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### **Information, Persuasion, and Political Communication Networks**

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### **Abstract and Keywords**

This article presents a survey and interpretation of the contributions made by network theories on the study of citizens and democratic policies. The article serves as an overview of the topic. It begins by locating the network research within the rich substantive and theoretical tradition of individually and group-based studies of electoral politics and public opinion. It addresses some methodological issues in the study of political information networks. The article ends with the discussion of theoretical and substantive insights that were generated in several studies, such as the study of communication and persuasion among citizens.

Keywords: network theories, network research, electoral politics, public opinion, methodological issues, study of political information networks, citizens and democratic policies

CITIZENSHIP takes on meaning through processes of communication, persuasion, and conflict that occur among interdependent citizens. Opinions, choices, and patterns of engagement do not arise as the inevitable consequences of individual characteristics, national crises, or news media coverage. Neither do they arise as the necessary results of an individual's location within particular groups and environments. Rather, interdependent individuals arrive at choices and decisions as interactive participants in a socially imbedded process that depends on networks of communication among and between individuals within particular settings (Granovetter 1985; Zuckerman 2005).

This view of the citizen's role in democratic politics is anchored in some of the earliest and most influential empirical treatments of elections and campaigns—studies recognizing that the group basis of politics plays an important role, not only for politicians and activists, but for ordinary citizens as well (Lazarsfeld, Berelson, and Gaudet 1948; Berelson, Lazarsfeld, and McPhee 1954; Campbell et al. 1960, 1966).

Indeed, in his economic theory of democracy, Downs (1957) provides an efficiency motivation for this view, arguing that citizens quite sensibly make use (p. 101) of socially supplied information in their efforts to reduce the costs of political information. By relying on the advice of politically expert associates whose political biases are similar to their own, Downs argues that individuals are able to offload the costs of collecting, analyzing, and evaluating political information.<sup>1</sup>

Network theories of citizenship are inspired by these early insights regarding the importance of communities, groups, and political information exchanges among and between individuals. At the same time, network theories rely on a conceptual apparatus that moves beyond the traditional definitions of primary groups, organizations, and societal groups to define networks in terms of the relationships that exist among individuals—within and beyond the boundaries of traditionally defined groups. The introduction of communication networks into the study of democratic politics provides new insights on individuals and groups at multiple levels of analysis, thereby providing a direct assault on a range of micro-macro problems that confront political analysis (Eulau 1986).

This chapter provides a survey and interpretation of the contributions made by network theories to the study of citizens and democratic politics. This overview begins by locating network research within the rich substantive and theoretical tradition of individually and group-based studies of public opinion and electoral politics. The chapter then addresses a series of methodological issues in the study of political information networks. Finally, attention turns to the particular substantive and theoretical insights generated in the study of communication and persuasion among citizens; the persistence and consequence of political disagreement and heterogeneity within communication networks; citizenship capacity, social capital, and the diffusion of political expertise among citizens; communication networks and collective action; and the roles of groups and networks in modern politics.

## 1 Political Science Roots

The importance of social imbeddedness and interdependence among citizens is in many ways old news to most political scientists. Some of the earliest and most influential treatments of political behavior and citizenship addressed patterns of communication, persuasion, disagreement, and conflict that occur among and between citizens. The Columbia studies focused on patterns of communication and influence in their early election studies in Elmira, New York, and Erie County, Ohio (Lazarsfeld, Berelson, and Gaudet 1948; Berelson, Lazarsfeld, and McPhee 1954). In *Southern Politics*, V. O. Key (1949) identified white racial antagonism as an inherently political response most likely to occur when black racial concentrations threatened white hegemony in local politics. Warren Miller (1956) demonstrated the political (p. 102) disadvantages of minority status

by examining the plight of partisan minorities within counties. Butler and Stokes (1974) argued that British voting behavior within social classes was contingent on the class composition of local constituencies.<sup>2</sup>

These early lessons are easily forgotten, particularly in the face of the dominant data collection technologies used to study political behavior and public opinion—most surveys produce information on socially independent individuals. At the same time, creative sampling designs have made it possible to aggregate individual survey responses at the level of politically meaningful geographic units, producing measures of central tendency and dispersion for opinions that are geographically organized. Important progress in the contextual analysis of political behavior continues to be accomplished by combining survey data at the level of individuals either with aggregate census and voting data or with survey data aggregated according to the spatial boundaries within which survey respondents are located (Segal and Meyer 1974; Wright 1976; Cho 2003; Pattie and Johnston 1999; Peffley and Rohrschneider 2003).<sup>3</sup>

Network studies can be seen as a particular species within a larger genus—as one type of a contextual analysis of politics (Knoke 1990). Eulau (1986) and Przeworski and Teune (1970) define contextual factors in terms of the aggregation of individual characteristics that affect individuals through processes of social interaction. Hence, contexts are created through the particular composition of the individuals who make up some group or aggregate population. Network studies *diverge* from contextual studies in their effort to incorporate a direct mapping for the particular patterns of recurrent interaction among actors. Absent direct measures on patterns of communication, neither the individual measures nor their associated aggregate versions directly address the specifics of communication and persuasion among the individuals who make up the aggregates.

## 2 Networks, Ecological Fallacies, Individualistic Fallacies

What difference does all this make? Ignoring individual interdependence creates the potential for misspecifying the effects of *both* the individual *and* the aggregate factors that underlie political behavior. Assume for the moment that a positive association exists between contexts and networks—that people who reside in Democratic settings, for example, are more likely to encounter Democrats within their networks of political communication (Huckfeldt 1986). If various forms of political behavior are, in turn, contingent on an individual's location within networks of political communication, the likelihood of engaging in a behavior—holding an opinion, (p. 103) voting for a candidate, putting up a political yard sign—is apt to vary across these various contextual units of aggregation. Thus, aggregate analyses that ignore important patterns of interdependence

enhance the risk of producing ecological fallacies (Achen and Shively 1995; Goodman 1953, 1959; King 1997; Przeworski 1974; Sprague 1976).

The corollary individualistic fallacy is just as important: an individual-level analysis that ignores patterns of interdependence runs the risk of mistakenly specifying the relationships between individual characteristics and individual behavior (Huckfeldt and Sprague 1995, 28–32). Indeed, both individualistic and ecological fallacies suffer from the same problem—the stated or unstated assumption that individual characteristics and attributes translate directly into likelihoods of opinions and behaviors independently of the networks and contexts within which individuals are imbedded. Individualistic fallacies are based on individual-level data, and ecological fallacies on aggregate data, but both ignore the implications that arise due to patterns of individual interdependence located in time, place, and setting.

In a straightforward, intriguing, and historically important analysis, Herbert Tingsten (1963) demonstrated that working-class residents of Stockholm were more likely to vote if they lived in working-class neighborhoods. One might construct a number of hypothesized explanations for this pattern. Perhaps the socialist parties were more likely to concentrate their mobilization efforts in working-class districts. Perhaps working-class neighborhoods made it more likely that working-class residents would interact with other workers, thereby encouraging political identities as workers and supporters of the working class. Canache (1996), Langton and Rapoport (1975), Putnam (1966), and others consider similar explanations for patterns of partisan behavior in Honduras, in Santiago, in American counties, and elsewhere. In all these instances, patterns of concrete social relations leading to distinctive patterns of political communication are responsible for producing environmentally contingent patterns of political behavior. And these environmental contingencies on individual behavior are precisely the circumstances that give rise both to ecological and to individualistic fallacies.

How common are these problems? Is the Tingsten result a rare case? The literature produces an abundance of examples in which individual political behavior occurs at the intersection between individual predispositions and various forms of social interaction and communication. For example, in their analysis of education and citizenship, Nie, Junn, and Stehlik-Barry (1996) argue that individual educational achievement stimulates political participation, but that participation is depressed by individual levels of education that lag behind the educational levels of others in the environment. In these various bodies of work, the authors point toward complex forms of interdependence among actors that can be directly addressed by imbedding the individuals within networks of interaction and communication. Replacing aggregate analyses with individual-level analyses is not a solution to the problems addressed by these studies—it would simply replace a misspecified aggregate model with a misspecified individual-level model. The first instance produces an ecological fallacy, the second produces an individualistic fallacy, and both arise due to unspecified patterns of interdependence among political actors.

## (p. 104) 3 Surveys and the Measurement of Social Networks

During the 1940s and 1950s, an important series of scholarly efforts fundamentally altered the intellectual terrain for studies of voting, elections, participation, and public opinion (Lazarsfeld, Berelson, and Gaudet 1948; Berelson, Lazarsfeld, and McPhee 1954; Campbell et al. 1960, 1966). The ensuing revolution in the study of democratic politics institutionalized the innovation of the modern sample survey as the fundamental tool for studying electoral politics, not only in the United States but worldwide. The question that naturally arose was, how does one incorporate studies of communication networks into a study design which intentionally and necessarily randomly samples individuals who are independent of one another?

The answer to this question was less than straightforward. Some of the earliest and most analytically powerful implementations of network research involved complete enumerations of the relationships within well-defined populations (e.g. monasteries, churches, organizations). That is, the presence or absence of particular relationships are documented between each and every dyad within a population, and these relationships are, in turn, analyzed using a range of powerful analytic techniques (Wasserman and Faust 1994; White 1970). These analytic techniques are very useful to many political science research settings, and they are more likely to be employed successfully within a range of substantive applications involving interaction among political elites, within policy-making systems, and within and among courts and legislatures (Heinz et al. 1993; Knoke et al. 1996; Lauman and Pappi 1976; Lubell and Scholz 2001; Schneider et al. 2003; Fowler 2006). At the same time, their applicability is typically less straightforward in the context of the large populations that provide the primary object of study for scholars concerned with studies of mass behavior:<sup>4</sup> public opinion, participation, voting, and legal compliance (see Roch, Scholz, and McGraw 2000). Within this intellectual domain, contextual measures of population composition were often treated as an acceptable alternative measurement device. The problem with this practice is that it obscures the very real differences between contexts and networks in the study of voting, elections, and public opinion (Huckfeldt and Sprague 1995).

One solution to the problem came in the form of social network batteries, name generators, and the conception of egocentric networks, all of which are implemented in the context of a traditionally defined sample survey. An early implementation of such a strategy took place in the 1966 Detroit Area Study, directed by Edward Laumann (1973). Rather than conceiving a network in terms of the pattern of relationships defined by a space, place, or group, the egocentric network is defined in terms of the relationships that connect to a particular individual, measured through a battery of survey questions in which respondents name and then describe their personal networks (see Burt 1986; Marsden 1987).

The particular form and wording of network name generators vary across different efforts, but a respondent to a survey might typically be asked to identify the first names of the people with whom she discussed the events of the past election campaign.<sup>5</sup> After identifying some number of names, the interviewer asks the respondent a battery of questions about each of the identified discussants: the nature of the relationship between the respondent and the discussant, the reported frequency of interaction with each discussant, the reported frequency of political discussion, the relationships among the discussants, the respondents' perceptions of the discussants' opinions and viewpoints, as well as the respondents' perceptions regarding the frequency of disagreement with each of the discussants.

Some studies add a snowball component to the sampling design in which interviews are conducted with the discussion partners who have been identified by the main respondents to the initial survey. These second stage surveys are useful for several purposes. They provide reciprocity measures, as well as verification regarding the main respondent's ability to identify the discussants' preferences accurately. The snowball survey also provides measures of preference intensity for the discussant—the self-reported strength or extremity of discussant opinions. These intensity measures, in turn, create an opportunity to study the factors that enhance and impede the effectiveness of communication among and between citizens, as well as factors that enhance discussant influence.

Moreover, snowball surveys provide measures of engagement, participation, and political expertise for discussants within a political communication network. These measures make it possible to consider the value added problem in democratic politics—the extent to which communication among and between citizens helps to enhance the capacity of individual citizens, as well as the capacity of the electorate as a whole (Huckfeldt, Ikeda, and Pappi 2000; Huckfeldt 2001). In these and other ways, social network batteries coupled with snowball surveys of the main respondents' self-identified political networks provide naturally occurring *laboratories* for the investigation of political persuasion and communication processes among and between citizens.

## 4 The Relationship between Contexts and Networks

The line of demarcation between contexts and networks has sometimes been fuzzy in political science research. Part of the difficulty has been rooted in the perception that contexts are simply a poor person's measure of networks. That is, lacking the ability (p. 106) to produce a detailed mapping of the networks within which survey respondents are imbedded, analysts have often employed a random mixing assumption that provides a simple substitution of contexts for networks. The problem with this conceptual confusion is that networks are *not* a simple and direct translation of the contexts and opportunities for social interaction that surround an actor. Rather, networks are formed at the complex intersection between individual preference, individual engagement, and individual location within particular contexts. Hence, important differences exist between the networks and contexts of political behavior (Huckfeldt and Sprague 1995).

A primary difference relates to issues of endogeneity and exogeneity in the construction of contexts and networks. Even if an individual resides in a Democratic neighborhood in a Democratic city in a Democratic state, and even if she works at a workplace dominated by Democrats, she may still manage to find Republicans with whom to eat lunch (Finifter 1974). One can think in terms of a mobile context defined in terms of the “life space” that is occupied by a particular individual (Eulau 1986). This abstract life space might be created in response to the numerous locations of the individual in time, space, and social structure, thereby including all the opportunities that an individual has for social interaction. Conceived in such a manner, networks must be seen as being endogeneous both to individual preference and to the contexts where individuals are located.

If individuals reside in contexts composed entirely of Republicans, their discussions will take place with Republicans unless they decide to forgo political conversation. At the same time, individuals in heterogeneous contexts do not simply roll over and accept whatever the context happens to provide. They impose their own preferences as constraints on the search process. In this way, the construction of communication networks within the boundaries of social contexts can be seen as a problem of supply and demand—as individuals desiring to find acceptable associates in a context that sets constraints on supply.

## 5 Network Construction, Self-selection, and the Intersection of Stochastic Processes

Both supply *and* demand are usefully seen as inherently stochastic processes—processes that reflect probabilities related to particular combinations of individuals, individual characteristics, contexts, small- and large-scale population concentrations, and opportunities for social interaction. Supply is stochastic because the constraints imposed by the compositional properties of a particular context are inevitably probabilistic. The individual selection of discussion partners is stochastic (p. 107) because potential discussants carry along with them a bundle of characteristics, and a single discussion partner serves a variety of purposes. Hence, the construction of political communication networks occurs within the constraints of supply that are imposed by particular contexts, guided by the selection principles of the individuals who are engaged in constructing the networks, and the resulting communication networks thereby occur at the stochastic intersection of two inherently stochastic processes (Boudon 1986). At the same time, a number of formulations and empirical applications suggest that supply looms large in the production of these networks (Coleman 1964, ch. 16; Huckfeldt 1986; Huckfeldt and Sprague 1995).

In this context, the argument that individuals are influenced through political communication with other individuals is inherently vulnerable to a self-selection counter-argument (Achen and Shively 1995). According to this argument, for example, strong supporters of the Japanese Liberal Democratic Party often choose to live in LDP neighborhoods, to be employed at workplaces full of LDP supporters, and to talk about politics with other supporters of the LDP. If a study finds that individuals who work in LDP workplaces are more likely to talk politics with supporters of the LDP, a sometimes difficult-to-answer counter-argument might be that LDP supporters choose *both* to work at LDP work places *and* to associate with other LDP supporters. Hence, by implication, the relationship between the context and the network is spurious—exposure both to networks and to workplaces might be influenced by individual choice.

One response to this problem is to consider the relationships between contexts and networks in a setting where contextual self-selection is an unlikely option. Conceive an advanced democracy as a (very large) context, where the likelihood of self-selection on political grounds is very low. Based on this level of measurement, several efforts consider the likelihood that party supporters will encounter disagreement within their political communication networks as a function of the party's level of support in the electoral politics of the country as a whole. In a study based on Germany in the 1990 election, Japan in the 1993 election, and the United States in the 1992 election, respondents who support one of the major parties are much more likely to report agreement than supporters of the minor parties and candidates (Huckfeldt, Ikeda, and Pappi 2005; also see Ikeda and Huckfeldt 2001). American Democrats are less likely to report disagreement than Perot voters; Japanese LDP voters are less likely to report



disagreement than the supporters of the Sakigake—a minor party that no longer exists; German Christian Democrats are less likely to report disagreement than supporters of the Green Party; and so on.

It is equally important to emphasize that each party's supporters report levels of agreement within their networks that surpass random mixing expectations. The moral is *not* that individuals fail to exercise discretion in the construction of political communication networks. Once again, political communication networks are created at the intersection of individual choice and environmental supply, and neither individual-level factors nor aggregate factors can provide a full explanation for network construction.

### (p. 108) 6 Persuasion and Communication Effectiveness among Citizens

The laboratories created by the snowball surveys provide the opportunity to assess factors affecting persuasion and communication effectiveness among citizens. In general, main respondents are better able to recognize preferences accurately if they share the preferences. These results complement an important stream of research related to the false consensus effect—an effect in which the individual perceptions of the preferences held by others are biased toward agreement (Fabrigar and Krosnick 1995). One explanation for this false consensus bias builds on cognitive dissonance theory—people find disagreement to be disturbing and they misinterpret the messages sent by the discussant (Festinger 1957). Another explanation is conflict avoidance—individuals avoid conflictive conversations thereby obscuring the communication of disagreement (MacKuen 1990).

Although these are plausible and often compelling arguments for misperception in many contexts, several persistent patterns make these explanations less than fully satisfying in the context of political communication networks. First, not only are main respondents less likely to perceive a discussant's viewpoints accurately if they disagree with the discussant, but they are also less likely to perceive a discussant's viewpoints accurately if they believe that other individuals in the network hold a preference that is different from that reported by the particular discussant. Hence, in making a judgment about another individual's preference, individuals may be generalizing on the basis of their own immediate circumstances—they may be reaching the judgment on the basis of prior information taken from the environment. For example, if the main respondent is voting Democratic, and she believes that all her other associates are voting Democratic, she may miss the fact that one of them is actually voting Republican. In this context, it is important for political scientists to remember that relatively few citizens wear their preferences as lapel pins, and preferences are often socially ambiguous, even in networks

explicitly identified to be political. Hence, respondents are likely to form judgments based on prior expectations that arise through recurrent patterns of social interaction (Huckfeldt et al. 1998a).

Moreover, while the *accuracy* of respondent perceptions is compromised by disagreement, either between the respondent and the discussant or between the particular discussant and the more generalized network, these same forms of disagreement do not compromise the *confidence* of the respondent in his perceptions of the discussant's preferences, or in the *accessibility* of these perceptions, measured in terms of response latencies or response times (Huckfeldt, Johnson, and Sprague 2004). In short, there is little evidence to suggest that individuals are uncomfortable or unwilling to acknowledge disagreement.<sup>6</sup> Finally, while these communication (p. 109) biases produced by disagreement are theoretically important, we should not miss the forest for the trees—overall levels of accuracy within the communication networks are quite high, even in the face of disagreement.

Why might individuals be relatively well equipped to confront disagreement politically? First, citizens who are less engaged by politics may be less troubled by disagreement. Second, the inherently subjective nature of politics and political preferences may make it easier for one individual to comprehend why disagreement might occur (Ross, Bierbrauer, and Hoffman 1976). Finally, some evidence suggests that citizens who encounter divergent preferences within their communication networks are less likely to feel that the preferences are extreme or unreasonable (Huckfeldt et al. 2005).

Many of the same factors that affect the accuracy of communication also affect persuasiveness. In particular, discussants are more likely to be influential if their preferences are widely shared within the larger networks within which respondents are located (Huckfeldt, Johnson, and Sprague 2004). In other words, an individual who communicates a widely shared preference is both more likely to be correctly understood, as well as being more likely to be influential. In this way, the realization of influence and persuasion within dyads is itself autoregressive, depending on the distribution of opinion within the larger network of which the dyad is only one part (Huckfeldt et al. 1998a; also see McPhee 1963).

The effectiveness and persuasiveness of political communication among citizens also depend, in very profound ways, on the particular preferences and characteristics of the messenger. Citizens with strong, unambiguous preferences are more likely to be correctly perceived, and they are, correspondingly, more likely to be influential. In contrast, there is little evidence to suggest that citizens with strong preferences are unable to perceive the preferences that are communicated by others. Hence, it is not that individuals with strong preferences are incapable of recognizing disagreement when they encounter it—citizens with strong preferences are excellent messengers, and their ability to perceive the messages of others is not compromised (Huckfeldt, Johnson, and Sprague 2004).

## 7 The Persistence and Consequence of Network Heterogeneity

Important bodies of work point toward individuals withdrawing from political engagement as a consequence of disagreement (Lazarsfeld, Berelson, and Gaudet 1948; Berelson, Lazarsfeld, and McPhee 1954). Other important work points to the problematic capacity of maintaining disagreement within a population as the stable equilibrium outcome of a dynamic communication process (Abelson 1979; Axelrod 1997; Marsden and Friedkin 1994). But if disagreement produces a political angst that (p. 110) leads to a withdrawal from civic life on the part of individual citizens, or if political diversity is inevitably eliminated as a consequence of communication among citizens, we are left in a difficult situation with respect to the capacity of citizens for the give-and-take that undergirds democratic politics.

Recent analyses have reconsidered the factors that create and sustain political heterogeneity within communication networks. The presence of disagreement within political communication networks has generated some debate, however, with Mutz (2006) arguing that Huckfeldt, Johnson, and Sprague (2004) overstate levels of disagreement. Direct evidence with respect to this issue has accumulated over more than twenty years, most recently in the 2000 National Election Study. Among those respondents interviewed after the election who identify at least one discussant, only 41 percent of the Gore voters perceive that all their discussion partners support Gore, with 36.7 percent naming at least one discussant who supports Bush; only 47 percent of the Bush supporters perceive that all their discussion partners support Bush, with 35.5 percent naming at least one discussant who supports Gore (Huckfeldt, Mendez, and Osborn 2004). Comparable levels of disagreement are demonstrated in other studies (Huckfeldt, Ikeda, and Pappi 2005; Huckfeldt and Sprague 1995; and Huckfeldt, Johnson, and Sprague 2004). Moreover, individuals located within networks of increasing size—in Germany, Japan, and the United States—are dramatically less likely to report homogeneous agreement within their networks (Huckfeldt, Ikeda, and Pappi 2005).

All these studies consistently demonstrate strong evidence of clustering—Republicans are more likely to talk politics with Republicans, Social Democrats with Social Democrats, Komeito supporters with Komeito supporters, and so on. We would expect nothing less. To the contrary, these studies demonstrate that patterns of *both* agreement *and* disagreement can be profitably understood within complex processes of communication and persuasion.

### 7.1 How does heterogeneity persist?

Huckfeldt, Johnson, and Sprague (2004) adopt an agent-based, computational strategy to address the conditions that give rise to persistent heterogeneity within communication networks. Drawing on the work of Abelson (1979) and Axelrod (1997), their analysis constructs a series of simulations that are motivated by a range of empirical analyses. Building on survey analyses, these simulations suggest that diverse preferences are more likely to survive in circumstances where the consequences of political communication and influence between two individuals depend on the distribution of preferences across the individuals' larger networks of communication. In this way, communication and influence are autoregressive—the probability of agreement within a dyad depends on the incidence of the particular opinion or viewpoint within the larger network of communication.

These agent-based models incorporate an inherently non-linear representation of communication and influence within and among these micro-environments, thereby (p. 111) producing complex, non-deterministic outcomes. In higher-density networks, where everyone communicates with everyone else, autoregressive patterns of influence can be expected to reinforce tendencies toward homogeneity. In contrast, autoregressive mechanisms can be expected to sustain opinion diversity within lower-density networks—networks where an individual is less likely to communicate with the associates of her own associates. In these lower-density networks, patterns of communication are often characterized both by structural holes (Burt 1992) that create communication gaps between networks, as well as by the influential individuals who bridge these gaps (Granovetter 1973). Disagreement is more likely to be sustained in these circumstances because disagreeing individuals frequently receive support for their preferences elsewhere in their communication networks, from individuals who are not connected to the source of disagreement (Huckfeldt, Johnson, and Sprague 2004).

The implications for democratic politics are quite important. If election campaigns only serve to recreate a pre-existent political homogeneity within social groups, then the collective deliberations of democratic citizens are divorced from the dramas and events of politics. Alternatively, to the extent that citizens participate in a process that includes disagreement as well as persuasion, the systematic processes of communication that occur within these networks become crucial to democratic outcomes, even though the direction and magnitude of the effects may be both complex and indeterminate (Boudon 1986).

### 7.2 What are the consequences of heterogeneity?

The consequences of network heterogeneity and the experience of political disagreement have stimulated a number of research efforts, and a consensus has not yet emerged regarding the political effects of disagreement. Huckfeldt, Johnson, and Sprague (2004) argue that political heterogeneity is more likely to persist within larger, more extensive

communication networks. Network size, in turn, is predicted by some of the same factors that predict political involvement and engagement. Individuals with higher levels of education and more extensive organizational involvements are more likely to reside in larger communication networks. Hence, the same individuals who are able to draw on larger reserves of social capital are also more likely to be politically active and engaged (Lake and Huckfeldt 1998), as well as to experience a more diverse mixture of political opinions and viewpoints within their networks of political communication. These analyses and others (Huckfeldt, Ikeda, and Pappi 2005; Huckfeldt and Mendez 2004) find little evidence to suggest that political disagreement and diversity within communication networks produce politically disabling consequences in terms of political participation. Indeed, Kotler-Berkowitz (2005) finds that increased diversity within networks serves to stimulate higher levels of political participation.

Mutz (2002*a*, 2002*b*) and Mutz and Martin (2001) have also examined the consequences of disagreement within communication networks. Their analyses are generally less optimistic regarding the democratic potential of communication across the boundaries of political preference, in part based on a finding that political (p. 112) heterogeneity (cross-cutting cleavages) tends to depress participation (Mutz 2002*a*), and in part based on an argument that homogeneity is widespread within communication networks (Mutz and Martin 2001). At the same time, much of the divergence in these various results is a matter of emphasis and expectation, and the various studies share a great deal in common. For example, Mutz (2002*a*) points toward the ambivalence producing consequences of political heterogeneity within patterns of political communication among citizens—a theme that is also pursued in the work of Visser and Mirabile (2004), Huckfeldt and Sprague (2000), and Huckfeldt, Mendez, and Osborn (2004).<sup>7</sup>

From a somewhat different vantage point, both Mutz (2002*b*) and Gibson (1992) focus on network heterogeneity effects on political tolerance. As Gibson (1992: 350) demonstrates, “(w)hy people differ in their levels of intolerance—and with what consequences—cannot be well understood by conceptualizing the individual in social isolation.” He shows that homogeneous peer groups, less tolerant spouses, and less tolerant communities place limits on the freedom perceived by individual citizens. Hence, it would appear that normative commitments to tolerance and democratic ideals are likely to be short-lived unless they are reinforced through application in naturally occurring contexts of political communication. (For a complementary analysis, see Gibson's (2001) analysis of networks and civil society in Russia.) Similarly, Mutz (2002*a*) shows that higher levels of political disagreement within networks correspond to modestly higher levels of tolerance on the part of individuals. Findings such as these would seem to suggest that the likelihood of a political system characterized by high levels of tolerance is reduced to the extent that political tolerance depends on individually based normative commitments disembodied from recurrent patterns of social interaction and political communication.

Baker, Ames, and Renno (2006) provide a compelling analysis of the role played by heterogeneity and disagreement within political communication networks. In their study of the 2002 Brazilian election, they argue that network theories of political behavior have

been evaluated in an unfriendly laboratory—the laboratory of the American political environment. In American politics, as in most mature democracies, political parties are highly institutionalized and play an important role in structuring voter choice. In contrast, political parties are underdeveloped in many new democracies, politics is more fluid and volatile, and political communication networks thereby become correspondingly more important. Their focus on heterogeneity and disagreement within networks and contexts is particularly important to their resulting analysis, and the authors shed light on the ways in which volatility is produced and then resolved during the campaign. They argue that deliberation among citizens was crucial to the outcome of the election, and that political communication networks enhanced the civic capacity of both individual citizens and the electorate. In an interesting and complementary analysis, Ikeda et al. (2005) compare partisanship effects and network effects on preference stability in Japan.

Finally, Druckman and Nelson (2003) show that some patterns of persuasion among citizens make it more difficult for citizens to be manipulated by elites. In a (p. 113) novel framing experiment, they show that subjects who discuss an issue within groups marked by diverse opinions are more likely to be immune to issue framing by elites. In this way, the exposure to diverse opinions through processes of social interaction and communication serve to inoculate public opinion against elite imposed frames, and hence interdependent citizens imbedded in heterogeneous networks of opinion are better able to exercise judgments that are independent of elite manipulation.

## 8 Citizenship Capacity, Social Capital, and the Diffusion of Political Expertise

Network studies of political communication and persuasion provide a theoretical, analytical response to the human limitations of the citizen in democratic politics. If citizens arrived at decisions independently—as self-contained, fully informed actors—their choices might be explained wholly as a consequence of their own devices. Political decision-making could be understood as the product of individual priorities and the alternatives available to particular individuals. The problem is that individual citizens possess neither full information, nor a biased sample of full information, nor the well-formed attitudes and belief systems that would have guided their choices in a coherent manner (Converse 1964). Moreover, seen from the vantage point of an economic theory of political decision-making (Downs 1957), the high costs of becoming informed, coupled with the minimal likelihood of casting a decisive vote, call into question an expectation that rational citizens would invest in the acquisition of information.

This problem—the problem of citizenship capacity—lies at the core of democratic politics, and its analytic implications are quite profound (Gibson 2001). Citizens operate in a complex political environment characterized by inherent uncertainty, and the task of citizenship might well be characterized as reaching decisions and judgments under

uncertainty (Tversky and Kahneman 1973). Indeed, the recognition of this challenge has transformed the study of citizens and politics, leading to important new directions in scholarship aimed at identifying the methods and means whereby citizens confront these challenges (Sniderman 1993, Popkin 1991). Important contributions have been generated by cognitive research regarding attitudes, attitude strength, and the use of heuristics in processing political information and reaching decisions (Petty and Krosnick 1995; Lodge and Taber 2000; Sniderman, Brody, and Tetlock 1991).

The study of political communication provides a very direct means to incorporate social capital within the study of public opinion (Ikeda and Richey 2005). A primary benefit that derives from social capital relates to the information that people access through networks of social relationships. These informational benefits are directly (p. 114) related to public opinion because citizens are able to rely on one another for information and guidance in politics. Absent social networks, individuals would be forced to bear the acquisition and processing costs of political information on their own (Downs 1957). In this way, social capital that is accessed through networks of communication produces important efficiencies in the creation of informed public opinion (Coleman 1988).

Ignoring the informational potential of social communication has contributed to an underestimation of the knowledge, information, and sophistication that underlie public opinion, both in terms of individual and aggregate opinion holding (Page and Shapiro 1992; Erikson, MacKuen, and Stimson 2002). The inescapable fact is that individuals often perform quite poorly in providing adequate responses to survey questions regarding basic political knowledge, in providing well-thought-out rationales for their preferences and opinions, and even in providing thoughtful and stable responses to questions that solicit their opinions (Converse 1964; Delli Carpini and Keeter 1996; Sniderman 1993).

At the same time, individuals report more frequent political discussion with other individuals whom they believe know more about politics. Just as important, the descriptive adequacy of their judgments regarding the political expertise of others has been empirically confirmed (Huckfeldt 2001). Hence, political interdependence among citizens helps to explain why public opinion in the aggregate is more sophisticated than the opinions held by the average citizen.

The precise mechanism that leads individuals to depend more heavily on the political experts in their midst is less clear. One explanation is that people use “knowledge proxies” (Lupia 2005, 1992)—they rely on individuals whom they believe to be trustworthy and knowledgeable. Such an explanation fits in quite well with Downs's (1957) original arguments regarding the role of social communication as a cost-saving device for becoming informed. Another explanation for the social diffusion of political expertise is based on an unintentional, agent-based formulation (Axelrod 1997). It is not that individuals consciously look for trustworthy political experts in their midst, but rather that political experts tend to be the politically engaged citizens. Citizens talk with their expert associates more frequently because these particular associates (the experts)

are endlessly talking about politics! In this way, the experts' opinions become important in the collective deliberations of democracy because their preferences are self-weighted by their own motivation and engagement.

## 9 Networks and Collective Action

Communication networks are not only important in terms of information transmission and persuasion, but also in terms of mobilizing collective action. Much of the collective action literature has been in response to strategic behavior related to collective action problems (Olson 1966). Unless and until group leadership is able to resolve the free rider problem, groups cannot successfully form to achieve group (p. 115) goals (Salisbury 1969; Chong 1991). As Axelrod (1986) and others have demonstrated, collective action problems are often susceptible to solution in the context of repeated games—in the context of recurrent patterns of relationships among the actors who are seeking to organize a collective effort. Hence, one might argue that solutions to collective action problems can be seen as occurring within networks of relationships among strategic actors who use the information they acquire through repeated interactions to facilitate group efforts.

This insight is carried forward in the work of Yamagishi and Yamagishi (1994), who recognize the importance of networks and network relationships to cooperation and trust in group efforts in their comparison of Japan and the United States. Other efforts recognize the importance of covenants and sanctions to collective action problems (Ostrom, Walker, and Gardner 1992), thereby building on the networks of dyadic exchanges that underlie the creation of collective action. Lubell and Scholz (2001) show that cooperation is more likely to occur in contexts marked by higher levels of reciprocity, and hence it appears that expectations of cooperative behavior are conditioned by past experiences in broader networks of strategic interaction. Possibilities of altruistic punishment (Fehr and Gächter 2002; Fowler 2005a) incorporate the socially contingent nature of cooperation, even in networks where relationships are unlikely to be long-lived. More recently, Ahn, Isaac, and Salmon (2005) explore the endogeneity of groups in collective action settings relative to a dynamic, strategic pattern of network formation that is contingent on individual histories of cooperative behavior.

These bodies of work are intriguing on methodological as well as substantive grounds. By moving network research into the setting of the small group experimental laboratory, an opportunity is created to study the evolution of networks subject to particular experimental manipulations—manipulations that include variations in institutional arrangements. As we have seen, one limitation of the egocentric network technologies is that they are not able fully to exploit the analytic power of network research (Wasserman and Faust 1994). By pursuing the study of networks in the context of experimental research, the way is paved to exploit more fully the analytic utility of social network methodologies, not only relative to collective action and cooperation, but also with



respect to communication and persuasion. Indeed, these efforts are serving to reinvigorate the vision of small group research in political science envisioned by Verba (1961) nearly fifty years ago.

# 10 Networks and the Role of Groups in Modern Politics

In conclusion, social networks provide an opportunity for political scientists to rediscover one part of the group basis of politics—to rethink and reconceptualize the role of groups in mass politics and public opinion. At the end of the Second (p. 116) World War, when survey research and the empirical study of public opinion were in their infancies, nominal membership in many groups carried enormous political meaning. To say that an American voter was an Italian-American, or a Polish-American, or a German-American, or a white southerner, or a union member indicated a great deal about the voter's politics. Similarly, to say that a European voter was a union member, or a Catholic, or a Protestant similarly transmitted a great deal of information about the voter's location in politics and social structure. The political meaning attached to many of these groups has disappeared or been transformed, while other new groups—e.g. Christian fundamentalists, Green voters—have emerged (Kohler 2005; Levine, Carmines, and Huckfeldt 1997; Pappi 2001). Why have the strength and vitality of these patterns diminished over time? Why have other patterns emerged?

The meaning of group membership has always been anchored in patterns of association and interaction—in the networks within which individuals are imbedded. To say that a group is no longer politically meaningful is really to say that a nominal group no longer serves to define and demarcate patterns of social interaction and communication, because it is through these networks that communication and persuasion occur. In this way, studying public opinion within the context of communication networks creates an opportunity to reintroduce the study of groups in political analysis.

A danger related to conceiving groups in terms of networks is the failure to imbed dyads within larger networks of communication (Mendelberg 2005). This danger is especially pronounced in the context of egocentric networks, where it is perhaps natural—although often misleading—to focus attention on the information exchanges that occur between two individuals. These dyadic exchanges take on heightened levels of significance when they are viewed as contingent on an individual's full range of contacts, and one lesson to be derived from Baker, Ames, and Renno (2006), Lubell and Scholz (2001), and Huckfeldt, Johnson, and Sprague (2004) is that every dyad within a network must be viewed in the context of all the other dyads within the network.<sup>8</sup> In short, individuals, dyads, and networks must be analytically decomposed and reassembled to gain insight into the group basis of politics among citizens.

An important issue with respect to networks and the definition and vitality of groups is the spatial distribution of ties within and among various groups (Gimpel and Schuknecht 2003). In an earlier era, an individual's place of residence played a central role in constructing spatial boundaries on the distribution of communication networks (Fuchs 1955). In the modern era, freeways, subways, cell phones, and telecommuting have produced diffuse networks of interaction and communication. Hence, for some people, the spatial boundaries on communication have been dramatically attenuated, thereby producing an important line of inquiry related to the spatial diffusion of group ties (Baybeck and Huckfeldt 2002). The spatially diffuse nature of communication links is not only important in terms of the spatial (p. 117) attenuation of particular dyads, but also for the relative density of networks, for patterns of weak ties (Granovetter 1973) and structural holes (Burt 1992) within networks, and hence for the spread of political information and opinion in time and space, as well as within and beyond the boundaries of traditionally defined groups.

Finally, reported declines in the levels of social capital (Putnam 2000) often focus on the demise of many traditionally defined groups and organizations. Without denying the important implications that attend the disintegration of any form of social and political organization, it is also important to focus attention on the continuing reformulation that underlies the patterns of association serving as the basis for democratic politics (Pappi 2001; Mondak and Mutz 1997, 2001; Mutz and Mondak 2006). An alternative perspective to the decline of social capital argument is that social organization and social interdependence are endemic to any society, and absent a politically repressive regime (Mondak and Gearing 1998), communication among citizens becomes an irrepressible element of any democratic society. Thus, Tocqueville's (1969) insights regarding the importance of voluntary association to the new American republic are valid for any democratic political system, and a central task of political science is to locate the influential patterns of association and communication that are realized in particular places and times.

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### Notes:

- (1) Calvert's (1985) analysis suggests that rational citizens might also seek out political information from other citizens with whom they disagree.
- (2) For reviews of the historical literature, see Books and Prysby (1991), Huckfeldt (1986), Huckfeldt and Sprague (1995).
- (3) For discussions of related methodological issues see Boyd and Iversen (1979), Bryk and Raudenbush (1992), and Steenbergen and Jones (2002).
- (4) For an interesting example to the contrary see Watts and Strogatz (1998) and Fowler (2005b).
- (5) This particular name generator was used in the 1984 South Bend study (Huckfeldt and Sprague 1995). For analyses of alternative name generators see Huckfeldt et al. (1998b) and Straits (2000).
- (6) There is, however, evidence to suggest that the manner in which disagreement is managed varies across different national settings. See Ikeda and Huckfeldt (2001); Huckfeldt, Ikeda, and Pappi (2005).
- (7) For more examples of scholarly disagreement regarding the extent of citizen disagreement, see Gimpel and Lay (2005) and Anderson and Paskeviciute (2005).
- (8) As Stoker and Jennings (2005) and Zuckerman, Fitzgerald, and Dasovic (2005) show, this is even true for marital dyads.

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