



A few individuals may be totally estranged from their family or have no surviving family members.

An individual's friends constitute a second important network for most adults. Some friendships were formed in childhood and persist for a lifetime. Other friendships form in work or school and continue for years

of these networks varies substantially among different individuals.

And, many adults have various kinds of support networks that they pay for or buy into. Many Americans have one or more physicians that they can visit when necessary, and many have a pharmacist that they know well enough to ask questions about a medical or health issue. Individuals who move from one city to another often discover the number of support networks that they need to re-establish – barbers, hairdressers, tailors, landscapers, repairmen, automobile mechanics, bankers, dry cleaners, and many more. More affluent adults have larger support networks and less affluent adults often have smaller support networks.

Cumulatively, these layers of networks combine in different ways for different individuals, producing a range of personal networks. Some individuals may have a large family network and limited networks outside the family. Other individuals may have a limited family network but extensive professional and community networks. And some individuals may have extensive networks of all kinds.

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thereafter. Participation in religious activities, political activities, or recreational activities often leads to the formation of friendships that persist over some period of time. More recently, it appears that friendships can be formed through electronic encounters in forums, blogs and other kinds of online communication, and it is reasonable to expect that the combination of blogging, texting, and talking over Skype and similar vehicles will expand the opportunities for electronic friendships. And, it is well known that the number and closeness of friendships varies by individual.

At a slightly more distant level, many individuals are involved in organizational networks through churches, unions, community groups, and parent groups related to one's children. People who attend a church or religious group may interact in a variety of activities. Parents often meet other parents through the activities of their children. And, as Professor Putnam from Harvard has argued, for a period of several decades, many adults were active participants in community organizations – Elks, Eagles, Kiwanis, women's clubs, bowling leagues. Although participation in these organizations appears to be in decline, there is a strong growth in membership in occupational and professional organizations and this has been fostered through the electronic resources of the Internet. The number and kind



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THE SIZE AND SCOPE OF PERSONAL NETWORKS

Our first task in this report is to examine differences in the size and composition of personal networks for participants in the LSAY – the core of Generation X. Although the LSAY has collected a large number of personal network measures over the last 25 years, this report will

focus primarily on measures of personal networks reflecting the current (or very recent) set of networks.

Traditionally, personal networks relied heavily on personal contact with other individuals in one's home, workplace, neighborhood, and community. Putnam described many of these traditional face-to-face networks in his classic *Bowling Alone* (2000) book. A variety of scholars have worried about the decline of community life and others have celebrated the expanded communication capabilities inherent in the Internet. Using the responses of participants in the LSAY, we can examine the composition and magnitude of personal networks reported by young Americans in their late 30's.

To measure traditional personal networks, the LSAY asked each participant to report the number of times that they visit with family or friends each month, the number of hours that they spend in their workplace, the number of meetings –



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including religious and non-religious groups that they attend, and the number of hours that they spend in various kinds of volunteers activities in their community. These measures tell us about the number of conversations, visits, and encounters that each individual in the study had with other individuals, and these data provide useful estimates of the extent of an individual's direct or in-person network.

In a typical month, the young adults in the LSAY reported that they engaged in approximately 75 personal contacts or conversations with other people in their family, at work, in organizations,

Table 1: Personal network activities by American young adults, 2011.

	Mean number per month					N
	Total personal contacts	Visited family/friends	Hours with co-workers	Attended meeting	Volunteer hours	
All young adults	75	8.0	59.6	4.4	3.2	3,027
Gender						
Female	65	8.5	48.2	4.6	3.6	1,560
Male	86	7.5	71.8	4.2	2.7	1,467
Education						
Less than high school	63	10.3	45.2	4.0	2.1	91
HS diploma or GED	70	8.6	54.4	4.0	3.1	1,287
Associate degree	73	7.5	58.0	4.4	3.4	244
Baccalaureate	78	7.6	62.1	4.6	3.3	859
Master's degree	86	7.5	69.9	5.0	3.3	401
Doctorate/Profession	88	5.5	74.7	5.1	3.0	145
Minor children at home						
None	78	8.6	63.3	3.6	2.5	826
One or more	74	7.8	58.2	4.7	3.4	2,197

and volunteering in the community (see Table 1). This level of personal networking included eight visits per month with family and friends, 60 hours of interaction per month with co-workers, attendance at four meetings per month (including religious and non-religious meetings), and three hours of doing volunteer work each month. This pattern suggests that the workplace is the venue for most adult personal network interactions, which corresponds roughly to the large number of hours spent at work each month by most



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adults – young and older.

Young men reported a somewhat higher frequency of personal network interactions with a mean of 86 personal network contacts each month compared to 65 per month for young women (see Table 1). Almost all of this difference reflects the larger number of workplace hours reported by young men. Young women were slightly more likely to visit family and friends, attend meetings in the community, and do volunteer work than young men.

Young adults with more formal education reported a higher average number of personal network contacts than young adults with fewer years of formal schooling (see Table 1). Young adults with less formal education reported more frequent visits to friends and family than young adults with higher levels of education, but better educated young adults reported substantially more workplace personal network contacts than young adults with fewer years of schooling. There were only minor differences in the frequency of attending meetings and doing volunteer work by

level of education.

In many studies of social capital, the parents of minor children report frequent interactions with other parents of children – fostering the image of the soccer mom. The results from the 2011 LSAY annual survey indicate that the parents of minor children reported slightly smaller personal networks than young adults without minor children at home (see Table 1). Young adults without minor children at home reported more hours at work than the parents of young children. Parents of minor children were slightly more likely to attend community meetings and to do volunteer work in the community than non-parents.

Overall, these results point to the importance of work and workplace friends in the personal networks of young adults. In other reports, we have characterized Generation X as being hard working and these findings support that conclusion.

THE SIZE AND SCOPE OF ELECTRONIC NETWORKS

One of the signature characteristics of Generation X is that it grew up along with the Internet and the Electronic Era. When LSAY students were in high school, the Internet was known only to university users and the first home Internet service was not offered until 1989. As we have noted in previous research reports, the young adults in the LSAY and Generation X have made extensive use of these emerging electronic communication technologies.

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Table 2: Electronic network activities by American young adults, 2011.

	Mean number per month						N
	Total electronic contacts	Non-work emails	Facebook uses	Twitter uses	Skype uses	Sent digital pictures	
All young adults	74	39.0	22.6	3.6	1.3	7.3	3,027
Gender							
Female	76	39.5	26.1	2.1	1.1	7.3	1,560
Male	71	38.4	18.9	5.1	1.6	7.3	1,467
Education							
Less than HS	37	8.4	18.5	1.3	0.3	8.1	91
HS diploma or GED	54	21.6	22.0	2.6	1.0	7.2	1,287
Associate degree	61	26.6	24.3	1.6	0.6	8.0	244
Baccalaureate	86	56.1	24.0	6.1	2.1	7.2	859
Master's degree	97	63.1	21.7	3.4	1.7	7.7	401
Doctorate/Profession	96	64.8	20.7	3.1	1.1	6.3	145
Minor children at home							
None	74	40.7	22.0	3.6	1.0	7.0	826
One or more	74	38.3	22.8	3.6	1.5	7.4	2,197

Sociologists and communication specialists have debated the impact of the revolution in electronic communication technologies on the development of social capital in this generation. In principle, new electronic communication technologies should make communication easier, faster, and less expensive. Young adults who have moved away from the town in which they grew up or attended high school should be able to maintain frequent contact with friends and family through both older electronic technologies such as the telephone and newer means such as email, Facebook, Twitter, and Skype.

The results for the 2011 and preceding national surveys indicate that young adults in the LSAY and Generation X use electronic networks extensively and that the volume of these electronic networks is essentially the same as the more traditional personal contact networks described above. In 2011, LSAY young adults reported an average of

74 electronic network contacts per month, which is equal to the 75 personal network contacts that they reported (see Table 2). Email contacts accounted for the largest share of electronic networking, with an average of 39 non-work emails each month. LSAY young adults reported an additional 23 Facebook visits or sessions each month. These electronic network activities were supplemented with an average of four Tweets and one Skype call each month. These young adults also sent seven digital pictures to friends and family each month, providing a visual supplement to more text-based messages in email and tweets.

The five categories of electronic network activities included in Table 2 do not exhaust the full range of possible electronic networking, but they do represent the major forms of electronic network communication and provide a useful indicator of the relative volume of electronic network activity.

Young women reported a slightly higher frequency of electronic network activity (see Table 2). Young men and young women were essentially equal in their use of email with friends and family, but young women were more like to use Facebook and young men were more likely to tweet and to talk over Skype.

The frequency of electronic networking was strongly related to the level of formal education completed (see Table 2). The most pronounced difference occurred in regard to the frequency of email for non-work purposes, which ranged from 8.4 per month for young adults who did not finish high school to 64.8 for young adults with advanced degrees. Some of this difference may reflect income and access to Internet or wireless communication equipment, and some of it may reflect the advantages of knowledge and skill that come from higher levels of education.

The effect of education on other forms of

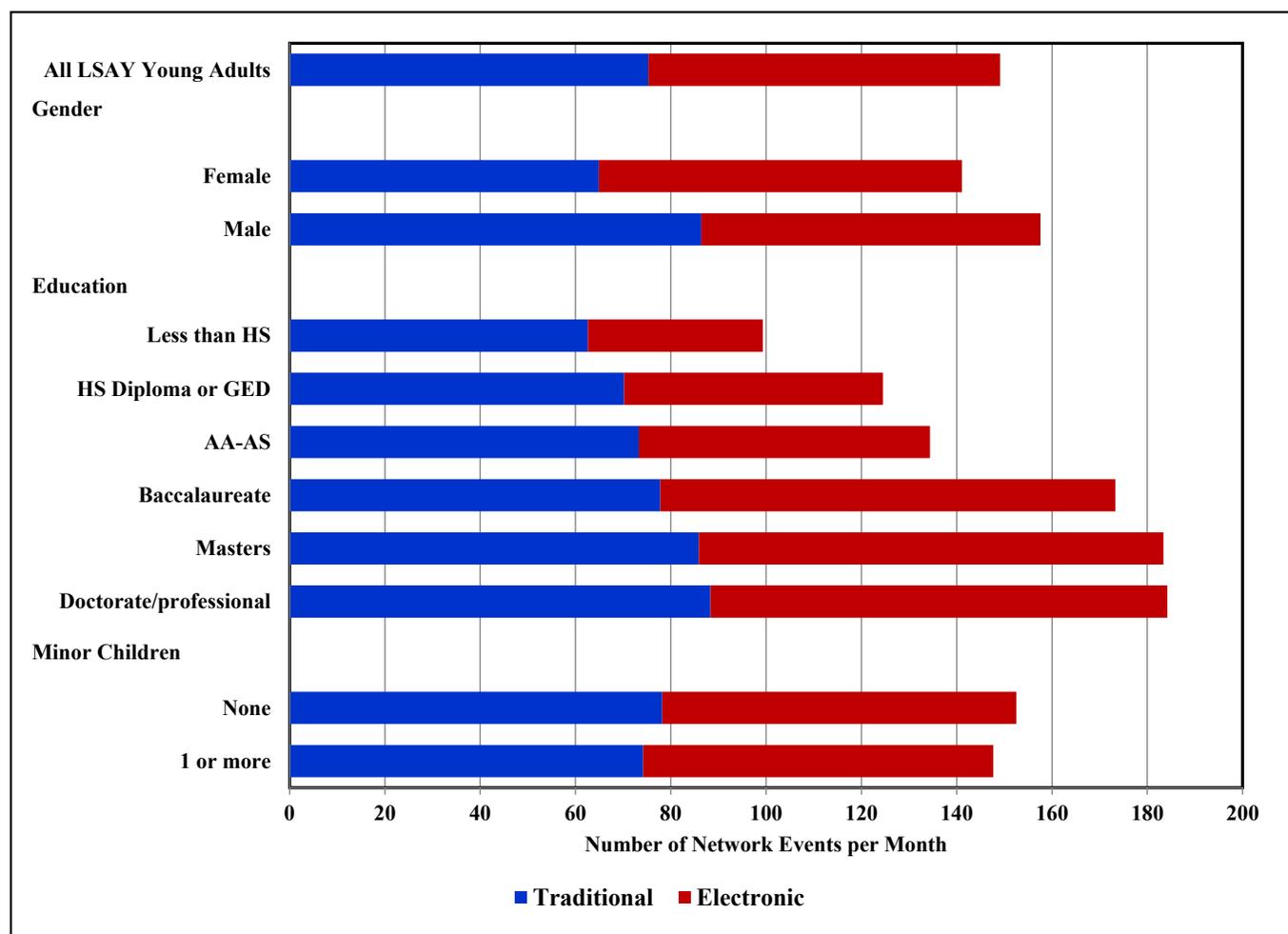
electronic networking was mixed. Young adults who completed an associate or baccalaureate degree reported the most frequent use of Facebook and baccalaureate holders were more likely to reporting tweeting. There was no consistent pattern of Skype use or sending digital pictures that was related to the level of education completed.

And, the presence or absence of minor children in the home made no difference in the frequency of electronic networking among the young adults in the LSAY and Generation X (see Table 2).

IS THERE A TRADE-OFF BETWEEN TRADITIONAL AND ELECTRONIC NETWORKS?

Up to this point, we have looked at the size of traditional personal networks and electronic personal networks. It is reasonable to inquire about the relationship between these two kinds of networks. Do some people rely primarily

Figure 1: Traditional and Electronic Networks by Selected Characteristics, 2011.





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on traditional personal networks while other individuals use primarily electronic networks? The data from the LSAY provide the answer.

Looking at the mean indicators for traditional and electronic personal networks by gender, education, and family status, the results indicate that there is a rough parity between the two kinds of networks that persists across social groupings (see Figure 1). LSAY young adults who completed a baccalaureate and/or advanced degrees tended to report larger personal traditional and electronic networks, but the ratio was roughly the same. Only among LSAY participants who did not complete high school was the ratio different, with a larger reliance on traditional personal networks and a lower level of electronic network activity.

This pattern may simply reflect the collective experience of Generation X, which is the first generation of Americans to have reached adulthood at the beginning of the Electronic Era. Young adults who enrolled in college in the 1980's and 1990's would have had extensive

exposure to computer electronic communication technologies, but many young adults who went into non-college occupations would have encountered an increasing number of computers and automated systems. In retrospect, a substantial mix of traditional and electronic network activity should not be surprising, given the history of Generation X.

THE IMPACT OF SOCIAL CAPITAL

The size and composition of personal networks is both a reflection of cumulative advantage over years and decades and an indicator of the resources available to individuals and families to shape their lives and deal with problems or challenges that may arise. We live in an increasingly complex social and economic world and the idea that any one person can be totally self-sufficient is less and less viable. Almost everyone relies on other people for help in an emergency (accident, sickness, or similar event) and at times of crisis we quickly determine who we might turn to for help and support. But on a daily basis, we depend on a larger array of other people for food, clothing, medical care, transportation, and other products and services. It is unlikely that our social interdependence will diminish in the foreseeable future.

This brief report documents the extensive personal networks that young adults in Generation X have constructed for themselves and their families. In important ways, they have continued to build and use traditional networks around their families, co-workers, and churches and other organizations. But they have supplemented those traditional networks with electronic networks that allow more frequent conversations with parents, siblings, and children as they grow older. Through the use of wired and wireless communications, the young adults in Generation X are able to share pictures and to use Skype and similar services to see friends and relatives who may be hundreds or thousands of miles away. Given the speed of emerging networks, it is likely that electronic network activities will continue to grow in the years ahead, but currently the young adults in Generation X demonstrate a healthy balance in their personal and social networks. ◆

A Brief History of the LSAY

Today, the Longitudinal Study of American Youth (LSAY) is the longest and most comprehensive longitudinal study of a national sample of public school students ever conducted in the United States.

To provide a more intensive longitudinal examination of the development of student achievement in middle school and high school (and the relationship of those patterns to career choices), the National Science Foundation (NSF) funded the LSAY in 1986. After a year of pilot testing of instruments, the LSAY began collecting data from a national sample of 7th and 10th grade students in 50 U.S. public school systems in the fall of 1987. During the next seven years, each of approximately 5,900 students in the two national probability cohort samples were given mathematics and science achievement tests (based on the National Assessment of Educational Progress item pools) each fall and were asked to complete attitudinal and self-report questionnaires each fall and spring.

In addition, one parent of each of the LSAY students was interviewed each spring by telephone, and all of the mathematics and science teachers who served one or more LSAY students were asked to complete a questionnaire for each course, including information about the objectives of the course, the textbook used, and the allocation of time and effort in the course to various kinds of instructional activities. The principal of each of the participating schools was asked to complete a school inventory and questionnaire periodically. The initial period of data collection ended in the spring of 1994 when the 7th-grade cohort was one year beyond high school and the 10th-grade cohort was four years beyond high school.

With support from the NSF STEP program in 2005, the LSAY was able to locate or account for more than 95% of the original sample of students. Data collection was resumed in 2007 and four additional cycles of data collection have been completed with NSF support.

The Generation X Report is based primarily on data from the Longitudinal Study of American Youth (LSAY). The LSAY has been funded by the National Science Foundation (NSF) since 1986 (NSF awards MDR-8550085, REC96-27669, RED-9909569, REC-0337487, DUE-0525357, DUE-0712842, DUE-0856695, DRL-0917535, DUE-1118625, DUE-1118626).

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author and do not necessarily reflect the views of the NSF.

We acknowledge the continuing cooperation and support of the more than 4,000 LSAY participants who have voluntarily

The LSAY participants in the two cohorts are now 36 and 39 years of age, respectively. Because of its extraordinary longitudinal record of these young adults – who represent the core of Generation X – the LSAY is committed to continuing an annual program of measurement and analysis in future decades.

During the years in which students were enrolled in middle school and high school, data were collected primarily through the use of printed questionnaires and tests administered in school by a local school staff member employed part-time by the LSAY. Teacher questionnaires were printed and collected by a combination of mail and the use of a local in-school coordinator. During the in-school years, one parent of each participating student was interviewed by telephone once each year. Currently, approximately 75% of participating young adults complete an annual questionnaire online and the remaining 25% use a printed questionnaire and a postage-paid return envelope. Current participants are offered a small payment in appreciation for their time and effort.

All of the data collection and data management procedures used by the LSAY are approved by the University of Michigan Institutional Review Board. In earlier years, LSAY data collection procedures were reviewed and approved by the Institutional Review Boards at Michigan State University, Northwestern University, and Northern Illinois University. The data are deposited (in a blinded format to protect the identity of individuals) in the Inter-university Consortium for Political and Social Research (ICPSR) at the University of Michigan and are available for secondary analysis according to ICPSR rules. Over the last two decades, LSAY data have been used in approximately 40 dissertations and more than 200 articles in refereed journals.

A more comprehensive description of the LSAY is available at www.lsay.org. ◆

completed questionnaires, telephone interviews, and data forms over the last 24 years and thank them for their continuing support. Without their active involvement, the LSAY would not be possible.

We also acknowledge and thank the parents of LSAY students and the teachers, principals, and administrators in public school districts throughout the U.S. who contributed their time and energy to this study.

And, we acknowledge and thank the several hundred staff who have worked on the LSAY over the last two decades to make this study possible.

