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THE DUAL ROOTS OF OPINION LEADERSHIP

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Abstract. Political scientists often focus on the link between personal attributes and the flow of political information. In this paper, I argue that opinion-leadership may not be as singularly rooted in the presence of a certain predisposition or set of personal characteristics as suggested in previous political opinion leadership studies. I develop two sets of hypotheses: the first derived from the perspective that opinion leadership is a function of a recipe of attributes, and the second derived from the perspective that opinion leadership is tied to the characteristics of the social milieu in which the citizen is embedded. I test these hypotheses empirically using a data set constructed from two surveys of individuals in the New York metropolitan area. The results suggest that while opinion leaders possess attributes that distinguish them from non-leaders, they appear to gain influence through their informational advantages relative to others in the same environment.

Opinion leaders have been considered key to the flow of political information since the early Columbia voting studies. Failing to find a direct influence of the media on many voters' decisions, Lazarsfeld and his colleagues (1948) argued that the flow of information from mass media to individual is mediated by self-designated opinion leaders who enjoy the social power that holding and transmitting information gives them. In the decades of research that followed, political scientists and scholars of communication largely tried to determine whether opinion leaders possessed a particular set of socio-economic characteristics, media habits, level of political involvement or political knowledge that set them apart from non-leaders (Anderson 1962; Kingdon 1970; Robinson 1976; Levy 1978; Black 1982).

This tendency for political scientists to focus on the link between personal attributes and flows of political information is also evident in recent studies of information shortcuts and cue-taking. These studies largely rely on the idea that citizens use the presence of specific characteristics – such as "likeability" (Brady and Sniderman 1985), elite status (Zaller 1992), and known issue biases (Calvert 1985) – as signals indicating that the bearer possesses reliable or accurate political information. Relatively uninformed citizens then rely on these individuals when making decisions.

In this paper, I argue that opinion-leadership may not be as singularly rooted in the presence of a certain predisposition or set of personal characteristics, as suggested in previous political opinion leadership studies. I follow work in sociology by Burt (1999) and argue that opinion leaders gain influence through "spanning structural holes" – by occupying a unique position in their social environment. Thus, according to this perspective, personal attributes that may be associated with opinion leadership in one context may not be associated with opinion leadership in a second.

I proceed by first considering the role opinion leaders play in politics and markets. Then, I develop a set of empirically testable hypotheses that I use to investigate how opinion leaders are different from non-leaders and whether those differences are more closely tied to their set of individual characteristics or position in the social environment. I test my hypotheses using information from two surveys that I use to construct a data set of approximately 230 respondent-discussant dyads. I consider the results of my empirical analyses in the conclusion.

Still in the Spotlight: Opinion Leaders in Politics and Markets.

While conceived and tested over 50 years ago, the opinion leader concept is still evident in recent work in political science. For instance, this idea is critical to Mondak's (1995) investigation of the relationship between media exposure and interpersonal discussion during a newspaper strike in Pittsburgh. His findings demonstrate that media exposure fuels political discussion – providing

important evidence of a two-step flow of political information. Other work is more closely linked to the literature on information heuristics and cue-taking and illustrates how relatively uninformed citizens can effectively participate in democratic government by relying on others when making political decisions (Brady and Sniderman 1985; Lupia 1992). The idea that interpersonal discussion can enhance "…the collective capacities of citizens to play meaningful roles in democratic politics." is also key to recent work by Robert Huckfeldt (2001: 436). Studying political communication during the 1996 election, Huckfeldt (2001) demonstrates that citizens are able to recognize expert citizens and talk more to others that have higher levels of expertise (see also Huckfeldt and Sprague 1995).

In recent work in other disciplines, researchers have used the opinion leader concept to explain consumer behavior in private markets. For instance, cascade models developed in economics are based on the idea that citizens may simply select a course of action based on the signals (behavior) of others -- a 'cascade' or fad occurs as more and more individuals make the same purchasing decision. In these models, the cascade leaders play a role akin to the opinion leader described by Lazarsfeld and colleagues — the information held by the cascade leaders provides the basis for the decisions made by many citizens (Bikchandi, Hirschleifer, and Welch 1992). In business and marketing, the idea that a small group of influential opinion leaders may accelerate or block the adoption of a product is central to a large number of studies (see Rogers 1995). Thus, the concept of opinion-leadership continues to be evident in research grounded in several different disciplines.

Opinion Leadership as a Recipe of Attributes

Much research focused on identifying the traits of opinion leaders has concentrated on their socio-economic characteristics and media habits (see Kopller 1984). In *The People's Choice,* Lazarsfeld and colleagues found opinion leaders to be distributed throughout all social classes and occupations. "[I]t was concluded that opinion leaders… are very much like the people whom they influence" Katz (1957: 63). Later research by Kingdon (1970) found that opinion leaders were in fact more elite than non-leaders, but also that "…opinion leaders *within* occupational and educational strata are better informed than non-leaders in the same strata" (1970: 259). Thus, while opinion leaders may be more elite than non-leaders, previous research suggests that opinion leaders are not simply high status citizens.

The authors of *The People's Choice* found more significant differences between leaders and non-leaders when examining their media habits – they found that opinion leaders paid greater attention to print media and radio. After the publication of this 1940 study, however, researchers were challenged by the changing media habits of many Americans – would a two-step flow of

information still exist in a society dominated by television? While studies by Kingdon (1970) and Robinson (1976) found that opinion leaders were not more likely to rely on television, other evidence suggested that opinion leaders used television differently than non leaders. They were more likely to use television to increase their knowledge of political affairs and to express dissatisfaction with the content of television news (Levy 1978). Opinion leaders were also more likely to report relying on high quality sources such as newspapers for political information (Levy 1978).

H1: Opinion leaders, ceteris paribus, will rely more on higher quality sources of information. than non-leaders.

Other research has questioned whether the idea of a *two*-step flow of information is too simplistic. Work as early as Menzel and Katz (1955: 352) suggested that it is necessary "..to propose amendments to the two-step flow of communication…" Many of these amendments emphasize the importance of interpersonal discussion as an additional source of information (i.e. Robinson 1976). For instance, Weimann (1982) proposes a multi-step model in which less well-connected "marginals" provide information to centrally-located opinion leaders, who then influence other citizens. These marginals can be thought of as "weak ties," individuals with whom the opinion leaders interact less frequently, as opposed to "strong ties," such as close family and friends (Granovetter 1973). According to Granovetter, the advantage of these weak ties is their ability to span different networks, allowing these contacts to provide opinion leaders with potentially valuable, new information.

H2: Opinion leaders, ceteris paribus, will rely more on interpersonal sources of information than non-leaders.

Closely tied to the two step flow of information is the opinion leader's level of involvement within a particular issue area. Research suggests that opinion leaders are more likely than non-leaders to engage in political behavior such as contributing to a party or candidate, voting, and attending political meetings (Kingdon 1970; Black 1982). In the area of consumer affairs, opinion leaders are more involved with a particular product class (Chan and Misra 1990; Jacoby and Hoyer 1981). These higher levels of involvement may increase an opinion leader's motivation to disseminate information about a "product," as well as reduce the cognitive costs associated with processing new information, allowing for a greater accumulation of knowledge over time (Bloch and Richins 1983).

H3: Opinion leaders, ceteris paribus, will be more involved in a particular issue or product area than non-leaders.

Thus, research suggests that opinion leaders are likely to use higher quality information sources and to be more involved in a particular issue or product area. Is it because of these attributes that leaders influence non-leaders? Or do opinion leaders gain influence through other mechanisms?

The Social Capital of Opinion Leaders

In the Columbia voting studies, researchers concluded that influence is related to 1) who one is 2) what one knows 3) whom one knows (Katz 1957: 73). The importance of "whom one knows" was subdivided into two components. The first is the idea of accessibility. Often opinion leaders were found to be centrally located in the networks in which they are embedded. A second notion is the idea that an "...individual may be influential not only because people within his group look to him for advice but also because of whom he knows outside his group." For instance, in the study by Menzel and Katz (1955), more influential doctors were more likely to attend out-of-town meetings and to maintain contact with more diverse places. The importance of these types of contacts is also echoed in the research previously discussed by Weimann (1982) and Robinson (1976).

Recent research by Burt builds on this idea of the importance of in and out group contacts. Burt argues that opinion leaders play a key role in the flow of information because of existing social capital, or in the language used by Burt, because these leaders span "structural holes" – they have relationships that allow them to form bridges between groups that would otherwise have no contact (Burt 1999). There exists, however, a critical distinction between this argument made by Burt and those made in previous work. According to Burt, opinion leaders gain influence not only because they have contacts with members outside of the group but also because they possess contacts that other group members *lack*. These contacts provide opinion leaders with unique access to potentially valuable information.

From this perspective, opinion leadership is not simply tied to a set of characteristics but instead also depends on the nature of the social environment in which the opinion leader is embedded. An individual with extensive contacts that is an opinion leader in one group may not be an opinion leader in a second group in which other individuals possess similar contacts.

H4: Opinion leaders, ceteris paribus, will span more structural holes than non-leaders.

In addition, spanning structural holes should, in the language of Burt, "generate information benefits" (1992: 47). Thus, better information is the social capital that results from spanning structural holes. If opinion leaders are more likely to maintain these relationships than non-leaders, then they should also possess higher quality information than others in the same group.

H4a: Opinion leaders, ceteris paribus, will possess higher quality information than others in the same group.

Method

My empirical study is based on survey data collected by Polimetrics Laboratory for Political and Social Research at The Ohio State University. Although originally constructed to study school choice, the survey also contained questions related to opinion leaders. In the spring of 1995, interviewers contacted 400 residents in each of 4 school districts in the New York metropolitan area, sampling the person in the household who "makes the decisions about the education of children" in grades K-8. Interviews were conducted in English and Spanish. The response rate among eligible households was approximately 47%.[1] When answering school-specific questions, respondents were asked to focus on the child in grades K-8 whose birthday came next in the calendar year.

In the survey, interviewers asked respondents to provide the names of up to three people with whom they had discussed their child's education during the last six months, excluding their spouse and child's teacher. Note that the context in which these names were generated is narrower than the "discusses important matters" question used in the General Social Survey (1985; 1987) and more similar to the domain specific context used by Huckfeldt and Sprague (1995: 41; see also Arabie and Wind 1994). For each person named, interviewers elicited information about the "locus" of the relationship, e.g., was the discussant a friend, a relative, a coworker?

Identifying the Opinion Leaders. In *The People's Choice*, respondents identified themselves as opinion leaders by responding affirmatively to the following questions: 1) Have you recently tried to convince anyone of your political ideas? 2) Has anyone recently asked you for advice on a political question? (Lazarsfeld et al. 1948: 50). This method of self-identification was recognized by the Columbia researchers as a weakness of their research (Katz 1957: 65), and subsequent work has further questioned the validity and usefulness of this measure. For instance, Hamilton (1971) found that only 39% of respondents classified as opinion leaders based on questions about actual advice-giving would also be classified as opinion leaders based on a question about "one's own influentiality." Research in psychology has also demonstrated that individuals generally evaluate themselves more positively than others do around them (Taylor and Brown 1988), and that people scoring higher on a social desirability scale are more likely to admit to strategies such as persuasion (Falbo 1977). Thus, individuals, particularly those seeking social approval, may overestimate their influence on others, inflating rates of opinion leadership (see also Weimann 1994: 29-51). Moreover, this method of self-identification did not allow the Columbia researchers to compare opinion leaders

[1] Population and sample demographics are available by request from the author.

with their followers (Katz 1957: 64), nor allow researchers to investigate the advantages of opinion leaders relative to non-leaders in the same social environment.

In subsequent studies, the Columbia researchers attempted to address these shortcomings by asking respondents whom they turned to for information, and then designating those individuals as opinion leaders. This method was not tied to individuals' perceptions of their own influence, was considered higher in validity, and permitted the Columbia researchers to move beyond general comparisons. This method, however, presented the additional cost and difficulty of locating and interviewing the opinion leaders. As discussed further by Katz (1957: 67):

> The authors of *The People's Choice* had said that "asking people to whom they turn and then investigating the interaction between advisors and advisees…would be extremely difficult if not impossible." And, in fact, it proved to be extremely difficult. Many problems were encountered in the field work, the result of which was that not all the "snowball" interviews could be completed.

While the Columbia researchers were more successful in studying both adviser and advisee in small group settings, it was difficult to rely on this methodology when focusing on larger samples. Perhaps as a consequence, in many subsequent studies using mass survey data, researchers have continued to rely on self-identification to identify opinion leaders (i.e. Robinson 1976: 310). The use of this methodology, however, has also limited the study of opinion leadership.

In the Polimetrics laboratory survey, interviewers asked respondents naming three education discussants to identify the discussant that gives "the most useful information about schools." In the analyses that follow, I rely on the answers to this question to identify opinion leaders, rather than self-identification. Thus, among the discussants named by each respondent, one discussant is identified as an opinion leader and the remaining discussants are identified as non-leaders. Note that because this question was only asked of respondents naming three discussants, my analyses are based on a non-random subset of respondents.[2] As I consider in the paper's conclusion, this limits the generalizability of my results. Also note, however, that focusing on this subset of respondents allows me to take advantage of the survey's network battery, which makes valuable information about the social environments in which opinion leaders are embedded available in a mass survey setting. I

[2] 47% of parents surveyed in New Jersey, and 24% of parents surveyed in New York named three discussants. 39% of all respondents are white and they have completed an average of 14 years of

further supplement this information with data gathered from subsequent snowball interviews.

Snowballs. In the summer of 1996, interviewers at S.U.N.Y. at Stony Brook conducted a phone survey of the discussants named in parents' education networks. The 1600 main respondents had named a total of 2592 education discussants. Because many respondents declined to provide a full name or their discussants' phone numbers, interviewers were only able to contact approximately 700 discussants, resulting in 290 completed interviews. Thus, this low number reflects the difficulties first recognized by Lazarsfeld and his colleagues in relying on "snowball" interviews.[3]

The snowball interviews, however, provide critical information about the characteristics and behavior of the leaders and non-leaders central to many of the analyses in this paper. Interviewers asked discussants that identified themselves as parents of a child in grades K-8 and that lived within one of the study's 4 school districts a number of school-specific questions about their children's schools. Interviewers asked all discussants questions designed to gauge the quality of the information they hold about schools. Comparing the responses provided by discussants in the same network allows me to investigate the degree to which opinion leaders gain influence because of their informational advantages relative to others in the same environment.

I also pair each discussant's responses to the snowball survey with the main respondent's answers to questions about who provides the "most useful information in the network" and about the loci occupied by each discussant. To simplify the presentation of my results, I limit my investigation to the 232 discussants completing the snowball survey named by respondents with children in the public schools. This dyad data set provides the basis for the analyses that follow.

Results

A Recipe of Attributes. In this section, I begin by examining the information sources that leaders and non-leaders use to gather information. I first consider opinion leaders' and non-leaders' use of media and then their use of interpersonal sources of information. After investigating their use of these information sources, I turn to consider their levels of involvement in education.

The Use of Newsletters and Television. In the Columbia voting studies, researchers found that opinion leaders paid greater attention to high quality sources of information such as newspapers and

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schooling. 58% of the subsample are white and members of this group have completed an average of 15 years of schooling.

magazines that provided detailed political information useful to other citizens. In the domain of schools, opinion leaders should be able to gather detailed, school-based information by paying greater attention to print media distributed by the district and local schools, such as newsletters and brochures (Taylor and Alves 1999). If education opinion leaders seek out potentially useful information, their use of other media, however, is unlikely to differ from other citizens – stories from mass media such as television are often more likely to focus on the politics of the local school board than on factors such as test scores and teacher quality (see Schneider et al. 2000: 112-113).

I begin my investigation by simply comparing opinion leaders' and non-leaders' responses to questions asking how useful they found school newsletters and mass media when searching for information about schools. These comparisons reveal that 55% of opinion leaders reported finding school-based sources of information such as newsletters useful, compared to 45% of non-leaders ($p \leq .10$). Fifty-five percent of opinion leaders found mass media such as television useful, and 54% of non-leaders found these sources useful (n.s.).

While these comparisons suggest that opinion leaders are more likely than non-leaders to rely on higher quality sources of information, they leave unanswered the question of whether opinion leaders use information sources differently simply because they are high status citizens. Thus, I estimate two probit models that allow me to explore whether opinion leaders search for information differently, even after controlling for socio-economic characteristics that have been found in previous work to be important predictors of information search behavior. These models take on the form:

Use of information source = f (opinion leadership, control characteristics)

where the use of information source is represented by two dichotomous variables. In the first model, the variable takes on a value of 1 when discussants find newsletters and brochures useful, and in the second model, the variable takes on a value of 1 when discussants find mass media such as television and newspapers useful.

And the variable for opinion leadership is a dichotomous variable that indicates whether the main respondent has identified the discussant as giving the most useful information in the network.

And the control characteristics are:

Education. I use the discussant's years of schooling as a proxy for cognitive ability and training in the use of information. Research has shown that information search is driven in part by the cognitive

[3] Information comparing the demographic characteristics of the discussants named by the main survey

ability of individuals (Kardes 1994). Education enhances the ability of individuals to engage in wider information search and reduces the cost of information processing.

Race. Race is represented by a dichotomous variable that identifies whether the discussant is a member of a minority group. Racial identification acts as a proxy for unmeasured socio-economic factors that relate to the extent of a discussant's training in the use of information – where non-whites are more likely to possess lower levels of educational attainment.

Length of Residence. Citizens gain knowledge about schools as they live longer in the district (Teske et al. 1993). This knowledge should decrease the cost of searching for and processing additional information. Thus, I include the number of years discussants have lived in their school district.

Male. Men have been shown to be less knowledgeable than women about the local schools. These differences arise presumably because of socialization patterns that affect motivation and ability to obtain this knowledge (Delli Carpini and Keeter 1996: 203-209).

New York. The context in which parents live may affect the flow of information about schools (Roch, Schneider, and Teske 1998). Thus, I include a dichotomous variable that indicates whether a discussant talks about schools with a parent that lives in New York City (1) or New Jersey (0).

School Attendance. Discussants with *No School-Aged Children* should be less motivated to gather information about schools.

I estimate these models in a dyad data set constructed from the main and snowball surveys. I rely on a probit estimation procedure that provides pseudo maximum likelihood estimates and Huber standard errors. (See Skinner 1989 for a discussion of pseudo maximum likelihood estimates.) I employ this procedure rather than the standard probit procedure to account for the inclusion of the same respondent in multiple dyads. Thus, these standard errors have been adjusted to take into account dependence among observations in defined clusters – where each cluster includes all the discussants named by a particular respondent (Rogers 1993; see also Huber 1967).

INSERT TABLE 1 ABOUT HERE

The results in the first column of Table 1 demonstrate that even after controlling for social status, discussants identified as opinion leaders are more likely than non-leaders to rely on newsletters for information about schools. Thus, similar to other studies that have examined the role of opinion leaders in politics and markets, opinion leaders in the flow of information about education

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respondents and the discussants completing the snowball survey is available by request from the author.

appear to pay greater attention to higher quality sources of information than other citizens.

What about the use of other media? The results in the second column of Table 1 also parallel those of previous studies (Robinson 1976; Kingdon 1970) – opinion leaders are not more likely to rely on mass media, such as television, for information than non-leaders. This finding is not surprising given the lack of quality information about schools available through these sources. Note that discussants that identify themselves as members of a minority group and those that live in New Jersey are more likely to rely on mass media for information about schools.

The Use of Interpersonal Sources of Information. In addition to providing others with second-hand information from media, research suggests that opinion leaders may also provide valuable recountings of information gained through interpersonal discussion (Weimann 1982). Previous research in education has also documented that "word of mouth" and "talking to others" are among the most common ways that parents learn about schools (Witte et al. 1992, Wilson 1992: 22).

In the snowball survey, respondents were asked whether they consider friends and acquaintances a useful source of information about schools. Ninety-eight percent of opinion leaders identified friends and acquaintances as useful, compared to 86% of non-leaders ($p \leq .05$). To investigate whether opinion leaders, ceteris paribus, are more likely to find interpersonal discussion useful, I use discussants' answers to this question as a dependent variable in a probit model. My measure of opinion leadership is the same as in the previous models, and I again rely on an estimation procedure that takes into account the clustering of discussants within respondents.[4]

The results in the third column of Table 1 indicate that opinion leaders, ceteris paribus, are more likely to find friends and acquaintances useful sources of information. Note, however, that the predicted baseline probability is very high – over 90% -- indicating that a high percentage of other citizens are also likely to rely on friends and acquaintances for information. This high percentage helps confirm the importance of interpersonal discussion among this sample of citizens.

Are Opinion Leaders in Education More Involved with the "Product"? One way that researchers have been able to explain the different information gathering habits of opinion leaders is by their higher levels of involvement with the product. In the area of education, citizen involvement, and particularly that of parents, is often considered necessary for the successful co-production of education and the creation of effective school communities (See Schneider and Coleman 1993). High levels of

involvement may also help decrease the costs of acquiring new information and may also motivate opinion leaders to disseminate information.

In the snowball survey, discussants were asked a series of questions about their involvement in the schools. I focus on two questions designed to measure whether they attend activities at the local schools and whether they have ever participated in an organization devoted to school issues, such as the PTA. Simple cross-tabulations reveal that 76% of opinion leaders reported attending activities held at the school, compared to 60% of non-leaders ($p \leq .05$). Ninety-one percent of leaders and 82% of non-leaders reported having attended a meeting of a parent-teacher organization ($p \leq .15$).

I use discussants' answers to these questions as dependent variables in two probit models that allow me to test whether opinion leaders, ceteris paribus, are more involved in these activities than other citizens.[5] I include the same measure of opinion leadership and predictor variables as in the previous analyses. Higher status discussants, as well as those that have lived longer in the district, should be more likely to be involved in the schools (Putnam 1995: 667; Brehm and Rahn 1997). I estimate both models using the same estimation procedure as in the models reported in Table 1.

INSERT TABLE 2 ABOUT HERE

The results in Table 2 suggest that after controlling for socio-economic characteristics, opinion leaders are not significantly more likely to be involved in the local schools. Note, however, that in both models, the coefficients for the opinion leader variable are positively signed and, in the school activities model, the coefficient is close to conventional levels of significance ($p \leq .10$, one-tail test). Paralleling the findings of previous research, more educated citizens are also significantly more likely to attend meetings of an organization devoted to school issues, such as the PTA.

Thus far, my analyses suggest that opinion leaders possess attributes that distinguish them from non-leaders – they are more likely to use higher quality sources of information and rely more on interpersonal discussion. They also appear somewhat more likely to be involved in school activities. I now turn to consider a second set of hypotheses based on the notion that opinion leaders gain influence because of their relative position in the social environment.

Considering Opinion Leaders in Context. According to Burt, opinion leaders possess

[4] The control variable male was included in the initial estimation of the model. It was dropped, however, during the estimation routine in STATA because they predicted the outcome perfectly.
[5] The question about attending school activities was only asked of parents.

informational advantages relative to other citizens because they have contacts outside of their immediate environment that other citizens lack. Burt describes these contacts as ones that allow opinion leaders to span "structural holes." Following Burt's (1992) concept of structural holes, I created a redundancy index that reflects the number of loci a discussant occupies that are different from the loci occupied by the other discussants in the same network.[6] For instance, a discussant, who occupies a unique locus, i.e. the discussant is the only network member that attends the same place of worship as the respondent, receives a score of 1. This discussant should be more likely to have access to different and useful information. In contrast, when all three members of a network occupy the same locus, i.e. work at the same place as the respondent, then all the discussants receive a score of 0. The resulting index ranges from 0 to 3 or more.

Do leaders span more structural holes than non-leaders? Simple comparisons reveal that 45% of opinion leaders span 1 or more structural holes, compared to 22% of non-leaders ($p \leq .05$). To investigate whether opinion leaders, ceteris paribus, span more structural holes, I use this index as a dependent variable in an ordered probit model that includes as predictors the same measure of opinion leadership and control variables as in the previous models. The estimation procedure again takes into account clustering.

INSERT TABLE 3 ABOUT HERE

The results in Table 3 show that opinion leaders in education, ceteris paribus, are more likely to span structural holes than non-leaders. Thus, these opinion leaders are more likely than other citizens to act as bridges between groups -- gaining access to potentially valuable information that other members of a group may not be able to gather through their own, more limited contacts. Note that discussants that have lived longer in the school district are also likely to span more structural holes. This result may be due to the accrual of social contacts over time (van der Poel 1993).

Thus, the position of the citizen in the social environment can increase the likelihood that a citizen is identified as an opinion leader. But, do individual attributes or place in the social context play a more important role in determining opinion leadership? To address this question, I estimate a probit model in which the dependent variable indicates whether the discussant has been identified as

[6] Discussants were classified as occupying one or more of the 9 loci. Thus, I rely on the idea of structural equivalence when creating my measure of structural holes. Cohesion, the closeness of the relationship between discussants, is also an important indicator of a structural hole, however I lack the information in the survey to measure this.

an opinion leader. As predictor variables, I include the same set of controls as in the previous models, as well as measures of the discussants' use of information sources and involvement in the schools, and the measure of structural holes from the previous model. I estimate this model while relying on the same estimation procedure as used in the models presented in Tables 1, 2 and 3.

INSERT TABLE 4 ABOUT HERE

The results in Table 4 demonstrate that spanning structural holes clearly increases the probability of a discussant being identified as an opinion leader. Citizens gain influence through their position in the social environment. Notice, however, that citizens' use of information sources and their involvement with the 'product' also sets opinion leaders apart from non-leaders. Opinion leaders are significantly more likely to rely on school newsletters for information and are more likely to attend school activities, even after controlling for demographic characteristics.

Examining the changes in predicted probabilities that occur as the values of the structural hole variable changes reveals that citizens spanning a large number of structural holes are about five times as likely to be considered opinion leaders. The increases in probability associated with attending schooling activities and reading school newsletters are somewhat smaller but still of substantive importance – in each case citizens are about twice as likely to be identified as opinion leaders than citizens that do not engage in those activities.

Accuracy of Information. If opinion leaders gain influence through their advantages relative to other citizens, as suggested by Burt (1999), then they should possess higher quality information than other citizens in their network. While the notion that opinion leaders would be better informed than others around them was implicit in Katz and Lazarsfeld's (1955: 148) identification of opinion leaders as individuals "…more likely than [their] friends to be asked for advice," this and subsequent research has not compared the quality of information held by opinion leaders to others in the same group.

In the snowball survey, parents were asked a series of questions designed to gauge the accuracy of their information about their child's school. This series included questions asking parents to name the percentages of students that are African-American, Hispanic, reading on grade level, performing math on grade level, and receiving welfare such as Aid to Families with Dependent Children. Simple comparisons of the error in naming these percentages reveal no significant differences between leaders and non-leaders. For example, both are off an average of about 18 points when estimating the percentage of students performing math on grade level, and approximately 8

points when estimating the percentage of students that are African-American. Following Burt, I expect, however, that the influence of opinion leaders, should be based on the quality of their information relative to others.

I assess the relative accuracy of the opinion leader compared to those non-leaders in the same network by estimating an ordered probit model in which my dependent variable is the number of times that a particular discussant is more accurate than the other discussants in the same network. Thus, if one discussant is most accurate in naming the percentage of students reading on grade level and receiving welfare, then for this discussant, *relative accuracy* takes on a value of 2.[7] I include the same control characteristics as in the models reported in Table 1. I report, as in the previous models, standard errors corrected for clustering.

INSERT TABLE 5 ABOUT HERE

The results demonstrate that opinion leaders are more accurate than non-leaders in the same network. Thus, similar to Huckfeldt (2001), these findings suggest that citizens "…recognize a valuable source of political information when they encounter one…" (Huckfeldt 2001: 437). Note, however, these findings indicate that citizens rely on others who are more accurate *relative* to others in the same social environment. These results also differ from previous opinion-leadership studies that have compared the knowledge of opinion leaders and non-leaders generally (Kingdon 1970; Jacoby and Hoyer 1981). In addition, men, on average, are more accurate than women when answering questions about their children's schools. While this effect is inconsistent with research on gender and schooling, it is consistent with other studies of political knowledge (Delli Carpini and Keeter 1996: 156-157).

Conclusion: Considering the Dual Roots of Opinion Leadership

This research has examined the role of social context in determining opinion leadership, providing a valuable extension to recent studies that focus on the link between individual attributes

[7] If no discussant in the network provided an estimate for a variable – then the value of the *relative accuracy* variable does not change for any discussant. The variable was also coded 0 in cases when the discussants are tied. I do not use a distance measure since the discussants were asked about the school that their child attends, and thus may be estimating responses for different schools. Discussants received an additional count of 1 when the other members of the network failed to provide an estimate of a particular school characteristic. All networks originally contained three discussants, however in cases when only two snowball interviews were available, the responses of those discussants were then compared.

and the flow of political information. I extend these works by arguing that opinion-leadership is not singularly rooted in the presence of a certain predisposition or set of personal characteristics, but instead is also tied to the position that the citizen occupies in the social environment.

I have tested five hypotheses – the first three derived from the perspective that opinion leadership is a function of a recipe of attributes, and the latter two derived from the perspective that opinion leadership is tied to the characteristics of the social milieu in which the citizen is embedded. While the first set of results demonstrate that education opinion leaders do possess attributes that distinguish them from non-leaders, the second set demonstrates that social context plays a key role in determining opinion leadership –spanning structural holes has a greater effect on the likelihood of being considered an opinion leader than attributes such as the use of media and involvement in the schools. In general, opinion leaders do not appear to be more informed than other citizens, however they are more informed than others in the same social network. Thus, informed individuals that are opinion leaders in one context may not act as opinion leaders in a second in which other individuals hold similar information and maintain similar contacts. Information search and issue involvement are not always sufficient to lead one into opinion leadership.

It is important, however, to consider the tentative nature of these conclusions and the limits to their generalizability. Research has shown that higher status individuals have larger discussion networks (Marsden 1987). In this paper, I rely on survey respondents that named three discussants – these respondents are better educated, more likely to be white and to live in the suburbs. The discussants named by these higher status respondents provide the sampling frame for the snowball survey. Better educated individuals and white individuals are likely to talk with individuals that are also white and highly educated (Schneider et al. 1997). As a result, the citizens in my samples are more likely than the average person in their neighborhoods to maintain a network about education issues and are more likely, given the positive relationship between education and information search behavior, to rely on higher quality media when looking for information about schools.

If opinion leaders gain influence through their advantages relative to others in the same environment, however, then the same relative differences between leaders and non-leaders, which I observe in this paper, should exist even among leaders and non-leaders of lower SES status. Yet, certain baseline characteristics also appear necessary for opinion leadership. While it is possible to imagine groups of uninformed individuals in which it would take very little effort to be an opinion leader, it appears unlikely that an individual who pays no attention to the media or engages in almost no interpersonal discussion could act as an opinion leader. Assuming that such baseline characteristics are necessary, the importance of individual characteristics relative to the social

environment may be greater for such groups than suggested by the results documented in this paper. Thus, future work is necessary to confirm the generalizability of these results, particularly across groups of low status. Note, however, that the main survey relied on in this study originally included low status respondents, but most of these respondents simply did not name education discussants. Therefore, the higher SES bias of this sample may be most effectively minimized by relying on methods, such as in-person structured interviews, that have been shown to be more effective in eliciting the cooperation of low SES respondents (Fowler 1993: 54-68).

This research attempts to address a key issue in the flow of political information – what are the processes through which opinion leaders gain influence over other citizens? A significant number of studies have demonstrated that most citizens are uninformed about politics and policy. The two-step flow hypothesis proposed by Lazarsfeld and colleagues suggests, however, that if citizens can follow the lead of more informed opinion leaders, then perhaps it is possible to consider the decisions of citizens – collectively – as based on more information than when considered individually (and than suggested by surveys). Much like the leaders of the information cascades described by Hirshleifer and colleagues, the opinion leader provides information that forms the basis for decisions made by many other citizens. The quality of the information provided by the opinion leader then in part determines the quality of the decisions made by those citizens in the same social milieu.

Thus, understanding whom the opinion leaders are that citizens may rely on when making decisions is key to our understanding of democratic governance. This research suggests that opinion leadership is rooted in the attributes of individuals and in the characteristics of the social milieu in which they are embedded.

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Table 1. Probit Models of the Use of Information Sources by Discussants.

	Finds Newsletters Useful		**Finds Television Useful**		**Finds Friends Useful**	
	Coefficient (SE)	Change in Probability	Coefficient (SE)	Change in Probability	Coefficient (SE)	Change in Probability
Opinion Leader	.357* (.203)	.141	.120 (.205)	.048	.847** (.429)	.061
Education	.066 (.058)	.054	-.056 (.056)	-.047	.120* (.071)	.034
Minority Group	.465 (.355)	.183	.648** (.311)	.115	-.658* (.373)	-.138
Length of Residence	.005 (.016)	.014	-.001 (.016)	-.003	-.007 (.027)	.007
Male	-.379 (.391)	-.142	-.604 (.405)	-.223		
No School-Aged Children	-.875** (.411)	-.288	.486 (.361)	.189	-.065 (.438)	.009
New York	-.480 (.349)	-.176	-.330 (.330)	-.128	.284 (.426)	.031
Constant	-1.201 (.929)		.795 (.919)		-.283 (1.208)	
Wald χ^2	12.26*		12.39*		16.08**	
Predicted Prob.		.440		.474		.929
N	145		144		144	

** p≤.1 ** p ≤.05 *** p≤.01*, two-tail test

Source: Dyad data set constructed by pairing responses from the School Choice Survey and Snowball Survey.

Notes: Numbers in parentheses are robust standard errors. Changes in predicted probability are for a 0 to 1 change in the dummy variables included in the model, and for a +/- ½ standard deviation change for continuous variables (a change from 14.1 to 16.2 years for education and a change from 7.7 to 15.0 years for length of residence). Changes in predicted probabilities were calculated while holding the dummy variables at the following values: Male was held at 0 (female), Minority at 0 (white), New York at 0 (New Jersey), No School-Aged Children at 0 (school-aged child)and Opinion Leader at 0 (non-leader). The variables Length of Residence and Education were held at their means (11.3 years and 15.2 years). The variable "male" was dropped from the model "find friends useful" during estimation (predicts outcome perfectly).

Table 2. Probit Models of the Involvement of Discussants in School Activities.

	Attend School Activities		**Attend PTA Meetings**	
	Coefficient (SE)	Change in Probability	Coefficient (SE)	Change in Probability
Opinion Leader	.297	.119	.311	.053
	(.224)		(.308)	
Education	.113	.090	.134*	.058
	(.073)		(.076)	
Minority Group	-.305	-.119	.001	.000
	(.400)		(.400)	
Length of	-.011	-.084	.020	.083
Residence	(.018)		(.021)	
Male	.774	.236	-.406	-.103
	(.572)		(.450)	
No School-Aged			-1.134**	-.368
Children			(.339)	
New York	.291	.104	.173	.032
	(.392)		(.450)	
Constant	-1.264		-1.113	
	(1.270)		(1.262)	
Wald χ^2	11.12*		12.52**	
Predicted Prob.		.629		.876
N	130		145	

** $p \leq .1$ ** $p \leq .05$ *** $p \leq .01$*, two-tail test

Source: Dyad data set constructed by pairing responses from the School Choice Survey and Snowball Survey.

Notes: Numbers in parentheses are robust standard errors. Changes in predicted probability are for a 0 to 1 change in the dummy variables included in the model, and for a +/- ½ standard deviation change for continuous variables (a change from 14.1 to 16.2 years for Education and from 7.7 to 15.0 years for Length of Residence). Changes in predicted probabilities were calculated while holding the dummy variables at the following values: Male was held at 0 (female), Minority at 0 (white), New York at 0 (New Jersey), No School-Aged Children at 0 (school-aged child)and Opinion Leader at 0 (non-leader). The variables Length of Residence and Education were held at their means (11.3 years and 15.2 years). The variable "No School-aged Children" is not included in the model "attends school activities" since this dependent variable is only available for discussants that identified themselves as parents of a school-aged child.

Table 3. Ordered Probit Model of the Number of Structural Holes Spanned by Discussants.

	Number of Structural Holes	
	Coefficient (SE)	Change in Probability (No Unique Loci)
Opinion Leader	.615***	-.221
	(.220)	
Education	-.001	.001
	(.055)	
Minority Group	-.018	.005
	(.295)	
Length of Residence	-.033**	-.073
	(.014)	
Male	.018	.003
	(.381)	
No School-Aged Children	.244	-.080
	(.312)	
New York	-.246	.068
	(.317)	
Cut 1	1.091	
Cut 2	1.859	
Cut 3	2.425	
Wald χ^2 (7)	12.83*	
Predicted Prob.		.770
N	146	

** $p \leq .1$ ** $p \leq .05$ *** $p \leq .01$*, two-tail test

Source: Dyad data set constructed by pairing responses from the School Choice Survey and Snowball Survey.

Notes: Numbers in parentheses are robust standard errors. Changes in predicted probability are for a 0 to 1 change in the dummy variables included in the model, and for a +/- ½ standard deviation change for continuous variables (a change from 14.1 to 16.2 years for Education and a change from 7.7 to 15.0 years for Length of Residence). Changes in predicted probabilities were calculated for the category "occupy no unique loci" while holding the dummy variables at the following values: Male was held at 0 (female), Minority at 0 (white), New York at 0 (New Jersey), No School-Aged Children at 0 (school-aged child) and Opinion Leader at 0 (non-leader). The variables Length of Residence and Education were held at their means (11.3 years and 15.2 years). *Cut 1 etc.* refer to cut-points on a standardized normal distribution that are used to calculate predicted probabilities for each category of the dependent variable.

Table 4. Probit Model of the Attributes and Network Position of Opinion Leaders.

	Opinion Leader	
	Coefficient (SE)	Change in Probability
Spans Structural Holes	.405**	.287
	(.169)	
Finds Newsletters Useful	.454**	.068
	(.221)	
Finds TV Useful	.050	.001
	(.226)	
Finds Friends Useful	.595	.098
	(.579)	
Attends School Activities	.416*	.061
	(.254)	
Attends PTA Meetings	.080	.009
	(.451)	
Education	.065	.056
	(.068)	
Minority Group	-.071	-.007
	(.344)	
Length of Residence	-.008	-.016
	(.017)	
Male	-.596	-.038
	(.515)	
New York	-.048	-.005
	(.379)	
Constant	-2.541*	
	(1.304)	
Wald χ^2 (11)	20.57**	
Predicted Prob.		.051
N	128	

** $p \leq .1$ ** $p \leq .05$ *** $p \leq .01$*, two-tail test

Source: Dyad data set constructed by pairing responses from the School Choice Survey and Snowball Survey.

Notes: Numbers in parentheses are robust standard errors. Changes in predicted probability are for a 0 to 1 change in dummy variables, a 0 to 3 change for the structural hole variable, and for a +/- ½ standard deviation change for continuous variables (a change from 14.1 to 16.2 years for Education and from 7.7 to 15.0 years for Length of Residence). Changes in predicted probabilities were calculated while holding dummy variables at the following values: Male at 0 (female), Minority at 0 (white), New York at 0 (New Jersey), TV at 0 (not useful), Friends at 0 (not useful), Activities at 0 (not attend), and PTA at 0 (not attend), and Opinion Leader at 0 (non-leader). The Structural Hole variable was held at 0, and the variables Length of Residence and Education were held at their means (11.3 years and 15.2 years).

Table 5. Ordered Probit Model of the Relative Accuracy of Discussants.

	Relative Accuracy	
	Coefficient (SE)	Change in Probability (More Accurate in 3 or more Cases)
Opinion Leader	.582**	.175
	(.291)	
Education	-.067	-.034
	(.090)	
Minority Group	-.136	.034
	(.621)	
Length of	-.013	-.022
Residence	(.023)	
Male	.909***	.322
	(.360)	
New York	-.852***	-.121
	(.273)	
Cut 1	-2.249	
Cut 2	-1.163	
Cut 3	-.141	
Wald χ^2	45.54***	
Predicted Prob.		.150
N	51[1]	

** $p \leq .1$ ** $p \leq .05$ *** $p \leq .01$*, two-tail test

Source: Dyad dataset constructed by pairing responses from the School Choice Survey and Snowball Survey.

Notes: Standard errors are robust standard errors. The dependent variable is the number of times a discussant is more accurate when estimating characteristics of their child's school (% of students performing math on grade level, % of students reading on grade level, % of African-American students, % of Hispanic students, % of students receiving welfare) than other discussants in the same network. The values of the "relative accuracy" variable are 0, 1, 2, 3 or more. Changes in predicted probability are for a 0 to 1 change in dummy variables and for a change +/- ½ standard deviation for continuous variables (a change from 14.5 to 16.5 years for Education and from 6.5 to 13.9 years for Length of Residence).. Changes in predicted probabilities were calculated for the category "more accurate in 3 or more cases" while holding the dummy variables included in the model at the following values: Male was held at 0 (female), Minority at 0 (white), New York at 0 (New Jersey), and Opinion Leader at 0 (non-leader). Education and Length of Residence were held at their means (15.5 years and 10.2 years). The variable "no school-aged children" is not included in the model since the variable "relative accuracy" is only available for discussants that identified themselves as parents of a school-aged child. *Cut 1 etc.* refer to cut-points on a standardized normal distribution that are used to calculate predicted probabilities for each category of the dependent variable.