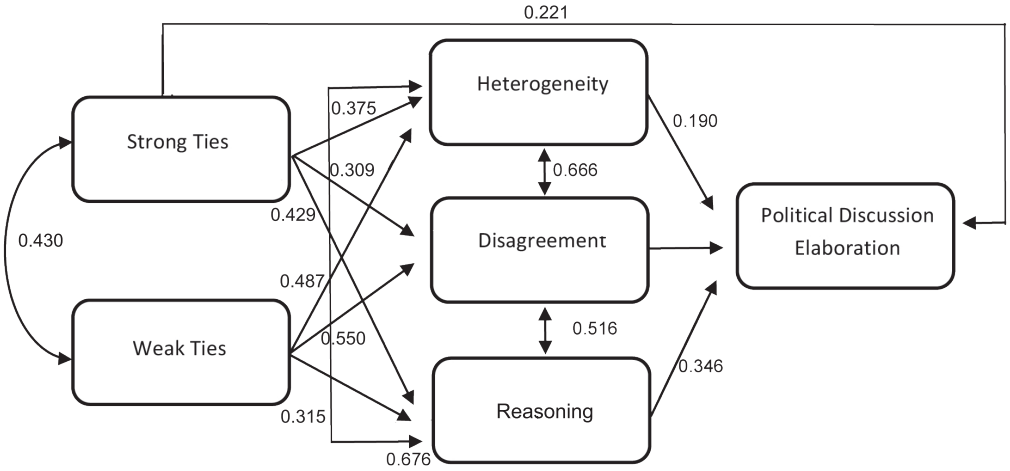
Note: Standardized regression coefficients. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. N = 271.

$p < 0.001$; $\beta = 0.346$, $p < 0.001$; respectively; Fig. I). Weak tie discussion is shown to only have indirect effects on political discussion through heterogeneity ($\beta = 0.487$, $p < 0.001$) and reasoning ($\beta = 0.315$, $p < 0.001$) (Table III). These results reveal a totally mediated relationship, in contrast to what we see with strong tie discussion. Finally, exposure to other points of view (disagreement) has no statistically significant influence on cognitive elaboration (Fig. I).

Discussion

To begin with, this study is a theoretical advance in regard to measuring the strength of ties (weak or strong) in discussion networks. In addition, the article has examined empirically if these ties a) are related to certain network attributes - heterogeneity, disagreement and reasoning; and b) are associated with cognitive elaboration of political discussion. The results indicate that both types of networks examined (those based on strong ties and those based on weak ties) are associated with all of these variables. It is interesting to see that networks with weak ties are more likely to have greater discussion heterogeneity and reasoned discussion. We can assume that conversations with acquaintances and strangers will contain more disagreements and greater heterogeneity than conversation among members of a primary group. Persons who are less well-known to us will tend to come from more diverse contexts than those who belong to circles that are closer to us, and they will also provide more diverse opinions (Granovetter, 1973). These findings are consistent with other studies that have explored these relationships (for example, Kavanaugh *et al*., 2005; Pfeffer and Parra, 2009; Terry, 2009). What might not be clear is the reason why political discussion with weak ties leads to conversations of a more reasoned character more often than do those with strong ties. A possible explanation could be

FIGURE 1. *SEM Model of Strength of Ties, Discussion Network Attributes, and Political Discussion Elaboration*



Note: N = 271. The figure shows the standardised scores (ß) for the SEM with a significance level of p < 0.05 or higher. The effect of the demographic variables, political antecedents, media use and discussion network size (online and offline) on the endogenous and exogenous variables was residualized. Goodness of fit of the model: $\chi^2 = 0.014$; g.l., = 1; p = 0.91; RMSEA = 0.000, CFI = 1.000, TLI = 1.012, SRMR = 0.001. The variance explained by the criteria variables: discusssion heterogeneity $R^2 = 53.4\%$; exposure to disagreement $R^2 = 54.53\%$; exposure to reasoning $R^2 = 39.9\%$; and elaboration of political discussion $R^2 = 44.7\%$. The model was submitted to a bootstrap method (5,000 iterations).

related to a greater tendency to behave in a more courteous or civic manner in these types of discussions, which can lead to more reasoned arguments for one's point of view. Another complementary possibility could be that discussions between persons with closer ties contain less new information, as arguments tend to be repeated and, therefore, are familiar to the participants in the discussion. This repetition of discourses and arguments could reduce the level of reasoning in discussion, at least in comparison with the more robust effect that discussions with weak ties have on reasoning.

Regarding cognitive elaboration, in contrast, stronger connections seem to foster more reflective and mediated mental processes. Discussion with partners, friends and family tend to have a greater degree of intimacy (Kavanaugh and Patterson, 2002), which could favour deeper reflection and more intense cognitive or mental processes. Similarly, conversation in strong-tie networks involves a level of trust that has also been explained in earlier studies on cognitive elaboration as, for example, related to trust in information (see Kotler-Berkowitz, 2005).

It is also important to analyse the specific mechanisms through which the strength of network ties, as well as discussion network attributes, impact cognitive elaboration. While discussion networks characterised by strong-ties are shown to have both direct and indirect effects on cognitive elaboration, networks with weak ties only explain cognitive elaboration through network heterogeneity and reasoning. In addition, exposure to disagreement does not explain cognitive elaboration of political discussion. As far as we know, no other study has explicitly revealed this important association. The heterogeneity of results reveals the need to explore this issue, which could represent a fertile area for future study.

From a positive perspective, there are various paths to improving individuals' processes of cognitive elaboration that, ultimately, would lead to a more reflective and informed community (Eveland, 2001), and, as a result, to a more participatory society (Shah *et al*., 2005). The results suggest that strong-tie connections lead individuals to a higher level of cognitive elaboration, not only directly, but also in an indirect manner through more heterogeneous networks and more reasoned conversations. Weak-tie discussions do not have a direct effect on elaboration, but they could contribute significantly to this cognitive process by providing stronger connections to reasoned and more diverse and heterogeneous discussions. The results also suggest that exposure to disagreement does not provoke greater reflection and cognitive elaboration in individuals exposed to new points of view. This could perhaps revive academic discussion about the virtues and risks for the democratic process of exposure to different points of view (Mutz, 2006; Wojcieszak and Mutz, 2009).

However, certain limitations to our study suggest the need to be cautious in interpreting our findings. First, the data analysed in this study come from the second wave of a longitudinal study, as the first wave did not include many of the questions used to construct the variables we are interested in. As the analyses carried out are of a cross-sectional nature, suggesting the direction of the effects can be problematic. Although panel data would contribute greater solidity to interpreting directionality, it seems clear that the direction most frequently theorised in the literature is from discussion (behaviours) to cognitive elaboration (mental process). Future research could use longitudinal data and a larger sample size to confirm the internal and external validity of the results.

Secondly, the sample is exclusively composed of residents of the United States, so that the results are generalizable to the population of that country. Future studies should study the relationships between type of ties (strong or weak) and discussion network attributes in other contexts. Nevertheless, the

common characteristics of the United States and other western democracies (freedom of expression, plurality of media, a developed public sphere, regular elections, etc.) permit us to assume that these findings could be reasonably similar to those we would find in other countries.

Finally, we have excluded from the analysis conversations with neighbours and work colleagues. These types of ties can be strong or weak, and including them in any of the categories would increase measurement error. The only way to adequately classify neighbours and work colleagues as strong or weak ties would be to reformulate the questions, distinguishing among, for example, "neighbours that are well-know", "neighbours that are not well-known", "colleagues that are well-known" and "colleagues that are not well-known". Future research should include this type of distinction to construct a more inclusive measure.

Despite these limitations, this study contributes additional support to the idea that the force of ties is related to other discussion network attributes. In addition, it explores their connections with cognitive mental processes, as well as with the way in which individuals reflect on the information they receive when they discuss politics and public affairs. This study, therefore, is an additional step toward understanding of how certain attributes of political discussion explain why persons reflect on the information they find in their interpersonal exchanges, contributing to developing alternative ways to strengthen the democratic process.

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APPENDIX

Descriptive statistics for the variables of interest, by age and sex

	M	S. D.	Range
Heterogeneity			
Women	3.37	2.70	1-10
Men	3.30	2.13	1-10
18-34 years of age	3.67	2.40	1-10
35-55	3.41	3.56	1-10
More than 55	3.21	2.59	1-10
Total	3.36	2.55	1-10
Disagreement			
Women	3.45	2.60	1-10
Men	3.55	2.28	1-10
18-34 years of age	3.81	2.34	1-10
35-55	3.69	2.49	1-10
More than 55	3.11	2.55	1-10
Total	3.48	2.51	1-10
Reasoning			
Women	3.54	2.84	1-10
Men	3.65	2.03	1-10
18-34 years of age	3.91	2.49	1-10
35-55	3.49	2.53	1-10
More than 55	3.62	2.82	1-10
Total	3.58	2.63	1-10
Elaboration			
Women	13.93	8.46	3-30
Men	13.36	6.79	3-30
18-34 years of age	14.66	8.64	3-30
35-55	13.39	8.17	3-30
More than 55	14.17	7.68	3-30
Total	13.79	8.01	3-30
Discussion w/ strong-ties			
Women	4.36	2.21	1-10
Men	4.20	1.97	1-10
18-34 years of age	4.81	2.07	1-10
35-55	4.17	2.28	1-10
More than 55	4.40	2.95	1-10
Total	4.32	2.14	1-10

...

Descriptive statistics for the variables of interest, by age and sex (continueed)

	M	S. D.	Range
Discussion w/ weak-ties			
Women	2.52	2.25	1-10
Men	2.71	1.66	1-10
18-34 years of age	2.33	1.94	1-10
35-55	2.70	2.06	1-10
More than 55	2.47	2.20	1-10
Total	2.58	2.10	1-10

Note: N = 272. M = average; S.D. = standard deviation.