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Perceived disagreement and heterogeneity in social networks: distinct effects on political participation

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Perceived disagreement and heterogeneity in social networks:

Distinct effects on political participation

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3

4   Abstract

5   Although the coexistence of conflicting opinions in society is the very core of democracy, people's

6   tendency to avoid conflict could keep them away from political discussion and participation. On the

7   other hand, being exposed to diverse political views could motivate citizens to participate. We

8   conducted secondary analyses on two 2013 ITANES (ITAlian National Election Studies)

9   probability samples in order to test the hypotheses that perceived network disagreement (between

10   an individual and her/his discussion partners) and heterogeneity (among discussants holding

11   different political opinions), exert independent and opposite effects on political participation

12   through motivation and knowledge. Results converged in showing that disagreement dampened,

13   while heterogeneity encouraged, political participation (voting, propensity to abstain in future,

14   offline and online activism, and timing of vote decision) by decreasing or increasing, respectively,

15   political interest and, in turn, knowledge.

16

17   Keywords: social network, heterogeneity, disagreement, political discussion, political participation,

18   voting.

19

1   Perceived disagreement and heterogeneity in social networks:

2   Distinct effects on political participation

3   People holding and expressing contrasting opinions in social groups, and across society as a

4   whole, is the hallmark of democracy. According to cognitive consistency theories (Heider, 1946;

5   Festinger, 1957), however, people are conflict avoidant and, in fact, the idea that diversity in

6   discussion networks depresses turnout and, in general, dampens political participation is widespread

7   both in the common sense and among scholars (e.g., Mutz, 2006). Studies on the link between

8   networks' political diversity and participation actually obtained inconsistent results (e.g., Gimpel,

9   Lay, & Schuknecht, 2003; Mutz, 2002a; Scheufele, Nisbett, & Brossard, 2003). However, this

10   inconsistency can be unfolded by taking into account that those findings concerned various forms of

11   diversity (e.g., disagreement or heterogeneity) and different levels of analysis (from close

12   relationships to electoral districts).

13   Drawing on the literature linking social network diversity and participation, we

14   distinguished between network disagreement (between the individual and her/his discussion

15   partners) and network heterogeneity (among individual's discussion partners holding different

16   political opinions) and hypothesized that both factors independently affect political participation. In

17   addition, we expected that perceived disagreement would decrease participation by weakening

18   citizens' motivation (i.e., their interest in politics), whereas perceived heterogeneity would stimulate

19   participation by increasing interest in politics and political knowledge. Finally, while previous

20   studies focused either on participants' main discussants or on their whole municipality or county,

21   we present two studies adopting an in-between level of analysis, by considering the broad set of

22   relations experienced in the different sub-networks to which individuals belong.

23   **Social networks and Political Participation**

24   Citizens' participation is essential for the maintenance of democracy. Therefore, to

25   understand why people vote and participate in politics, and why they do not, is a fundamental task

26   for scholars. In synthesis, we can identify three classes of factors explaining political participation

1   (Brady, Verba, & Schlozman, 1995): Individual opportunities (time, money and civic skills),

2   psychological engagement (motivation), and contextual opportunities to be mobilized to politics

3   (being involved by others, such as leaders, activists, parties or media).

4   Though mobilization has been mostly operationalized through macro-environmental factors,

5   such as campaign spending and party or candidate contacting, involvement in informal political

6   discussion has also been shown to mobilize to politics (e.g., Leighley, 1990; Kenny, 1992; Putnam,

7   2000; McClurg, 2003), and mobilization via social networks has been recognized as one of the

8   major factors promoting turnout (e.g., Rosenstone & Hansen, 1993; Verba, Schlozman, & Brady

9   1995). In addition, the size of social networks is positively associated with participation: the greater

10 the number of people one discusses with, the more likely s/he is to engage in political activities,

11 particularly when conversations concern politics (Leighley, 1990; McClurg, 2003, 2006a, 2006b;

12 Pattie & Johnston, 2009). However, the wider a social network is, the more likely its members will

13 disagree with each other (Huckfeldt, Mendez, & Osborn, 2004b; Pattie & Johnston, 2009), and

14 disagreement is supposed to have detrimental consequences for participation.

Paradoxical Consequences of Conflict Avoidance

16 Both liberal (Mill, 1974; Held, 1987) and deliberative (Gutmann & Thompson, 1996)

17 theories of democracy emphasize the need for different opinions to be held, expressed and resolved

18 among citizens. However, Festinger's cognitive dissonance theory (1957) and Heider's balance

19 theory (1946) acknowledged, and more recent research (Cooper & Stone, 2000; Matz & Wood,

20 2005) confirmed, that interpersonal disagreement is a source of cognitive dissonance. Cognitive

21 consistency theories also claim that individuals are conflict avoidant and motivated to reduce the

22 psychological discomfort associated with dissonance whenever possible. In the interpersonal

23 domain, this can be done in different ways (Huckfeldt & Sprague, 1995): People can adapt to

24 others' views (acquiescence or silence), persuade others, reinterpret what others say to reconcile it

25 with their own beliefs (e.g., misperception, false consensus), or avoid political discussion and/or

1   discussants holding opinions conflicting with their own (selective exposure). Hence, dissonance

2   reduction yields two paradoxes for lasting democracy.

3   First, the conflict avoidance tendency seems to hinder disagreement and result in politically

4   homogeneous networks (Downs, 1957; Lazarsfeld, Berelson, & Gaudet, 1944), thus undermining

5   democracy. Indeed, individuals' lifestyle choices often bring them into unanimous social groups

6   (Cavazza & Corbetta, 2015; Huckfeldt, 2007; Mutz, 2006). However, the survival of disagreement

7   within communication networks has been documented by several election studies conducted both in

8   the US and in other countries (e.g., Huckfeldt & Sprague, 1995; Huckfeldt, Beck, Dalton, & Levine,

9   1995; Huckfeldt, Johnson, & Sprague, 2004a; Ikeda & Huckfeldt, 2001; Richardson & Beck, 2007;

10 Schmitt-Beck, 2003), suggesting that this is the rule rather than the exception.

11   According to Huckfeldt and colleagues (2004a), political disagreement can survive because

12 each person's communication network consists of different sub-networks (e.g., family, friends and

13 colleagues) that rarely overlap: each person can thus be supported in her/his view in a sub-network,

14 while holding the minority opinion in another sub-network. Therefore, while agreement seems to

15 prevail within sub-networks, disagreement is socially sustained between the individuals connecting

16 different sub-networks.

17   The second paradox is that if people avoid conflict, they devalue the object of conflict, and

18 thus escape politics which, in fact, has been often equated with conflict (e.g., Fiorina & Peterson,

19 1998). Indeed, Ulbig and Funk (1999) found that the more conflict avoidant citizens are, the less

20 they participate in political activities that imply some degree of conflict, such as protest, campaign

21 support and discussion. Looking back, the idea that disagreement dampens participation originates

22 in Lazarsfeld and colleagues' research (1944): They found that cross-pressured people (i.e., those

23 with contrasting affiliation, such as wealthy Protestants) were less likely to participate. More recent

24 studies (Mutz, 2002a) confirmed that cross-cutting discussions decreased political participation,

25 because they increased both intrapersonal ambivalence and interpersonal accountability. However,

26 if democracy needs open dialogue with all opinions expressed, but this leads citizens to withdrawal

1 from politics – either to avoid dissonance or to preserve social harmony – then democracy is

2 undermined. In sum, deliberative democracy seems to oppose participatory democracy (Mutz,

3 2006).

4 A more careful examination of this literature, however, suggests that the picture is far more

5 complex than it appears, since inconsistent results emerged from different approaches and

6 operationalizations of concepts. Indeed, most studies on this topic focused either on a few

7 participants' discussants or on the whole community (such as a municipality or county) to which

8 participants belong. The first line of research used individual-level data and usually measured

9 perceived disagreement between respondents and up to five (usually three or four) persons with

10 whom s/he discusses either political or important matters. The second approach used community-

11 level data on political preferences and assessed heterogeneity in respondents' county or

12 metropolitan area.

Disagreement and Participation

14 At the individual level, although some empirical works indicated that disagreement

15 discourages participation (Bélanger & Eagles, 2007; Mutz, 2002a; Mutz, 2006; Hopman, 2012), all

16 the possible results have actually emerged: some scholars did not find any effect of disagreement on

17 participation (Huckfeldt et al., 2004a, 2004b; Knoke, 1990; Nieuwbeerta & Flap, 2000; Nir, 2005);

18 others found that the strength and direction of this relationship are moderated by a number of

19 factors, such as characteristics of the network (McClurg 2006a) and the individuals (Djupe,

20 McClurg, & Sokhey, 2010; Lee, Kwak, & Campbell, 2013), aspects of the broader social context

21 (McClurg, 2006b), degree of disagreement (Bello, 2012; Nir, 2011), measures of disagreement and

22 forms of participation (Eveland & Hively, 2009; Klofstad, Sokhey, & McClurg, 2013; Lee, 2012;

23 Pattie & Johnston, 2009). Finally, other studies even found a positive effect of disagreement on

24 participation (Kwak, Williams, Wang, & Lee, 2005; Leighley, 1990; McLeod et al., 1999b;

25 Scheufele et al., 2003; Scheufele, Nisbet, Brossard, & Nisbet, 2004; Scheufele, Hardy, Brossard,

26 Waismel-Manor, & Nisbet, 2006).

1   A more stringent analysis of these studies suggests that their inconsistent findings could be

2   due, at least in part, to differences in the conceptualization and operationalization of network

3   disagreement. Discussion networks characterized by disagreement have been labelled with different

4   terms, such as "heterogeneous" (Huckfeldt & Sprague, 1995; Scheufele et al., 2004, 2006), "cross-

5   cutting" (Mutz, 2002a, 2002b, 2006), "ambivalent" (Nir, 2005), and "diverse" (Huckfeldt &

6   Sprague, 1995; Marsden, 1987). These expressions have been used as synonyms denoting a (certain

7   degree of) discrepancy between an individual and her/his discussion partners. In order to measure it,

8   most researchers used the "name generator" method, in which participants are asked to name up to

9   five (usually three or four) persons with whom they talk about either important matters or politics,

10   and then to indicate their political views. The degree of disagreement in the network is then

11   estimated by comparing respondents' opinions with their perception of their discussants' opinions–

12   for instance, as summed discrepancies between their vote preferences, or average perceived

13   disagreement in political attitudes.

14   By focusing on those few discussants, scholars disregarded the broader social context in

15   which individuals are embedded, and the overall exposure they have to diverse political views

16   (Baldassarri, 2010), thus underestimating the actual level of disagreement (Sokhey & Djupe, 2014),

17   hidden by selective exposure of the main discussion partners. In addition, the exclusive assessment

18   of disagreement with a few discussants is probably reductive, being unable to capture the complex

19   assortment of diverse opinions held in each person's network.

20   Bello (2012) and Nir (2011) argued that the problem is the linear assessment of

21   disagreement and actually found curvilinear effects with some disagreement to be beneficial, but

22   complete disagreement to be detrimental, for participation. Eveland and Hively (2009) proposed to

23   distinguish between disagreement and heterogeneity: While the former indicates a dissimilarity

24   between the ego and the alters, the latter implies a diversity among the alters, irrespective of the

25   ego's position.

26   **Heterogeneity and Participation**

7

1   While most individual-level studies mainly looked at participants' disagreement with a few

2 discussants, some of them (Kwak et al., 2005; McLeod et al., 1999b, 2003; Scheufele et al., 2003,

3 2004, 2006) assessed the frequency of political conversation with people that diverge from the

4 respondents as regards to gender, ethnicity and ideology. These studies, hence, adopted a more

5 inclusive perspective in terms of both the definition of the network and the operationalization of

6 what their authors called "heterogeneity" or "diversity". They actually found a positive association

7 between diversity and participation.

8   The second line of research, instead, adopted a structural-level perspective and measured

9 heterogeneity or diversity looking at the distribution of partisanship or ideology in a respondent's

10 county, metropolitan area or community. For instance, Gimpel et al. (2003) found that adolescents'

11 political engagement increased as a function of their community political diversity.

12   In his dual motivation theory of public engagement, Campbell (2004, 2006) argued, and

13 found, that political heterogeneity discourages civic participation (including volunteer activity or

14 community service), but fosters political participation (i.e., a form of collective action aimed at

15 influencing public policy). What is more interesting are the mechanisms expected to drive these

16 opposite effects. Campbell proposed that civic participation is higher in homogeneous environments

17 because people share civic norms and care about others' expectations and judgments. In contrast,

18 political participation is rooted in conflict and should blow up in heterogeneous places, where

19 people feel that their interests are threatened and thus participate in order to defend or advance

20 them.

21   Various pieces of literature suggest that network heterogeneity is stimulating as it increases

22 information seeking and knowledge. Classic pluralist accounts of democracy suggest that diversity

23 should mobilize people to represent the different opinions at stake (Dahl, 1989). In addition,

24 deliberative democracy theories contend that being confronted with different views motivates

25 individuals to carefully re-evaluate the debated issues and learn about challenging ideas (Knight &

1   Johnson, 1994; McPhee, Smith, & Ferguson, 1963), thus promoting well-informed and firmly held

2   opinions (Fishkin, 1995; Fearon, 1998).

3   Empirical work confirmed that heterogeneity should provide citizens with both the

4   motivation and the ability to take part in politics. Indeed, some individual-level studies found a

5   positive association between network diversity, on the one hand, and citizens' news-media use

6   (McLeod, Sotirovic, & Holbert, 1998; Nisbet, Moy, & Scheufele, 2003; Scheufele et al., 2004,

7   2006) and discussion frequency (Bello, 2012) on the other hand, suggesting that heterogeneity

8   encourages participation since it prompts information seeking and interest in politics. This

9   heightened interest should, in turn, enhance citizens' political knowledge and understanding (Price,

10   Cappella, & Nir, 2002; Mutz, 2002b; Scheufele et al., 2004, 2006). Also at a structural level,

11   Gimpel et al. (2003) found a positive association between the partisan diversity of the community

12   and adolescents' tolerance, political knowledge, frequency of political discussion and political

13   efficacy – all important elements in fostering participation later in life.

14   A further clue came from an experimental socio-psychological study (Green, Visser, &

15   Tetlock, 2000) investigating how people cope with accountability cross-pressures. Accountability,

16   the social pressure to justify one's views to others, has been shown to influence individuals' ways

17   of thinking (Tetlock, 1992). When those others hold multiple or conflicting positions, and the

18   individual is "caught in the middle", the situation is even more complex. Green and colleagues

19   showed that the participants that were accountable to conflicting constituencies with strong

20   arguments were more integratively complex in their consideration of an issue (i.e., they recognize

21   alternative viewpoints, make connections among them, and identify trade-offs) than those

22   participants that were non-accountable, or accountable to unanimous constituencies. In other words,

23   these results suggest that competition among different viewpoints is cognitively stimulating:

24   expecting to confront with people holding conflicting views motivates individuals to choose high

25   cognitive effort strategies, since an obvious solution is not immediately accessible, and needs to be

26   reached through effortful thinking.

1   **Overview and Hypotheses**

2   Summing up what we have learned from the different literatures briefly reviewed above, we

3   can outline the objectives of the present work. First, individual-level studies mostly addressed the

4   divergence between respondents' opinions and those of their main three or four discussion partners,

5   as perceived by respondents, neglecting both the broader social context and the complex pattern of

6   political differences among their sub-networks. This line of research elicited inconsistent results

7   regarding the link between disagreement and political participation – probably due to different

8   operationalizations of disagreement and definitions of network. Indeed, the studies adopting a more

9   inclusive view highlighted a positive association between diversity and political participation.

10   Broadening the perspective, structural-level studies focused on the heterogeneity of political

11   preferences held in citizens' whole communities and found a positive effect on political

12   participation. However, the diversity of opinions held in an individual's county or district is

13   probably experienced through the many people s/he is in contact with (rather than through the three

14   persons s/he discusses politics with). Huckfeldt et al. (2004) also suggest that disagreement is more

15   likely to survive between sub-groups than within them, hence this level of analysis may be more

16   able to capture the degree of disagreement and heterogeneity actually perceived by citizens.

17   Drawing on Eveland and Hively (2009), Nir (2011), and Bello (2012), we anticipated that

18   people need support for their opinions, but in a stimulating context where different views coexist.

19   Therefore, we separately assessed both perceived disagreement and heterogeneity in social

20   networks, and expected that they exert independent and opposite effects on political participation.

21   Based on cognitive consistency theories (Heider, 1946; Festinger, 1957) and individual-level

22   evidence of the negative association between disagreement and participation (e.g., Mutz, 2006), we

23   hypothesized that disagreement deters political participation (Hp1). On the contrary, based on

24   democracy theories (e.g., Fearon, 1998), and on individual- (e.g., Scheufele et al., 2006) and

25   structural-level (e.g., Campbell, 2004) evidence of the positive association between diversity and

26   participation, we hypothesized that heterogeneity stimulates participation (Hp2).

1   In addition, we tried to identify the different processes accounting for these relations. As far

2   as disagreement is concerned, we reasoned that citizens can lose interest in politics, in order to

3   reduce cognitive dissonance, when they are surrounded by people holding opinions that are

4   contrasting with their owns: Indeed, devaluing the object of controversy and getting away from it

5   has been proposed as one of the strategies for avoiding conflict (Festinger, 1957; Hopman, 2012).

6   On the other hand, as suggested in the previous section, network heterogeneity has been shown to

7   foster political interest and knowledge that, in turn, are positively associated with various forms of

8   political participation (e.g., Inglehart, 1979; McLeod et al., 1999a).

9   Therefore, we expected that disagreement would decrease political participation mediated by

10   political interest (Hp3), whereas heterogeneity should increase participation mediated by both

11   political interest and knowledge (Hp4). The effect of political interest on participation could be

12   direct or indirect through knowledge (see Figure 1).

13   Since previous research has shown that interest in politics and political participation vary as

14   a function of a series of socio-demographic and political factors, in order to detect the net

15   contribution of disagreement and network heterogeneity, we controlled for participants' age,

16   gender, education level, social class[1] and political efficacy in all of the subsequent analyses.

17   In order to test our hypotheses, we conducted secondary analyses on two ITANES (ITAlian

18   National Election Studies) databases: the 2013 Rolling Cross Section (RCS) two-wave panel

19   survey, and the 2013 post-election survey (for a complete and detailed description of the general

20   survey goals, designs, questionnaire construction, sampling and weighting procedures see Vezzoni,

21   2014; for the descriptive results see Itanes, 2013). ITANES is a research group carrying on a

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[1] Following Goldthorpe's theory (1980) applied to the Italian case by Cobalti and Schizzerotto (1994), social class was coded into four categories according to the participants' profession, or the previous work of those retired, or the bread-winner work of students or housewives: upper class (entrepreneurs, professionals, managers), non-manual workers (semi-professionals, technicians, routine employees in administration and commerce), petty bourgeoisie (small proprietors, artisans, shopkeepers and farmers, with or without employees), and manual workers (skilled, semi-skilled, and unskilled manual workers in all sectors of activity). We entered three dummy variables into the models, with manual workers as the reference category.

1   longstanding Italian tradition of electoral research, which began in 1968 with the first collection of

2   data (www.itanes.org).

3   Rather than using the "name generator" method, the ITANES surveys we analyzed

4   employed a recently introduced (Baldassarri, 2010; Pattie & Johnston, 2009) measurement of

5   political discussion networks. For our purpose, we examined a set of questions tapping the

6   perceived proportion of political agreement participants find in some of the different groups to

7   which they belong. It is worth noting that the data were not gathered directly from respondents'

8   networks, thus we do not truly know if the persons in those networks actually agree or disagree with

9   participants' political inclination. Indeed, as in most research on this topic, we measured the

10   perceived rather than the actual disagreement and heterogeneity in participants' networks. In this

11   way, disagreement is probably underreported and underestimated. However, in our opinion, this is

12   not a problem, but even an advantage, given our purpose of investigating the individual

13   consequences of disagreement and heterogeneity, which can occur only when they are recognized

14   and experienced by respondents.

15   Before proceeding with the test of our hypotheses, it seems useful to provide some

16   contextual information. The 2013 general election was particular because it came in the middle of a

17   deep economic crisis, recession and social tensions, with an overall public opinion climate

18   characterized by extreme political dissatisfaction and lack of trust in the party system as well as in

19   democratic institutions (Vezzoni, 2014). It followed the so-called "technocratic government"

20   finalized to deal rapidly with the dramatic economic problems, and led by Mario Monti who

21   resigned after 15 months of office. This election was characterized by a diversified and new

22   political supply, with four main coalitions (and related leaders) contesting each other at the voting

23   booth. Among them, the Five Stars Movement, guided by the former comedian Beppe Grillo, ran

24   for the first time and unexpectedly became the second most voted party. This situation may have

25   made more difficult the voting decision, in fact 26% of the respondents to the RCS post-election

26   survey reported they decided with certainty for whom to vote in the week preceding the election,

1   while 9% decided in the booth. In addition, overall voter turnout decreased from 80.5%, in 2008, to

2   75.2%.

3   **Study 1**

4   **Data and Measures**

5   For the first study, we used data from the 2013 ITANES RCS two-wave panel survey,

6   administered via Computer Assisted Web Interviewing (CAWI) system to a probability sample of

7   3,008 Italian electors. Informed consent was obtained from all individual participants included in

8   the study. As the general election took place on 24-25 February, the pre-election questionnaires

9   were filled in from the 5th of January to the 23rd of February, and the post-election questionnaires

10   were filled in from the 26th of March to the 8th of April.

11   For our purposes, we focused on two questions (included in the first section of the pre-

12   election questionnaire) tapping the proportion of political agreement participants perceived in their

13   family and friendship networks. The items read as follows: "Think of the members of your family /

14   your friends. How many of them have political views similar to yours?". Participants answered on a

15   7-point scale with the following options: *None of them (0%), A few of them (around 10%), Some of*

16   *them (around 25%), About half of them (around 50%), Many of them (around 75%), Most of them*

17   *(around 90%), All of them (100%),* plus the *I don't know* response (chosen by 3.8% of respondents

18   for the family members item and 6.1% for the friends item), which was subsequently recoded into

19   missing.

20   We computed our predictors from those two items. First, the response scales were recoded

21   as proportions of disagreement ranging from 0 to 1: for instance, when participants selected the

22   answer *Some of them (around 25%)*, we equated that level of disagreement to .75. We then

23   computed the mean of these proportions as *perceived disagreement* score and their absolute

24   difference as *perceived heterogeneity* score. Both scores range from 0 to 1 and were computed only

25   for participants who indicated the level of agreement encountered in both networks.

1   Dependent variables were indicators of political participation. As in most research on

2   political engagement (e.g., Hopman, 2012; Huckfeldt et al., 2004b; Mutz, 2002a, 2004; Nir, 2005,

3   2011; Pattie & Johnston, 2009), we first considered whether respondents reported, in the post-

4   election survey, that they had voted in the previous general election (dummy variable). However,

5   this variable is oddly distributed since Italian turnout is quite high, compared with other Western

6   countries, and the turnout question over-estimated actual participation in the vote. Indeed, 91.4% of

7   respondents declared that they did vote. We thus considered a further indicator of electoral

8   engagement, namely the *propensity to abstain*. In the pre-election questionnaire, a question placed

9   at the end of a scale measuring the propensity to vote for each party asked "How likely is it that in

10   the future you will abstain from voting?" (answer from 0 = *not likely at all* to 10 = *very likely*).

11   Besides self-reported voting and propensity to abstain, we also computed an index of *online

12   political activism*[2] as the sum of six items measuring the occurrence of the following behaviors in

13   the previous week: visiting political parties' or candidates' websites, visiting parties' or candidates'

14   social network profiles/pages, sharing campaign-related contents on social networks, taking part in

15   online discussions about political issues or the electoral campaign, taking part in a political event

16   after being invited online, subscribing to a mailing list or activating RSS feeds to be updated on the

17   campaign. These items were presented in the pre-election questionnaire. We computed a summative

18   score of online political activism by summing the number of participatory behaviors enacted in the

19   previous week (range 0-6).

20   Finally, though not directly concerning participation, we also included the *timing of vote

21   decision* as a further dependent variable. Following previous studies considering this dependent

22   variable (e.g., Mutz, 2002a; Nir, 2005, 2011), we reasoned that deciding late should make

23   participation in the campaign activities unlikely. In the post-election questionnaire, respondents

24   were asked "Could you please tell me when you decided with certainty for whom to vote in the last

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[2] While access to Internet was quite widespread in Italy, with 76% of the population older than 2 years having access to the web in February 2013 (Audiweb data), the actual use of internet is slightly lower. Indeed, according to Eurostat, 58% of Italians aged 16-74 used internet at least once in the three months preceding their 2013 survey.

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1   general election?". They answered on a 4-point scale where 1 = *In the booth, while I was voting*, 2 =

2   *In the week preceding the election*, 3 = *A few weeks before the election*, 4 = *Much earlier*.

3   Since the items assessing factual knowledge were placed in the post-election questionnaire,

4   while some of the dependent variables were assessed in the pre-election questionnaire, we could not

5   include knowledge as a potential mediator in Study 1. Therefore, in this first study we could only

6   partially test the expected model, including *interest in politics* as the only intervening factor. This

7   was computed as the mean of three items measuring the general interest in politics, the frequency of

8   conversations about politics in the previous week and the interest in the election results (α= .72). As

9   different response scales were associated to these items, we normalized the ratings before

10   computing the mean, thus the variable ranged from 0 to 1.

11   In order to obtain an index of *political efficacy* to be used as a control variable, we averaged

12   the degree of agreement with the two statements: "People like me don't have any say in what the

13   government does" and "Sometimes politics and government seem so complicated that a person like

14   me can't really understand what's going on" (response scale from 1= *Not at all true* to 4=

15   *completely true*). The scores were reversed before computing the mean (α = .49; r = .33, p < .001).

16   **Results**

17   Table 1 reports correlations among the measures, along with descriptive statistics. Perceived

18   heterogeneity was positively correlated with interest in politics but not with the dependent variables,

19   whereas perceived disagreement was correlated in the expected direction with interest, voting,

20   propensity to abstain and early decision, but not with online activism. Perceived heterogeneity and

21   disagreement were positively correlated, probably because in this study we could only consider two

22   social contexts. Interest was correlated in the expected direction with all the dependent variables.

23   In order to test our hypotheses, we ran a mediational analysis on each dependent variable

24   using PROCESS, the SPSS macro provided by Hayes (2013). We tested four Models 4, setting

25   5,000 bootstrap resamples, in order to estimate the effects of network heterogeneity and

26   disagreement on our dependent variables directly and indirectly, through interest (see Figure 1). As

1   stated above, we controlled for participants' age, gender, education level, social class and political

2   efficacy. Results are displayed in Table 2.

3   Beginning with the total effects, perceived heterogeneity significantly lowered, and

4   perceived disagreement marginally increased, the propensity to abstain. In addition, perceived

5   heterogeneity significantly fostered, while disagreement discouraged, the earliness of decision.

6   Finally, voting was marginally more likely at increasing levels of perceived heterogeneity, and

7   significantly less likely at increasing levels of disagreement. Online activism, in contrast, was not

8   affected by the predictors.

9   Concerning the indirect effects, perceived heterogeneity significantly increased, while

10   disagreement decreased, participants' interest in politics, even after controlling for each other and

11   for the covariates. In turn, interest in politics made voting significantly more likely and increased

12   online activism, fostered early decision and decreased propensity to abstain. More importantly, the

13   95% confidence intervals reported in the last four rows of Table 2 indicated that both perceived

14   heterogeneity and disagreement in social networks exerted significant indirect effects on all of the

15   dependent variables through interest – the former encouraging, and the latter discouraging, voting,

16   early decision and online activism, and, respectively, reducing and increasing the propensity to

17   abstain.

18   As the total effects of perceived heterogeneity on voting, propensity to abstain and early

19   decision, and those of perceived disagreement on voting and propensity to abstain became non-

20   significant after entering the mediators into the regressions, we can affirm that those effects are

21   fully mediated by political interest. In contrast, the total effect of perceived disagreement on early

22   decision weakened after controlling for the mediator, but it remained significant, suggesting that

23   interest only partially mediated this relation. Finally, although both predictors did not significantly

24   affect online activism, they exerted significant indirect effects on it through interest.

25   **Discussion**

1   Our analyses allowed us to show that, as expected, perceived disagreement in social

2   networks indirectly reduced political participation and delayed vote decision, whereas perceived

3   heterogeneity indirectly promoted political participation and early decision, through interest in

4   politics. However, due to database constraints, we could not verify whether political knowledge also

5   mediated the effects of disagreement and heterogeneity. In addition, our predictors were computed

6   with reference to only two social contexts, namely family and friends. A third limitation is that the

7   RCS survey only assessed online activism, neglecting more traditional forms of political

8   participation such as taking part in political meetings and rallies. This variable would be important,

9   since propensity to abstain and, particularly, voting could be weakly sensitive to social influence in

10   Italy, where the majority of people do vote.

11   This is why we turned to the second ITANES 2013 survey that included a measure of factual

12   knowledge (in the same questionnaire assessing the independent and dependent variables),

13   information about four social contexts and a battery assessing traditional offline activism.

Study 2

15   **Data and Measures**

16   For the second study, we employed data from the 2013 ITANES post-election survey,

17   administered via Computer Assisted Personal interviewing (CAPI) system by trained interviewers

18   immediately after the general election. Respondents were a probability sample of 1,508 Italian

19   electors. Informed consent was obtained from all individual participants included in the study. The

20   interviews were held from the 21st of March to the 4th of May, 2014.

21   In order to build our predictors, we focused again on the questions regarding the perceived

22   agreement encountered in some of the different groups to which participants belong. The questions

23   were the same as in the first study but, besides family and friends, they also concerned colleagues

24   and Facebook friends (the "I don't know" responses were again chosen by a minority of

25   respondents: from 2.2% for the FB friends item to 7.6% for the friends item). As in Study 1, we

26   computed *perceived disagreement* as the mean of the proportion of disagreement perceived in those

1   social contexts. *Perceived heterogeneity* was computed as the coefficient of variation of the same

2   four proportions. Both variables were computed for participants who indicated the proportion of

3   agreement perceived in at least two networks.

4   Four indicators of political participation and one measure of decision timing were examined.

5   *Voting* (83.8% voted), *propensity to abstain* and *early decision* were measured by the same

6   questions used in Study 1. *Offline activism* was obtained by summing eight questions asking

7   whether respondents engaged in each of the following political activities in the previous two years

8   (range 0-8): Signing a public request for a referendum or law; sending letters or complaints to

9   public authorities or newspapers/media; attending political debates or rallies; participating in a

10   demonstration; buying or refusing to buy a product for political, ethical or environmental reasons;

11   donating money to a party or political movement; distributing fliers or other materials for a party or

12   movement; and voting in the primary elections of a party or movement.

13   We also computed a measure of *online political activism* as the sum of participatory

14   behaviors enacted during the electoral campaign (range 0-8): visiting political parties' or

15   candidates' websites; visiting parties' or candidates' social network profiles/pages; watching

16   campaign-related TV content; sharing campaign-related contents on social networks; taking part in

17   online discussions about political issues or the campaign; taking part in a political event after being

18   invited via the Internet; following a politician or a political party/coalition on Facebook; and

19   exchanging ideas about the campaign with Facebook friends (594 participants reported not having

20   access to the Internet, thus they were not asked these questions).

21   As far as the hypothesized mediators are concerned, *political interest* was computed as the

22   mean of two questions asking about the general interest in politics and the frequency of

23   conversations about politics in the previous two months ($r = .58$, $p < .001$). We also computed a

24   *factual knowledge* index, based on the correctness of three open-ended questions concerning the

25   electoral system: "Who elects the President of the Republic?", "How many years does the President

26   of the Republic stay in office?", "Do you know, approximately, how many representatives sit in the

1   Chamber of Deputies?". The answers to the first two questions were coded as either wrong (=0) or

2   correct (=1), whereas those to the third question were coded as wrong (=0), nearly correct (=1) or

3   correct (=2). Then the three scores were summed in a total score ranging from 0 to 4.

4   *Political efficacy* was computed as the mean (α = .71) of four reversed items, the same two

5   included in Study 1 plus "Usually, people we elect to the Parliament quickly lose touch with the

6   people" and "Parties are only interested in people's votes, but not in their opinions" (response from

7   1= *not at all true* to 4= *completely true*).

Result and Discussion

9   Descriptive statistics and correlations among variables are displayed in Table 3. Perceived

10   heterogeneity was positively correlated with interest and with both offline and online activism.

11   Perceived disagreement was correlated in the expected direction with all the mediators and the

12   dependent variables. Political interest and knowledge were, in turn, associated with all the

13   dependent variables. Perceived heterogeneity and disagreement were not correlated in this study

14   assessing those measures across four social contexts.

15   In order to test our hypotheses, we verified a two-step model in which perceived

16   heterogeneity and disagreement induce interest in politics which, in turn, improves factual

17   knowledge that finally makes the various kinds of participation more likely and leads to earlier vote

18   decision. To this end, we ran five Models 6 of PROCESS, setting 5,000 bootstrapped resamples.

19   This analysis, besides providing the total and direct effects, allows testing three indirect paths: the

20   first includes only political interest as the intermediate factor, the second includes only knowledge

21   as the intermediate factor, and the third includes the complete sequence whereby interest affects

22   knowledge. Again, we controlled for participants' age, gender, education level, social class and

23   political efficacy in all of the analyses. Results are displayed in Table 4.

24   Total effects of perceived heterogeneity in networks were only significant, and positive, on

25   offline and online activism, whereas those of perceived disagreement were significant and negative

1 on all of the dependent variables – except on propensity to abstain, which increased with

2 disagreement.

3   Both perceived heterogeneity and disagreement significantly predicted participants' interest

4 – the former positively and the latter negatively – even after controlling for each other and for the

5 covariates. Knowledge, in contrast, was not affected by any of the predictors but increased with

6 interest and, in turn, significantly encouraged voting and online activism, marginally increased the

7 earliness of decision, and reduced the propensity to vote. Political interest also made voting more

8 likely, fostered offline and online activism and lowered the propensity to abstain. The coefficients

9 and standard errors of the indirect effects, along with the 95% confidence intervals, were displayed

10 in the last six rows of Table 4. The models that included only interest as an intermediate factor were

11 largely significant for all of the dependent variables – except for decision earliness, which was not

12 significantly predicted by interest. As it marginally increased with knowledge, however, the

13 complete path with interest promoting knowledge, which in turn fosters early decision, was

14 significant. The complete sequence was also significant for the other dependent variables – except

15 for offline activism, which was not impacted by knowledge.

16   As the total effects of perceived heterogeneity on voting, propensity to abstain and early

17 decision were not significant, its effects on those variables through interest and knowledge were

18 indirect effects, rather than mediation. Instead, since the total effects of perceived heterogeneity on

19 both offline and online activism, and the total effects of perceived disagreement on propensity to

20 abstain, early decision and offline activism got lower, but remained significant, after entering the

21 mediators into the regressions, we can affirm that these were partial mediations. Finally, the total

22 effects of perceived disagreement on voting and online activism were fully mediated by interest and

23 knowledge, as they became non-significant after controlling for the mediators.

24 **General Discussion**

25   Two studies conducted on two large representative samples of Italian citizens supported our

26 hypotheses, showing that perceived disagreement and heterogeneity in social networks exerted

1   independent indirect effects on political participation through interest and knowledge, even after

2   controlling for structural variables and political efficacy. Those effects were opposite in their

3   direction, as perceived disagreement (between respondents and their contacts) discouraged, while

4   perceived heterogeneity (among sub-networks) encouraged, participation. Our results are in line

5   with previous findings and reconcile their inconsistencies, confirming that, as already suggested by

6   others (Bello, 2012; Eveland & Hively, 2009; Nir, 2011), individual participation is promoted by a

7   social context that is supportive but also diverse and, hence, stimulating.

8   In addition, we examined the processes explaining the above illustrated relations: as

9   expected, both perceived disagreement and heterogeneity impacted upon participation through

10   interest in politics. Study 2 also showed that, for all the dependent variables except offline activism,

11   interest affected participation by increasing factual knowledge. An unexpected result emerged with

12   regard to this: indeed, while we hypothesized this sequence for perceived heterogeneity only, we

13   also found it for disagreement. In other words, the negative effect of perceived disagreement on

14   interest extended to knowledge as well.

15   Some of the paths were full or partial mediations and some were indirect effects, but the

16   substance of the processes does not change, and informs on the psychological mechanisms driving

17   opposite consequences for the two predictors. Indeed, in line with cognitive consistency theories

18   (Heider, 1946; Festinger, 1957) and individual-level evidence on the detrimental effects of

19   disagreement (Bélanger & Eagles, 2007; Mutz, 2002a, 2006; Hopman, 2012), the perception of

20   being surrounded by people with opinions conflicting with one's owns seems to lead to disregard

21   for the object of controversy, and loss of interest in politics, maybe in order to reduce the cognitive

22   dissonance that originates from interpersonal disagreement. In contrast, the perception of being

23   surrounded by significant others with political preferences that are conflicting with each other,

24   seems to be cognitively stimulating, since it increases interest, political knowledge and, in turn,

25   political participation. These results are consistent with studies indicating that network

26   heterogeneity induces information seeking, political knowledge (Bello, 2012; Gimpel et al., 2003;

1   McLeod et al., 1998; Nisbet et al., 2003; Price et al., 2002; Scheufele et al., 2004, 2006) and

2   integrative complexity in reasoning (Green et al., 2000), and suggest that the positive effects on

3   participation are driven by this heightened motivation to learn about, and understand, politics.

4   Our results were partially derived from cross-sectional data. Therefore, the problem of

5   direction of effects arises for all of the associations hypothesized and observed. It is, indeed,

6   possible that the more involved and expert in politics individuals are, the more they perceive their

7   significant others as holding their own opinions or selectively talk with people who agree with

8   them. However, many individual-level studies have drawn causal inferences about the effect of

9   disagreement on participation (e.g., Huckfeldt et al., 2004; Mutz, 2002a) despite using cross-

10   sectional data for their analyses. In addition, we believe that the network assessment employed in

11   our studies makes the problem of selective exposure far less serious than it could be with the

12   traditional "name generator" method. On the contrary, the false consensus bias risk remains; hence

13   we can cautiously consider the relation between network disagreement and interest/knowledge as

14   bidirectional, whereas the community-level research (see Campbell, 2004, 2006; Gimpel et al.,

15   2003) on the effects of heterogeneity on political engagement reassured us about this direction. In

16   addition, two dependent variables (voting and decision timing) were measured in the second wave

17   of Study 1, excluding the possibility that they affected the predictors – rather than the reverse.

18   Notwithstanding these shortcomings, this investigation helps to clarify the previous

19   contrasting findings, making a unique and valuable contribution to the understanding of the

20   association between social networks' characteristics and political participation. Indeed, our research

21   relied on a set of questions tapping respondents' overall social context, while retaining the

22   specificity of individuals' personal relations (see also Baldassarri, 2010): This approach allowed us

23   to capture the level of network disagreement and heterogeneity actually perceived by respondents

24   and more likely to affect their behavior. Thanks to the adoption of an in-between level of analysis,

25   rather than an individual- or community-level, and by considering the broad set of relations

26   experienced in the different sub-networks to which individuals belong, we showed that perceived

1   disagreement and heterogeneity in social networks exerted distinct and opposite effects on political

2   participation. These effects, however, were driven by the same motivational processes: indeed,

3   disagreement dampened participation by decreasing political interest and, in turn, knowledge, while

4   heterogeneity encouraged participation by increasing political interest and, in turn, knowledge.

5   Moreover, although the present studies concern a specific domain (politics), a specific kind

6   of social behavior (political participation) and were carried out in a specific context (Italy), we

7   believe that our results may be generalized to other domains and contexts where different opinions

8   coexist and perceived disagreement and heterogeneity in social networks could affect individuals'

9   commitment in pursuing their ideas. The former process is well known: as people are conflict

10   avoidant, social support is crucial to undertake any difficult or costly action. For example, support

11   from social networks has emerged as a major factor in maintaining a vegetarian or vegan diet (Jabs,

12   Devine, & Sobal, 1998), while absence of support seems one of the most common barriers to these

13   choices (Lea & Worsley, 2003). The detrimental effect of disagreement we documented is thus

14   easily recognizable in many domains other than politics. Less known is the general effect of

15   perceived heterogeneity. Our findings suggest that people are willing to take action if they have to

16   face with different views in their social environment: individuals in heterogeneous social networks

17   need to collect information to increase their knowledge in order to defend and exchange their

18   opinions, and this in turn makes them more involved and committed. There is no reason to expect

19   that this effect would be specific to Italian politics. Further research is needed to understand

20   whether the processes we highlighted apply to different domains and political contexts.

21

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Table 1. Correlations and descriptive statistics for dependent and independent variables (Study 1).

	1	2	3	4	5	6	7
1. Perceived heterogeneity	--	.108***	.083***	.030	-.036	.022	-.010
2. Perceived disagreement		--	-.229***	-.049*	.045*	-.128**	-.029
3. Interest			--	.217***	-.352***	.233***	.329***
4. Voting (0/1)				--	-.314***	--[a]	.068***
5. Propensity to abstain					--	-.247***	-.054**
6. Early decision							.079***
7. Online activism							--
M	.18	.61	.67	.91	3.23	3.00	1.70
SD	.19	.24	.24	.28	3.73	1.03	1.94
N	2742	2742	2989	2883	2888	2591	2928

* $p < .05$, ** $p < .01$, *** $p < .001$.

Point b-serial correlations were reported for voting.

[a] The correlation between turnout and early decision was not computed because only participants who voted were asked to report the timing of

decision.

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Table 2. Direct and indirect effect, through interest in politics, of perceived heterogeneity and disagreement on political participation (Study 1).

	Interest	Voting (0/1)	Propensity to abstain	Early decision	Online activism
Age	.18***	.01** (.00)	-.05*	.09***	-.15***
Gender (1=males)	.13***	-.08 (.15)	-.03	.05*	.03°
Education	.16***	.25* (.12)	.01	-.03	.02
Upper class	.08**	.02 (.25)	.00	-.03	-.02
Non-manual workers	.06*	-.09 (.21)	-.06*	.03	-.07*
Petty bourgeoisie	.06**	.16 (.30)	-.02	-.01	-.03
Political efficacy	.19***	.01 (.10)	-.12***	.09***	.10***
Interest		2.87*** (.34)	-.30***	.16***	.30***
Perceived heterogeneity	.09***	.68° (.41) (.28 (.41))	-.04* (-.01)	.04* (.03)	-.01 (-.04*)
Perceived disagreement	-.20***	-.68* (.29) (-.15 (.30))	.03° (-.03)	-.11*** (-.08***)	-.02 (.04*)
R^2	.18	.10[a]	.14	.07	.13
N	2721	2640	2665	2405	2693

Bootstrapped indirect effects estimates (*SE*)

		Interest	Propensity to abstain	Early decision	Online activism
Perceived Heterogeneity	*LLCI, ULCI*	.30 (.07), .17, .46	-.56 (.12), -.81, -.34	.07 (.02), .04, .11	.28 (.06), .17, .41
Perceived disagreement	*LLCI, ULCI*	-.53 (.09), -.72, -.38	1.00 (.11), .79, 1.24	-.14 (.02), -.19, -.09	-.51 (.06), -.64, -.40

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Results of linear regressions for mediators and continuous dependent variables (beta standardized coefficients are reported), and of binary logistic

regression for turnout (b unstandardized coefficients are reported along with standard errors in parentheses).

Direct effects of perceived heterogeneity and disagreement were displayed in parentheses below the total effects.

[a] Nagelkerke R^2.

° $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

LLCI = Lower Level Confidence Interval, *ULCI* = Upper Level Confidence Interval.
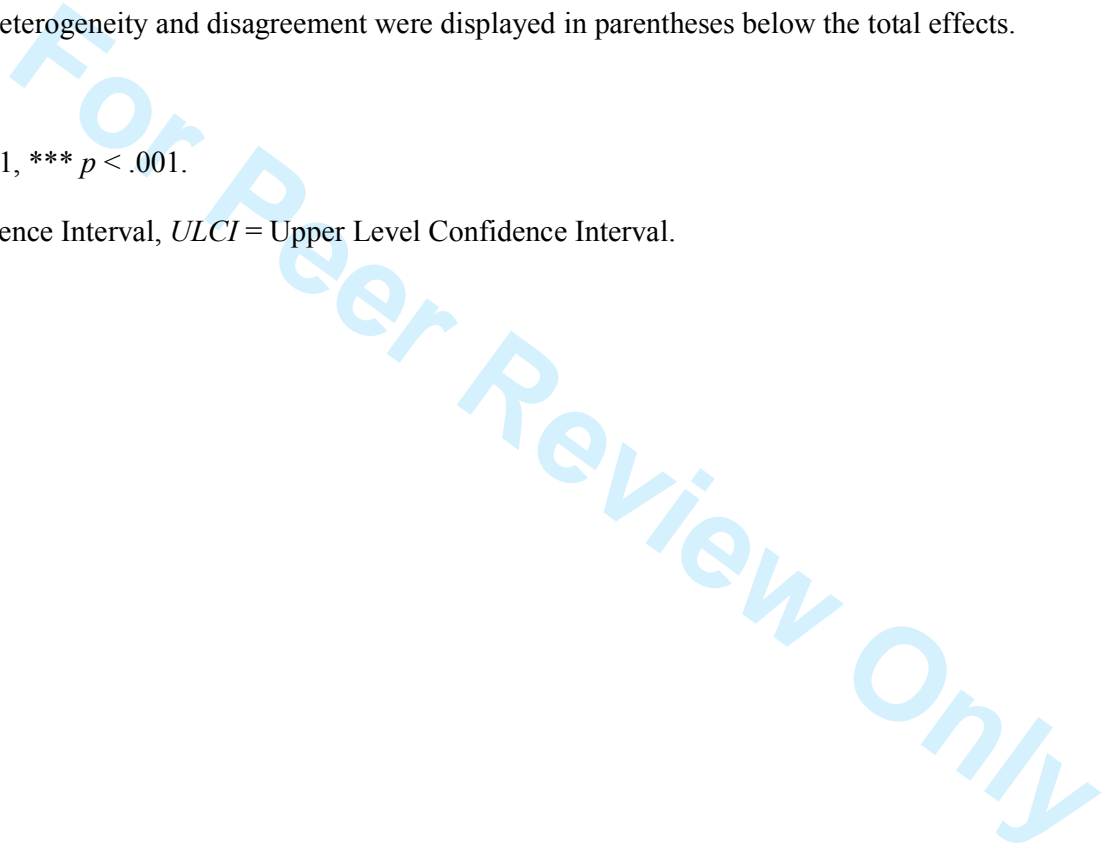
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Table 3. Correlations and descriptive statistics for dependent and independent variables (Study 2).

	1	2	3	4	6	7	8	9	10
1. Perceived heterogeneity	--	-.044	.070*	.017	-.002	-.008	.007	.085**	.106**
2. Perceived disagreement		--	-.263***	-.059*	-.089**	.118***	-.155***	-.210***	-.115**
3. Interest			--	.374***	.255***	-.277***	.124***	.461***	.358***
4. Knowledge				--	.212***	-.197***	.064*	.238***	.199***
6. Voting					--	-.371***	--[a]	.193***	.087**
7. Propensity to abstain						--	-.172***	-.186***	-.105**
8. Early decision								.113***	.100**
9. Offline activism								--	.464***
10. Online activism									--
M	.375	.594	.441	2.234	.851	2.986	3.142	1.092	1.441
SD	.365	.216	.278	1.332	.356	3.481	.932	1.493	1.960
N	1178	1182	1508	1508	1499	1429	1270	1508	910

* *p* < .05, ** *p* < .01, *** *p* < .001.

Point b-serial correlations were reported for voting.

[a] The correlation between turnout and early decision was not computed because only participants who voted were asked to report the timing of

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decision.

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Table 4. Direct and indirect effect, through interest in politics and factual knowledge, of perceived heterogeneity and disagreement on political

participation (Study 2).

	Mediators models		Dependent variables models				
	Interest	Knowledge	Voting (0/1)	Propensity to abstain	Early decision	Offline activism	Online activism
Age	.17***	.08**	.00 (.01)	-.03	.14***	-.03	-.22***
Gender (1=males)	.12***	.15***	-.53** (.20)	.01	.07*	.01	.08*
Education	.26***	.24***	.24 (.16)	-.04	-.08°	.11**	.03
Upper class	.03	.09**	.00 (.43)	.01	.01	.05	.04
Non-manual workers	.03	.13***	-.19 (.28)	-.02	-.03	.05°	.02
Petty bourgeoisie	-.04	.05°	-.32 (.27)	.02	-.02	.00	.02
Pol. Efficacy	.04	.03	.36° (.20)	-.09**	-.03	.07*	.06°
Interest		.21***	1.54*** (.43)	-.14***	.04	.36***	.31***
Knowledge			.29*** (.08)	-.11***	.06°	.03	.11**
Perceived heterogeneity	.08**	-.01	-.07 (.25) (-.17 (.25))	-.01 (.00)	.04 (.03)	.08** (.05*)	.11** (.08*)
Perceived disagreement	-.23***	.03	-1.24** (.47) (-.89° (.49))	.10*** (.06*)	-.14*** (-.13***)	-.19*** (-.11***)	-.10** (-.03)
R^2	.17	.21	.12	.08	.07	.24	.18
N	1174	1174	1171	1125	1039	1174	790

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Bootstrapped indirect effect estimates (*SE*)

Perc. heterogeneity → Interest → DV	.09 (.04)	-.11 (.05)	.01 (.01)	.12 (.05)	.18 (.06)
LLCI, ULCI	.02, .20	-.22, -.03	-.004, .03	03, .21	.07, .32
Perc. heterogeneity → Interest → Knowledge → DV	.02 (.01)	-.02 (.01)	.00 (.00)	.00 (.00)	.01 (.01)
LLCI, ULCI	.005, .04	-.04, -.01	.0003, .01	-.002, .008	.003,.029
Perc. Heterogeneity → Knowledge → DV	-.01 (.02)	.01 (.03)	.00 (.01)	-.00 (.00)	-.04 (.02)
LLCI, ULCI	-.07, .04	-.04, .08	-.02, .003	-.02, .004	-.10, -.003
Perc. disagreement → Interest → DV	-.43 (.15)	.51 (.14)	-.04 (.03)	-.60 (.09)	-.67 (.13)
LLCI, ULCI	-.73, -.17	.27, .83	-.11, .02	-.79, -.44	-.94, -.44
Perc. disagreement → Interest → Knowledge → DV	-.09 (.03)	.09 (.03)	-.01 (.01)	-.01 (.01)	-.04 (.02)
LLCI, ULCI	-.15, -.03	.04, .16	-.03, -.001	-.03, .01	-.09, -.02
Perc. disagreement → Knowledge → DV	.05 (.05)	-.08 (.06)	.01 (.01)	.01 (.01)	.04 (.04)
LLCI, ULCI	-.03, .19	-.23, .002	-.01, .03	-.005, .04	-.03, .14

Results of linear regressions for mediators and continuous dependent variables (beta standardized coefficients are reported), and of binary logistic

regression for turnout (b unstandardized coefficients are reported along with standard errors in parentheses).

Direct effects of network heterogeneity and disagreement were displayed in parentheses below the total effects.

[a] Nagelkerke R^2.

° $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

LLCI = Lower Level Confidence Interval, *ULCI* = Upper Level Confidence Interval.

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Figure 1. The expected and final mediation model. The continuous arrows were the paths

confirmed in the final model.