

FILLING STRUCTURAL HOLES: SOCIAL NETWORKS IN THE INTRODUCTORY COURSE*

Although the literature on social networks has made a considerable contribution to the sociological imagination in recent years, it has been largely ignored in conventional course materials. Such an omission is curious, considering social networks' intuitive imagery, broad theoretical relevance and extensive empirical application. This article offers a remedy to that oversight, describing a challenging yet accessible curriculum including readings, classroom exercises, and student-centered learning projects.

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OVER THE PAST TWENTY YEARS, work in social networks, encompassing theory, methodology and research, has grown from a spry twig of sociometric insight into an empirically significant, intuitively appealing and formally rigorous branch of sociology. Social networks of interaction have been shown to influence social behavior as diverse as the formation of political coalitions (Gould 1991; Knoke 1990; McAdam 1986), the spread of disease (Bell, Atkinson, and Carlson 1999; Morris and Kretzschmar 1995), the commission of crime (Canter and Alison 1999; Frank 2001), the maintenance of social capital (Lin 2001; Renzulli, Aldrich, and Moody 2000), the transformation of organizational fields (McPherson, Popielarz, and Drobnic 1992), and subscription to diverse cultural preferences (Carley 1991; Mark 1998). In the year 2002 alone 95 scholarly works with a subject heading including "network" or "networks" appeared in Sociological Abstracts. Since 1997, *Social Networks* has maintained its place as one of the 30 most cited sociology journals, passing specialist journals in established fields such as deviance, work and

occupations, and political sociology (Institute for Scientific Information 2005).

Confronted with the advent of network sociology, this article asks two questions. First, to what extent is social network research and theory reflected in the undergraduate introductory curriculum? One of the primary goals of an introductory course is to communicate the state of the discipline as reflected in the sociological literature; how well does the current canon accomplish this goal regarding social networks? A second question asks how social networks can be used to build a coherent narrative about social structure. To demonstrate the pedagogical value of social networks, I present a module for the introductory course that clarifies for students the connections between meso-context, micro-structure and individual experience.

PUBLICATION WITHOUT REPRESENTATION?

Has the rise of the social network in sociology been matched by a proportionate incorporation of social networks into the undergraduate curriculum? One good way to answer this question is to look at current course texts, since a number of instructors use them as a guide for content (Tischler 1988). This is especially true of the introductory course, where voluminous texts surveying a wide range of sociological top-

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ics are the rule rather than the exception.

For this paper, I used a convenience sample of textbooks available to me. (See Appendix A for a list of texts.) To determine whether this convenience sample of books is actually used in a large proportion of introductory sociology classrooms, I gathered three pieces of information. First, I randomly sampled the results of a Google search for the phrases “introduction to sociology” and “syllabus” until I obtained a set of 100 syllabi from collegiate introduction to sociology courses. (I sampled 127 search results in order to generate 100 syllabi, with 15 courses not making a syllabus accessible and 12 search results not linking to an introductory course at all.) Of the 100 syllabi, 97 used a course textbook. Of the 97 courses, 50.5 percent used one of the textbooks in the convenience sample, and 49.5 percent used another textbook. Four of the five most frequently appearing textbooks in the sample of syllabi also appeared in the convenience sample. Second, because the set of syllabi available for search may not be representative of the entire set of introduction-to-sociology syllabi at the college level, I measured the amazon.com sales rankings of all textbooks in the sample of 100 syllabi and in the convenience sample, with a lower number indicating a more frequently purchased book. The average amazon.com sales ranking of books in the convenience sample was 851,512, while the average amazon.com sales ranking of books from the sample of syllabi that did not appear in the convenience sample was 1,005,042. Three of the five most frequently purchased textbooks appearing in the sample of syllabi also appeared in the convenience sample. Third, I gathered textbook information from the fifteen sample introduction-to-sociology syllabi appearing in the American Sociological Association’s *Introductory Sociology Resource Manual* (Sikora and Amoloza 2000). Of these fifteen syllabi, five used no textbook, five used a textbook not in our convenience sample, and five used a textbook in the convenience sample. The only textbooks from this

admittedly small set to occur in more than one syllabus were in the convenience sample. These three sources of information indicate that although the convenience sample of textbooks is not exhaustive, it captures a significant proportion of the titles most popular among instructors.

I reviewed each page of each textbook in the sample for keywords and concepts related to one of five sociological subject areas: social networks, deviance, stratification, religion and aging. I counted a page if at least the majority of one paragraph on a page contained significant reference to a subject. I converted the number of pages devoted to a topic to a percentage of total pages to facilitate comparison across textbooks of different lengths.

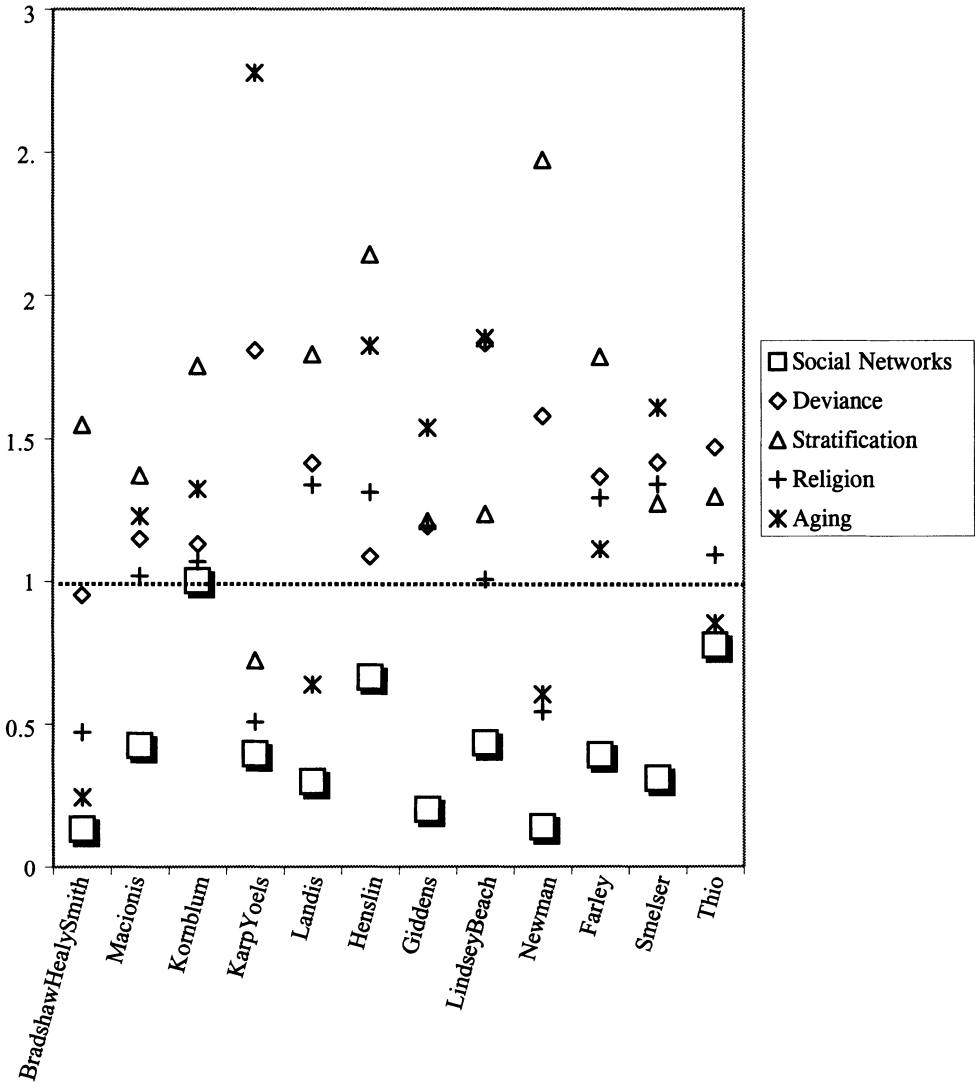
To measure the amount of research scholarship in a subject, I carried out searches of Sociological Abstracts for the years 1995-2001 for keywords related to research in each of these five subject areas (see Appendix B).¹ For each subject I determined the percent of all sociological abstracts that referenced one of the area’s subject headings.²

Figure 1 presents the results of dividing the percentage of a textbook’s pages devoted to a subject by the percentage of all abstracts devoted to the same subject. When

¹“Stratification” is conceived broadly here, including the study of inequality across race, gender, and/or class, and not just by class as a more limited definition of stratification might imply.

²One might argue that the percent of all abstracts from four elite sociological journals (*American Sociological Review*, *American Journal of Sociology*, *Social Forces*, and *Annual Review of Sociology*) might better measure the extent to which an area within sociology has been fully accepted as a central focus of the discipline of sociology, since for better or worse these journals are among the most highly read and cited. The results using this standard not only replicated the findings of Figure 1, but conveyed a starker under-representation of social networks, since articles regarding social networks are especially abundant in the pages of these four journals.

Figure 1. Percent of Pages in Textbook Devoted to a Subject, Divided by Percent of Sociological Abstracts Devoted to the Same Subject



this ratio equals one, there is as much coverage of a subject in a textbook as one would expect given the presence of that subject in Sociological Abstracts. When the ratio rises above one, there is more coverage than expected, and where the ratio falls below one, there is less coverage than expected. A striking pattern emerges. Of the five subject areas, only that of social networks is consistently underrepresented. The sampled textbooks at best meet but do not

exceed coverage expectations, and at worst only give networks one-seventh the space they occupy in the broad literature.

The conclusions made above are contingent: because I referenced only a limited non-random sample of textbooks, this paper cannot make a conclusive claim about the inclusion of networks in introductory textbooks. However, the convenience sample appropriately gathered some of the most popular texts, which means that there are a

considerable number of students for whom the pattern of under-representation is directly relevant. In addition, the consistency with which the network literature is under-represented even in this incomplete sample suggests the existence of a broader gap needing to be filled.

The above analysis assumes that the amount of attention devoted to a subject in a textbook should be proportional to the volume of current research on that subject. This expectation does not reflect other factors that may determine whether a tradition in the literature is "textbook-ready." Because an introductory course is of necessity general, narrowly focused literatures might be justly underrepresented. On the other hand, sociological work with relevance for research in a number of substantive sub-fields might be justly over-represented. This logic is reflected in the choice of most introductory texts to focus first on fundamental building blocks of sociological theory, and only later on particular substantive areas of concern.

Another potentially limiting factor in teaching sociological content is difficulty. Work in some fields may simply be too complicated for the average undergraduate to digest. Indeed, a common criticism of social network analysis is that its practitioners place too much value on quantitative rigor and too little value on intuitive comprehensibility (Turner 2001:503-13). However, similar complaints could be laid against many sociological fields that are over-represented in introductory textbooks; studies of stratification, deviance and the life course can be initially perplexing to the quantitatively disinclined. One might say a central task for authors and instructors is to present difficult material in an accessible fashion.

A final objection to the inclusion of the network literature, at least from the point of view of the undergraduate student, might be that network theory is overly abstract and divorced from the substantive reality confronting undergraduate students. A central pedagogical challenge is to demonstrate that

social network variables have meaningful social implications.

In order for the social networks literature to achieve adequate representation in the introductory course, these potential objections must be addressed. The remainder of this article is dedicated to identifying a set of clearly articulated social network concepts and findings and articulating them in a manner that is relevant to the sociological enterprise and students' experiences.

BUILDING A NETWORK CURRICULUM

Elements of Social Structure: Course Content

Although some applications of social network analysis can be intimidating to the mathematically disinclined, the core of social network theory is staggeringly simple, incorporating only two concepts. A node, either drawn in a sociogram as a point or occupying a row in a matrix, depicts an individual, whether that individual is a person, cultural form, disease host, computer terminal, organization, village, nation, or any other entity that can enter into some sort of relation with another entity. A tie, either drawn as a line in a sociogram or entered as a cell in a matrix, is simply some relation between two nodes. In its simplest form a social tie is symmetric (in which case both nodes necessarily relate to each other, such as *eating lunch with*) and binary (in which case a tie either exists or does not, such as *knowing by name*). Adding a slight wrinkle, ties may also take on the properties of asymmetry (in which one node relates to another, but not necessarily vice versa, as in *delivering a punch*) and strength (in which the intensity of a relation is measured by some standard, such as emotional intensity, amount of exchange, or frequency of contact; see Granovetter 1973 for a broader discussion). Traditionally, "social structure" is an enigmatic metaphor consisting of invisible institutions, roles or schemas. Social network theory makes the metaphor of structure concrete and palpable to

the analyst and student alike. As the physical structure of an object is described in terms of the visible pattern of relations between physical objects, so the social structure of a network is described in terms of the visible pattern of relations between nodes.

Working from this foundation, a number of emergent structural characteristics have been identified, the most central of which requires only a basic command of algebra, logic or simple counting to understand. The following terms are described intuitively by Scott (1991) and encyclopedically by Wasserman and Faust (1994). *Density*, the extent to which a social network is filled with ties, is a ratio in which the numerator is the number of ties actually occurring in a social network and the denominator is the largest possible number of such ties that could actually occur. (If n equals the number of nodes in a network, then the largest possible number of ties that could occur in a network is equal to $n*(n-1)$ for a network of asymmetric ties and $(n*(n-1))/2$ for a network of symmetric ties.) The result ranges from zero to one, with a zero representing a complete lack of ties and a one representing a condition in which every tie that could possibly exist does actually exist. Density can not only be calculated for a whole network, but for any subset of nodes within a network, so long as only the relations occurring between nodes in that subset are counted. In a network of symmetric ties, *degree* is the number of ties involved in a relation with a node; in a network of asymmetric ties, the *indegree* of a node is the number of ties directed toward that node from other nodes, and the *outdegree* of a node is the number of ties that node directs toward other nodes. Tie strength, the intensity of a relation between two nodes, is measured in the units of the sort of intensity being considered, such as number of visits per week or number of punches delivered to the gut. Tie multiplexity refers to the number of different sorts of relations between two nodes (such as *eating lunch with*, *discussing important matters with*, and *trading*

baseball cards with). Finally, network distance is measured as the number of intervening ties separating two nodes. These are simple measures of the social structure emerging from a set of social relations. Students can be introduced to these measures and invited to consider their consequences in the assignment that follows below.

Elements of Social Structure: Application

Because the network characteristics described above are general rather than substantively particular, they and their consequences can be observed in a variety of settings. A good way to help students learn about these characteristics is to ask them to observe their own immediate social network. In a brief assignment, students may be asked to identify one sort of social relation they are involved in and describe it in the form of a question. The sort of relation should be defined in terms of some tangible or intangible good exchanged between individuals (such as a monetary or educational relation), or some form of joint activity (such as *playing tennis with someone*). To help students get off the ground, it may be helpful to refer to questions used by researchers. The 1985 General Social Survey (GSS) asks the following question:

From time to time, most people discuss important matters with other people. Looking back over the last six months—who are the people with whom you discussed matters important to you?

The 1977 Northern California Community Study (NCCS) (the codebook of which is available through the Inter-University Consortium for Political and Social Research, ICPSR) offers a rich variety of tie-eliciting questions, such as:

Often people rely on the judgment of someone they know in making important decisions about their lives—for example, decisions about their family or their work. Is there anyone whose opinion you consider seriously in making important decisions?

In the task of identifying a particular social relation and successfully conveying it in written words, students encounter the definition of a social relation in much more detail than by memorizing the term in a textbook. This is also an opportunity for students to grapple with the methodological issue of operationalization, as students will need to determine whether their question clearly elicits binary or gradational information on asymmetric or symmetric ties.

Once students have written their own tie-eliciting questions, they then ask them—first of themselves, and then of those to whom they are in turn tied. Students should then draw a sociogram of their resulting “ego-network,” with circles representing nodes, lines between nodes representing symmetric ties, and lines with arrows representing asymmetric ties (Scott 1991), in order to visually depict the social structure that surrounds them. If students have asked questions that elicit information about tie strength, then the numerical strength should be written above the line that represents each tie. Students should calculate the density of their ego-network and of subsets of their network, looking for areas of the network that are especially dense. In addition, students should be able to determine the degree (or indegree and outdegree) of each node.

As students complete the assignment described above, I find they begin to look for factors that might explain the character of their own ego-network. Two classic patterns in social ties are often uncovered: homophily and the presence of foci. As students observe continuing racial, gender, class, educational, age-related and religious segregation in their own social environment, sociologists have the opportunity and (arguably) the obligation to help them to understand segregation’s root causes. It is curious, then, that the principle of homophily is almost wholly neglected in introductory textbooks. Homophily, one of the most consistently observed phenomena in the field of sociology, is the tendency for social ties to form at a higher rate between

similar than between dissimilar people (McPherson, Smith-Lovin and Cook 2001). Homophily is the micro-level observation of the meso-level separation between individuals. Asking students in a second step of the above assignment to identify the age, gender, race and/or ethnicity of their social network contacts is one way to help students move beyond abstract disbelief in the existence of homophily to a consideration of its possible causes.

A central question for sociology, and therefore for students of sociology, is the extent to which human existence is a matter of individual choice versus structural constraint. With this in mind, an important question regarding homophily is the extent to which the formation of homogeneous social networks is a matter of choice or constraint. Although students are most often inclined to attribute the homogeneous social networks of *others* to personal choice or prejudice, I find they tend to attribute the homogeneity of their *own* network to the homogeneity of the groups and activities they participate in. Participation in joint activities of life, which Feld (1981) broadly defines as “foci,” has been shown to promote the formation of social ties (see also Simmel 1955 and Breiger 1974); homogeneity in foci may lead to a lack of diversity in social ties, regardless of individual choices or prejudices. Research indicates that individual choice and homogeneous group contexts may both play a role in the emergence of homophily (Louch 2000; McPherson and Smith-Lovin 1987). A third step of a network assignment asks students to identify the classes, groups, extracurricular activities and living arrangements of members of their network. By then deliberating whether and when the constraints of foci or preferences for similarity matter in their own personal networks, students bring abstract debates regarding choice and constraint down to a very concrete level, helping them absorb the meaning of that oft-used phrase in introductory classes, the “sociological imagination.”

Network Density: Course Content

The concept of density introduced above clarifies other introductory concepts, including that of group. In their introductory text, Kornblum and Smith (1999) identify a group as “a set of two or more individuals who share a sense of common identity and belonging and who interact on a regular basis.” Given the authors’ interactionist discussion of the emergence of identity through social interaction (Kornblum and Smith 1999:156-89), this definition becomes somewhat redundant and can be simplified further to “a set of two or more individuals who interact on a regular basis.” To simplify and clarify further, a group is “a set of individuals with a relatively high network density.” This definition is operational, which means that confronted with network data students can easily identify groups. It is also general, applicable to social objects not commonly considered “groups” by undergraduates: dyads, classrooms, neighborhoods, communities, demographic categories, and even nations. Defining “group” according to density provides a conceptual bridge for the undergraduate linking these otherwise divergent social objects. It also challenges the student to move beyond a binary conception of group, and poses the more nuanced Simmelian question, “when is a group more a group, and when less so?” (Simmel [1908] 1971:23-5). Bringing the substantively disparate social objects of nation, ethnic group and social club under a single structural umbrella implies similar social experiences for these objects. This strong contention may provoke useful classroom debate.

Network Density: Application

Network density interacts with other structural characteristics, such as the number of nodes in a social network. For example, a baseline model of density and population size establishes that the overall network density of a population is constrained to decrease as population size increases, if individuals are reasonably assumed to have a finite capacity to form social ties (Mayhew and Levinger 1976). To demon-

strate this, an instructor may ask students to volunteer how many network ties of a particular sort or strength they each maintain. The mean value for the class, or the typical degree of students’ personal networks, is an indication of students’ finite capacity to form social ties given limited time and energy. Once this value has been determined, the instructor may ask students to use the formula for density to indicate how many ties will occur in communities of various size (10 people, 100 people, 1,000 people, 10,000 people, and 100,000 people are levels that work well; it also is interesting to include the population size of your university and surrounding community). This quantity is simply the mean degree times system size, divided by two, since every tie involves two individuals. As discussed above, the number of possible ties can be directly calculated from population size (n) as well. Finally, the expected density of each of these communities, simply the ratio of expected number of ties to the maximum possible number of ties, can be easily calculated in class. The results should demonstrate that as population size increases, overall network density declines.

This mathematically unavoidable consequence is relevant to a very practical debate about the fate of social order in the wake of modernization. While mass society theory predicts that the rise of large cities leads to the breakdown of social order as individuals experience the anomie resulting from low density in personal networks (Kornhauser 1959), urban subcultural theory counters that even as network density declines overall, pockets of particularly high density may emerge surrounded by regions of particularly low density, fostering meaningful small communities within a more massive nominal community (Fischer 1982). By examining simple baseline expectations, students can directly confront the structural nature of this dilemma.

Group Size and Intergroup Contact: Course Content

Yet another surprising finding, also unheralded in introductory texts, is the powerful

role that the size of different groups has on the rate of intergroup contact. When ties are symmetric, for every member of a small group tied to a member of a large group, there must be a member of that large group tied to a member of that small group; the absolute number of intergroup associations is by definition the same for both groups involved. However, the rate of inter-group associations is greater for the small group than for the large group, because the rate for each group equals the number of intergroup associations divided by group size (Blau 1977:20-3). Hence, the networks of members of small groups must be more diverse on average than the networks of members of large groups. This pattern must occur regardless of how fervently individuals involved desire otherwise, a classic example of a "social fact" (Durkheim 1982).

Group Size and Intergroup Contact: Application

While this aspect of social structure is not remarked upon by introductory sociology texts, it has strong implications for the experience of students taking an introductory course. For instance, the common observation that black Americans must learn to navigate two social worlds, while white Americans have the luxury of largely living in only one social world, can be explained in large part by the structural constraint described by Blau. Including a discussion of this network phenomenon in an introductory class not only will help students to understand social structure in an abstract sense, but may also help them to practically understand the roots of their own experiences in a heterogeneous (or not so heterogeneous) social environment.

In that discussion, it may be useful to adopt a "pre-test/post-test" approach in which students grapple with the reality of intergroup contact in their own social world. For large classes in which group sizes are large enough to avoid the problem of overdisclosure, an anonymous survey distributed to students at the beginning of the semester may include a tie-eliciting

question such as those from the GSS and NCCS. In addition, students should be asked to describe the racial/ethnic category to which they consider themselves to primarily belong, and to describe the racial/ethnic category to which they perceive their social network contacts to primarily belong. Finally, students should be asked to identify whether or not their contacts are also students at the college or university where the course is being taught.

Before teaching course content on social networks, instructors may tabulate and present information regarding the rate of interracial contact in ties to fellow students for different racial/ethnic groups, and ask students to come up with explanations regarding any apparent variation. In my own classroom, I have found that the explanations students tend to offer are highly individualistic and choice-oriented: if Latino students have more out-group contact than White students, for instance, students often argue that the difference is due to a lower amount of individual prejudice among Latino students.

After introducing the effect of group size on intergroup contact, instructors may revisit the information, adding data on the proportion of students in each racial/ethnic group at the college or university where the course is being taught (such aggregate data can usually be obtained from an institution's Admissions Office). In a collegiate environment characterized by random association between racial-ethnic groups, the proportion of student contacts of a certain racial/ethnic group in students' social networks would tend to be the same as the proportion of that racial/ethnic group in the overall student population. Do the actual rates of intergroup contact for various racial/ethnic groups conform to or deviate from this expectation? If deviations occur, what could explain such deviations? In the ensuing discussion, consideration of the concepts of homophily and foci as they apply to the social settings particular to college life may help students to consider the impact of social structure on their social experience.

Further Classroom Applications from the Sociological Literature

Additional teaching tools in the area of social networks are either present in fully realized form in the sociological literature or are easily adapted for teaching purposes. Giuffre and Paxton (1997) have developed an innovative teaching exercise in which students literally tie themselves to one another using string of various lengths that restrict movement and possibilities for social contact. Inequalities in this physical embodiment of social structure help students examine connections between the social structure of interaction and the social structure of inequality. I have found that exposing students to Emerson's (1962) theory of power and dependence helps facilitate discussion after the exercise is completed.

In the area of social network analysis concerned with the "small world" problem of network distance in populations, a good place to begin is with a reading of Milgram's classic small-world experiment with letters (Milgram 1967). Stevenson et al. (1997) describes a replication of this experiment in a university setting, with students asked to track letters as they wind their way to university administrators. The detailed manner in which the exercise is described invites further replication in the classroom. To connect the consequences of small-world networks to our experience of important world events, Bernard et al. (2001) use simple algebra to determine how many people knew people who died in the attacks of September 11, 2001, how many people knew people who knew people who died, and so on at increasing network distances. Their estimates show how the small-world effect can lead to social proximity to a catastrophic event from which most individuals are physically distant. Because their paper was published in the weeks following the 2001 attacks, the casualty estimates used are highly inaccurate. Students may be asked to re-estimate the number of individuals at each additional step of network distance. As the authors themselves point out, the method can be applied to any social event.

Can students determine how many people in the United States should know someone in military service in Iraq, or how many people know someone who knows someone serving in Iraq? If so, they should also be able to calculate the expected number of students in the classroom who know (or know someone who knows) someone serving in Iraq. As in the exercise regarding intergroup contact, this number is based on the assumption that social ties are evenly distributed within the United States, and not divided along lines of age, race, education, gender, region and class. Does this number based on students' calculations match the actual amount of students who know someone serving in Iraq? If not, why might that be?

CONCLUSION

Instructors of introductory sociology are continually faced with a dilemma: on the one hand, research characterized by both vigor and rigor continues to expand the boundaries of the discipline of sociology. On the other hand, in order to capture students' sociological imagination, we must strive to make the discipline accessible. Perhaps it is the highly quantitative and technical reputation of the burgeoning social network tradition that has kept its work from the classroom, at least as measured by inclusion in introductory texts. Fortunately, as this article has attempted to establish, this exclusion is by no means necessary. On the contrary, the sociological literature already offers a simple, fundamental, and widely applicable vision of social structure that we hope can bring students' sociological imagination into greater focus. The inclusion of core network theoretical concepts would not only more completely answer undergraduates' questions about what sociologists do, but would also provide fertile ground for the planting of seeds of further questions in students' minds, the full flower of which may result in a new generation of active sociological scholarship.

APPENDIX A. LIST OF STUDIED TEXTBOOKS (SUBTITLES OMITTED)

Bradshaw, York W., Joseph F. Healey, and Rebecca Smith. 2001. *Sociology for a New Century*. Thousand Oaks, CA: Pine Forge Press.

Farley, John E. 1998. *Sociology*. 4th ed. Upper Saddle River, NJ: Prentice-Hall.

Giddens, Anthony. 2001. *Sociology*. 4th ed. Oxford, England: Blackwell Publishers.

Henslin, James. 2002. *Sociology*. 6th ed. Boston, MA: Allyn and Bacon.

Karp, David and William C. Yoels. 1998. *Sociology in Everyday Life*. 2d ed. Long Grove, IL: Waveland Press.

Kornblum, William and Carolyn D. Smith. 1999. *Sociology in a Changing World*. 5th ed. Albany, NY: International Thomson Publishing.

Landis, Judson. 2001. *Sociology*. 11th ed. Belmont, CA: Wadsworth Publishers.

Lindsey, Linda L. and Stephen Beach. 2001. *Sociology*. 2d ed. Upper Saddle River, NJ: Prentice-Hall.

Macionis, John J. 2003. *Sociology*. 9th ed. Upper Saddle River, NJ: Prentice-Hall.

Newman, David M. 2002. *Sociology*. 4th ed. Thousand Oaks, CA: Pine Forge Press.

Smelser, Neil J. 1995. *Sociology*. 5th ed. Englewood Cliffs, NJ: Prentice-Hall.

Thio, Alex. 2003. *Sociology*. 5th ed. Boston, MA: Allyn and Bacon.

APPENDIX B. KEYWORDS USED IN SOCIOLOGICAL ABSTRACTS SUBJECT SEARCHES^a

| Subject | Keywords |
|-----------------|--|
| Social Networks | network, networks |
| Deviance | crime, criminal, deviance, deviant |
| Stratification | stratification, inequality, segmentation, income, wealth, sexism, racism, ageism, class, poverty, discrimination, occupational structure |
| Religion | religion, religions, religious, religiosity |
| Aging | aging, ageism, elderly, elder abuse, gerontology |

^a Sociological Abstracts field searches were conducted for all descriptor fields (“DE”) and subject headings (“SH”) of which the above words or phrases were a part.

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Feld, Scott L. 1981. “The Focused Organization of Social Ties.” *American Journal of Sociology* 86:1015-35.

Fischer, Claude. 1982. *To Dwell Among Friends*. Chicago, IL: University of Chicago Press.

Frank, Ove. 2001. “Statistical Estimation of Co-Offending Youth Networks.” *Social Networks* 23:203-14.

Giuffre, Katherine and Pamela Paxton. 1997. “Building Social Networks.” *Teaching Sociology* 25:207-13.

Gould, Roger V. 1991. “Multiple Networks and Mobilization in the Paris Commune, 1871.” *American Sociological Review* 56:716-29.

Granovetter, Mark. 1973. “The Strength of Weak Ties.” *American Journal of Sociology* 78:1360-80.

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