

Close Friendships among Contemporary People

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Abstract

Do contemporary people have fewer friends than they used to? In this entry, we examine the research on strong tie networks, or networks containing people especially important to us, in order to provide a partial answer. We begin with a review of the methods employed to collect data on social network connections. We then summarize the literature on the size of Americans' social networks as well as change in this size over time. Finally, we conclude with an analysis of where the study of strong networks needs to go and some suggestions for getting it there. Overall, the research suggests that while strong networks have changed over the past 30–40 years, and may be smaller overall, people are no more isolated than they were in the past.

INTRODUCTION

Human life takes place within a web, or network, of interpersonal relationships. Some of these relationships (i.e., network ties) are relatively weak, ranging from the mere awareness of another's existence to acquaintanceship. These relatively weak relationships typically do not provide us with emotional support or other resources, but can provide us with knowledge that our closer associates lack. Other relationships are strong, including close friends, family members, and spouses. These relatively strong relationships provide us with major support when we are in need and with companionship when we are lonely, but rarely give us access to knowledge that we could not obtain elsewhere. Our relationships, both strong and weak, also impose costs directly through the time and mental effort required to maintain contact with others, and indirectly via the loans of goods and services we provide to our associates. Finally, our social networks expose us to risks that would not exist without them (e.g., we cannot be betrayed until we have an associate whom we trust). This mixture of costs, benefits, and risks makes social networks a defining element of human life, and it is crucial to social science that we understand them.

Much effort has been expended trying to understand one of the most basic characteristics of strong tie networks: their size. How large is the average individual's social network of important people, and has this number been increasing, decreasing, or holding steady over time? In other words, do contemporary people have fewer friends, or fewer important people in their lives, than they used to? By understanding the size of strong tie networks, and the tendency for these networks to change, we gain a better understanding of how human society functions and how individuals experience the world. Moreover, the explosion of technologies connecting us to one another makes such knowledge all the more critical.

This entry begins by reviewing the methods used to obtain estimates of the size of strong tie networks. We then summarize the foundational research on typical network size as well as longitudinal research exploring how network size has changed over the past 30–40 years; on the whole, this research provides consistent signs that portions of our strong tie networks may be smaller than they used to be, but these declines are probably not as severe as was once feared, and are far from unambiguous. Lastly, we cover current cutting edge research in the area, discuss key issues where further investigation is needed, and conclude with our thoughts on the current state of the research.

FOUNDATIONAL RESEARCH

MEASURING FRIENDSHIP NETWORKS

How does one measure the size of a social network? In general three approaches have been employed: ego network methods, sociometric methods, and the network scale-up approach. In an ego network data collection, the researcher begins with a probability sample of some population. While there are many ways of drawing such a sample, the end result is a set of persons that reflect the group under study; thus a national sample will reflect, or be representative of, the national population as a whole. Individuals selected by the sampling procedure (i.e., "egos") are then invited to participate in a survey that includes a "name generator," or a question meant to elicit a set of names that meet a set of criteria (e.g., "Who have you spoken to in the last 8 h?"). Once a list of names has been obtained, a second set of questions known as "name interpreters" are then often asked (e.g., "What is this person's sex?") about each person named (i.e., "alter"), or a subset of the people named. Because the egos are a representative sample, the resulting data allow researchers to develop a representative estimate of certain characteristics of personal networks (e.g., average network size and average diversity) at the level of the population. At the same time, since the egos are drawn from a larger population, few, if any, of the individuals sampled

will be directly connected to each other. Thus, we cannot understand the complete structure of any one network using ego network data collection. Research also shows that egos have elaborate systems of categorization for their associates, viewing some as appropriate for recreational contact, some as appropriate for emotional support, and some as appropriate for loans of material assistance (e.g., Wellman & Wortley, 1990). As a result, the number of names obtained is exquisitely sensitive to the specific name generator asked (Bernard, Shelley, & Killworth, 1987; Marin, 2004). Put differently, a name generator asking about whom you spend free time with may produce a very different list than one asking about whom you would borrow a large sum of money from, even though all persons named may be strongly tied to you. Thus, size estimates using different types of name generators must be compared only cautiously and the most appropriate comparisons are between studies using the same name generator(s).

In a sociometric data collection, all individuals in a specific group (e.g., a neighborhood or a school) are sampled, with the goal of illuminating the entire network structure. This method often involves a roster of names, allowing respondents to simply check off those others with whom they are connected in particular ways, although such a roster is not required. This approach is superior to an ego network sample in revealing the overall structure of a social network, but there are several limitations. First, a sociometric approach requires the researchers to identify all the members of a particular group before starting data collection. Second, because this method is not based on sampling, a much higher proportion of the study population must participate in order for the data to be valid. In both cases, these goals may not be practical or even possible to achieve. Third, sociometric data are of limited use in estimating overall population characteristics because the characteristics of a subset do not necessarily match the characteristics of a superset (e.g., the average network size in a neighborhood is not necessarily the same as for a nation). This final difficulty may be declining in significance, however, as social media makes national-level network data available to researchers.

Finally, network size has been measured with what is often known as a "scale-up" method. This approach begins much like an ego network with a probability sample, but the researcher asks a name generator focused on a population segment whose prevalence is already known. For example, the researcher could ask, "How many people do you know who are named 'Jonathon'?" Since it is possible to determine the population prevalence of people with this name (e.g., voter registration and phone books), the researcher can use the answer to estimate the total size of the respondent's network assuming random mixing. This approach to estimating network size imposes a relatively low burden on the respondent, but the assumption

of random mixing is not necessarily valid. For example, individuals tend to associate with those similar to themselves (i.e., “Birds of a feather flock together”) in a process known as homophily, thus preventing random mixing and introducing bias into this estimation method.

All three of these approaches can be implemented actively or passively. Active data collection involves an explicit request to individuals for the needed information (e.g., a name generator or a roster). This method is frequently used, both because it is practical and because it gives the researcher more control over which ties are measured, but is vulnerable to respondent forgetting, recall biases, and simple fatigue. In passive data collection, the researcher either directly observes individuals having contact with others (e.g., observes interactions between students in a classroom), or obtains technological traces of past interactions (e.g., email, Facebook, and phone records). In either case, individuals reveal their network ties through their behavior rather than by answering a set of explicit questions. To the extent that an entire social network is available in an electronic form (e.g., Facebook), it may be possible to capture even a massive network passively, providing a wealth of data to the researcher. However, it is often difficult to reliably distinguish different types of relationships using passive data collection (e.g., not all “friends” on Facebook represent an individual’s strong ties, even though the title “friend” implies that they might), and the resulting data are often limited to one method of contact (e.g., email).

CLASSICAL ESTIMATES OF NETWORK SIZE

Since the 1970s, considerable attention has been devoted to estimating network size. De Sola Pool and Kochen (1978) considered the problem in the first issue of the flagship journal for social networks (i.e., *Social Networks*), estimating that the average network contains several hundred ties, both strong and weak. This conclusion was based on an informal meta-analysis of existing studies, as well as a compilation of data sources with very different characteristics, leaving considerable room for error, and distinctions were not made between various types of associates. A more comprehensive effort to measure network size was made by Claude Fischer (1982), who collected data from respondents in and around an urban area in California using name generators to reveal the types of benefits people could obtain through strong ties, including mutual favors, socializing, and emotional support. While this effort was far more rigorous than its predecessors, it was geographically limited, and thus unable to provide estimates of network size among the larger national population.

Building on Fischer’s work, the 1985 General Social Survey (GSS), a probability sample of the US noninstitutionalized adult population conducted

every year or every other year, included a single name generator that has since become a standard in network research examining strong ties. This name generator, known as the “important matters” item, asks respondents to name those persons with whom they have discussed important matters during the preceding 6 months. No definition is given for an “important matter,” because respondents might differ on what they consider to be “important,” but they will most likely discuss important things with their strong ties. Thus, the important matters item provides a way to measure strong tie networks. The GSS name generator for the first time permitted an estimation of typical strong network size nationwide. Using these data, Marsden (1987) found that in 1985 Americans discussed “important matters” with an average of three others, approximately half of whom were kin and half of whom were nonkin (including friends). Obviously, these results do not mean that the average American only has 1.5 friends, but the “important matters” item captures those relationships that are relatively strong, and thus these results suggested that in 1985 our strong network of important confidantes was relatively small and evenly split between kin and nonkin.

It should be noted that other lines of research have produced different, and sometimes much larger, estimates of strong tie network size than the GSS, ranging from 3 to 150 (e.g., Bernard *et al.*, 1990; Roberts, Dunbar, Pollet, & Kuppens, 2009). However, because of the sensitivity of estimates to differences in name generator phrasing, it is difficult at best to compare many of these results to each other. As such, we focus on the estimates deriving from the GSS, which are both nationally representative, and have been repeated longitudinally in several independent studies.

STUDIES OF NETWORK CHANGE

While the 1985 GSS provided a crucial look at the social environment of the average American, and the first nationwide estimates of strong network size, it was unable to provide any sense of how stable these environments were. While a partial, and only semi-comparable repetition, of the network module was included in the 1987 GSS, it was not until 2004 that the GSS included a full repeat of the network module. Analysis of these data by McPherson, Smith-Lovin, and Brashears (2006) proved to be quite surprising: whereas in 1985 Americans had an average of three others with whom they discussed important matters, 1.4 of which were kin, in 2004 this number had declined to two, 0.88 of which were kin. Moreover, while in 1985 only 10% of respondents gave no names in response to the name generator, by 2004 approximately 25% of all respondents appeared to be “socially isolated.” These results suggested that American strong networks had declined in size by roughly one-third, and that social isolation had

more than doubled, in approximately 20-years. These results implied that American social life was growing more fragile but a major puzzle remained: what could be causing such a dramatic change in association? McPherson, Smith-Lovin, and Brashears were unable to definitively identify a cause, but speculated that the change was linked to the growth of the internet and mobile phones, which might permit Americans to rely more exclusively on a smaller number of associates. Nevertheless, the existing data were insufficient to test their speculations and the decline remained unexplained.

One possible explanation for the decline, advanced by Claude Fischer (2009), was that the data were simply wrong. He argued that the apparent decline in network size in 2004 was attributable to one or a combination of three factors: a training effect (i.e., respondents learn how to avoid lengthy follow-up questions), a fatigue effect (i.e., respondents give incomplete answers because they are tired), or a computer error. Using a set of similar, but not identical, items on network size in the GSS data, Fischer argued that the GSS “important matters” results were almost certainly an artifact of these potential flaws. Thanks to Fischer’s concerns, a number of miscoded responses in the original data were identified, but reanalysis of the GSS data (McPherson, Smith-Lovin, & Brashears, 2008) using updated weighting procedures continued to show that strong networks in 2004 consisted of roughly two people, 1.39 of whom were kin, and that approximately 23% of the respondents were socially isolated. McPherson, Smith-Lovin, and Brashears (2009) likewise defended their position, showing that artifacts almost certainly existed in both the 1985 and 2004 datasets, but that the downward trend over time persisted even when controlling for these artifacts. While this debate provided a public airing of many of the relevant issues, it ultimately settled very little; the decline in network size had been called into question, but no “smoking gun” had been identified.

CUTTING-EDGE RESEARCH

Recently several attempts have been made to resolve the uncertainty over network size. While McPherson *et al.* speculated that the rise of the internet and other communications technologies might have led to a reduction in strong network size, accumulating evidence suggests that this is not the case. Tufecki (2010) finds that while online interaction does not consistently increase sociability, it also does not consistently decrease it. Hampton, Sessions, and Her (2011) used a nationally representative phone survey conducted in 2008 to show that internet and communications technology usage either has no effect, or a slight positive effect, on both network size and sociability. It thus is unlikely that the reduction in strong network size, if real, is the result of the increasing usage of communications technologies.

In addition to evaluating the effect of internet usage on sociability, Hampton *et al.*'s (2011) study also included the same "important matters" name generator that appeared on the 1985 and 2004 GSS administrations. Examination of these data reveals that only 12% of respondents reported no discussions of important matters in the preceding 6 months, a substantial decline from the 23% detected by McPherson *et al.* (2008) over a period of only 4 years. These same data, however, indicated an average strong network size of approximately two, with 1.19 of these being kin. Thus, while Hampton *et al.* found a different level of social isolation, the estimated average size of the network in 2008 was very similar to that detected by McPherson *et al.* (2006, 2008). A second study by Hampton, Goulet, Marlow, and Rainie (2011) using a similar methodology and data collected in 2011 also yielded an average strong network size of approximately two.

Research by Brashears (2011) investigated the artifacts proposed by Fischer (2009) directly. This study used a general population experiment to evaluate the potential for training and fatigue effects to have reduced apparent network size. In addition, because the data were collected from a representative sample of the national population in 2010, it is possible to use these data to construct national estimates. The results failed to support the training or fatigue effect explanations for the reduction in network size, and once more found an average strong network size of approximately two. However, this research also found that only a little more than 4% of the population was "socially isolated," which is two-thirds less than Hampton *et al.*'s (2011) findings from 2008 and roughly one-fifth the level of social isolation observed by McPherson *et al.* (2008) in the 2004 GSS. This suggests that while the average strong network size is relatively stable over time, the level of social isolation varies wildly and is quite likely unreliable. Brashears (2011) presented additional evidence to this effect, finding that of those who reported no discussions of important matters, roughly two-thirds said that this was because they had no "important matters" to talk about, rather than no one with whom to discuss them.

Finally, research by Paik and Sanchagrin, currently 2013, takes a new and innovative approach to the debate by suggesting that the decrease in strong network size may have been an artifact of fatigue among the interviewers rather than fatigue among the respondents. They find that high levels of social isolation are not distributed evenly by interviewer, but rather are significantly more likely to be observed by specific interviewers. They suggest that perhaps interviewers guided respondents into answering that they had no discussions of important matters in order to shorten the interviews. This novel explanation is consistent with existing research showing that respondent artifacts probably did not produce the shrinking networks finding. At the same time, however, it is unclear why fatigue would suddenly be an

issue in 2004, but not in 1985 when interview procedures were more cumbersome overall. Likewise, it does not account for Hampton *et al.*'s (2011) results using a much shorter instrument, or Brashears' (2011) results using a computer-assisted self-interview method that does not include an interviewer.

This recent research has thus advanced our understanding of strong network size, but has not completely answered the question: are strong networks smaller now than they were before?

KEY ISSUES FOR FUTURE RESEARCH

The size of the average strong network is a matter of profound concern for social science, but it remains, for the moment, in considerable doubt. It is therefore also uncertain whether strong networks have declined in size in recent decades, although several independent data collection efforts have given us reason to think that they have. The controversy over so fundamental an issue serves as a pointed reminder that we may not know as much about how network items map onto social reality as we thought, and that much basic research remains to be done.

One of the most crucial questions is: how do respondents mentally represent their social networks? While multiple studies indicate that strong networks are smaller now than in the past, convincing evidence indicates that people with whom we have strong ties may not all provide us with the same types of benefits (Wellman & Wortley, 1990). In other words, if the way respondents classify their alters changes, it may give the appearance of a change in network size, without the substance of the network structure actually changing very much at all. This concern is underscored by the fact that discussions of "important matters" are apparently often regarding topics that many would consider trivial (Bearman & Parigi, 2004). This implies that the name generator may, to some extent, not be capturing actual discussions, but rather a subset of the network that the respondent views as suitable for important discussions. Although new media technologies, such as Facebook and Twitter, have not led to rampant social isolation, they may be contributing to a transformation of how we categorize our associates, including our friends and discussion partners. Research in social psychology has indicated that the meaning of social categories can both change over time, and differ between social groups, and technology may play a role in these differences. Thus, natural changes in how relationships are understood may result in respondents and researchers defining ties in disparate ways. Without similar definitions, researchers may end up with biased estimates, possibly explaining the confusion over network size and social isolation.

Social isolation, or the lack of any contacts, has received considerable attention, particularly given its extraordinarily high level in the 2004 GSS data. However, subsequent data collections have failed to replicate this level of isolation even while finding very comparable average network sizes. This suggests that what may determine the level of social isolation is less the availability of associates with whom to discuss important matters, but rather the availability of topics to have discussions about. When topics are relatively hard to come by, social isolation may appear to increase. Researchers therefore need to work harder to distinguish measurements of the existence of a relationship from measurements of particular uses of that relationship.

The instability in the estimates of social isolation emphasizes an additional issue: that the concern over network size in general, and isolation in particular, may be somewhat misguided. The real question is not whether an individual has any associates, but whether they have enough to provide the support that they need. Our attention should be on social poverty, or an inadequate level of social support, rather than on social isolation, or no social support whatsoever. It is likely the case that few individuals are truly isolated, but many may suffer under some degree of social poverty.

As the debate over the shrinking of American strong networks has made painfully clear, we have a poor understanding at present of how networks vary naturally in size over time. Certainly networks change over time with individuals forming new friendships and losing old ones. At the population level, there may be natural trends to the gain and loss of associates, and these trends may vary over long periods of time, possibly in cyclical patterns. While many network studies have been carried out over the decades, they often involve different populations, different name generators, or both, and thus can tell us little about these natural variations. As such, even if the decline in strong network size observed in much of the above research is real, that does not mean that there is cause for alarm: over a span of decades, average strong network size may vary naturally by a considerable amount. The simple reality is that, at the present time, we do not know if such natural variation exists and, if so, how extreme it may be, and thus cannot know if any particular increase or decrease in network size is a virtue or a vice.

A promising medium for collecting such data is the utilization of passive data collection using social media and other electronic traces. These approaches have real advantages in that they avoid many of the potential biases introduced by question interpretation that have plagued network research to date, and thus represent a valuable approach to measuring network size. At the same time, however, it is unclear how relationships recorded in social media (e.g., Facebook or Twitter) connect to the important relationships of individuals. Some important associates may be contacted rarely via social media, while more trivial contacts are interacted with

frequently using these technologies. It is thus critical that researchers develop both expertise with these new sources of data, as well as explore the connections, or differences, between them and more traditional measures.

CONCLUSION

A considerable amount of research effort has been expended on measuring the size of modern strong tie networks and determining whether they have grown smaller over the previous several decades. Unfortunately, the best that we can say with the existing research is that they *may* have shrunk, but that we cannot be sure. The early research on long-term change in network size suggests that networks are smaller, and several independent data collection efforts since have also shown smaller networks, but the distinctive social isolation finding has failed to replicate, and there are growing signs that methodological artifacts may be partly to blame. All we can say with certainty at this point is that more research, both fundamental and applied, is needed in order to resolve this question. It is the privilege of authors, however, to offer their own opinions and ours is this: strong tie networks *are* different now than they were nearly three decades ago, but they are not necessarily smaller. As our society has changed, so too have our definitions of friend, confidant, and associate transformed to fit the new demands, and constraints, of our lives. It may indeed be the case that we have fewer of those persons with whom we might have once discussed “important matters,” be they kin or friends, but it is our view that modern Americans remain intensely social, even if our relationships have been evolving into endless forms most wonderful.

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