

THE Generation X Report

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Coping with Influenza: How young Americans reacted to an influenza epidemic

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YOUNG ADULTS IN GENERATION X FACED A NEW CHALLENGE IN 2009 – AN INFLUENZA EPIDEMIC that threatened children and young adults more than older adults. Although this generation of young Americans had grown up aware of the threat of HIV and other sexually transmitted diseases, they had never before experienced an infectious disease threat of this dimension. Many of their parents may have recalled growing up in the shadow of the polio epidemic in the 1950's, but this was a new experience for Generation X.

How many of the young adults in Generation X were aware of the influenza epidemic and were concerned about it? How did they get information about the threat of influenza and what information sources did they trust most for this kind of information? And, how many members of Generation X got a vaccination for the H1N1 strain of influenza that was the primary threat in 2009? Understanding the reactions of Generation X to this threat may help public health officials and communicators deal more effectively with future epidemics and similar crises.

In its annual survey launched in November 2009, the Longitudinal Study of American Youth (LSAY) asked a national sample of young adults aged 36 to 39 – the core of Generation X – a series of questions about their awareness, concern, knowledge, and actions in regard to this influenza epidemic. This research report summarizes how these young Americans coped with the influenza epidemic.

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AWARENESS AND CONCERN ABOUT INFLUENZA

Although the influenza epidemic was in the news almost daily throughout the fall and winter of 2009, adults are selective in the topics that they follow and the information that they retain, and the young adults in Generation X displayed the same pattern of selective attention. Eighteen percent of young adults in the LSAY reported that they were following the influenza issue closely and 40% said that they were following it moderately closely (see Table 1). Nearly 30% indicated that they were following the issue occasionally and the remaining 14% reported that they paid little or no attention to the issue. This pattern is not unusual for American adults of all ages.

Table 1: Awareness and Concern about Influenza, 2009

		All young adults	Parents with kids at home	Young adults no kids
How closely are you following this issue?	Very closely	18%	20%	15%
	Moderately closely	40	42	32
	Occasionally	28	27	32
	Just a little bit	10	8	15
	Not at all	4	3	6
How concerned are you about the flu?	Very high concern (9-10)	12	13	9
	High concern (7-8)	19	21	16
	Moderate concern (4-6)	34	36	29
	Low concern (2-3)	22	20	26
	No concern (0-1)	13	10	20
Number of cases		3,083	2,188	898

The level of concern about the influenza epidemic reflected a bell-shaped distribution, with slightly more than one in 10 young adults reporting either very high concern or no concern at all (see Table 1). A third of Generation X young adults expressed a moderate level of concern about the H1N1 or swine flu epidemic. The relationship between concern and following the issue in the news is largely circular – individuals who are more concerned tend to read and watch more news about it and individuals who see more news about the epidemic often become more concerned about it. Communication scholars refer to this process as a spiral of information acquisition.

Throughout the media coverage of the H1N1 epidemic, health authorities emphasized that some groups were at significantly greater risk than other groups. For the swine flu or H1N1 virus, the most vulnerable populations were young children and adults with chronic illnesses such as asthma or other diseases that compromised their immune system. For the young adults in Generation X, the greatest risk was in contracting the virus and transmitting it to a child or an at-risk adult. Although the LSAY does not have information to identify individuals with chronic illnesses or other vulnerabilities, the study does know about the presence or absence of minor children in each participant’s household.

As expected, the results from the 2009 LSAY survey indicated that young adults who had minor children living in their household were more likely to follow the issue closely and were more concerned about the H1N1 epidemic. Sixty-two percent of young adults with minor children at home reported that they followed the influenza epidemic very or moderately closely, compared to 47% of young adults without children (see Table 1). And 34% of young adults with minor children indicated that they were concerned or very concerned about the influenza epidemic compared to 25% of non-parents in the study.

SOURCES OF INFORMATION ABOUT INFLUENZA AWARENESS AND CONCERN ABOUT INFLUENZA

How did the young adults in Generation X learn about the nature and implications of the 2009 influenza epidemic? Given the volume of media coverage of the influenza epidemic, it is reasonable to expect that some information was obtained from traditional media – newspapers, magazines, and television news – but that the availability of online resources would have been widely used by the Internet-savvy members of this generation. The 2009 LSAY survey asked participants how many times they had obtained influenza information during the preceding month from a wide array of sources.

The results indicate that young adults obtained influenza information from a variety of sources, reflecting both the availability of print, broadcast, online, and other sources and the tendency of well-informed adults to use more than one resource as a check on other sources. The most frequent source of influenza information was conversation with friends, co-workers, and family (see Table 2). LSAY young adults reported about nine conversations about influenza in a one-month period and it is reasonable to expect that information was given, received, and checked through these conversations. Although it is often thought that adults get most of their information from formal media sources, numerous studies have found that adults tend to talk to each other about important issues and to use these conversations to make sense of complex issues.

LSAY young adults reported that they read an average of 2.6 news stories about influenza in newspapers and magazines during the same one-month period and watched or listened to 2.8 television or radio stories about influenza. During the same period, young adults obtained influenza information from online sources 4.9 times. The results suggest that most of the influenza information obtained by young adults came from web sites and news sources on the Internet rather than from blogs or social media.

Physicians provided some information about influenza to the young adults in Generation X, but these young adults reported an average of 1.6 conversations during a one-month period (see Table 2). The relative infrequency of physician conversations compared to traditional and electronic media sources undoubtedly reflects the greater difficulty of getting an appointment with a physician in many communities, and it is likely that many of these conversations with physicians occurred during an office or clinic visit seeking diagnosis or treatment for an immediate health problem. Some of these conversations may have occurred in conjunction with getting a flu shot, but other data indicate that the vast majority of flu shots are given by nurses and pharmacy personnel. Of the 21 influenza information acquisition events during the preceding month reported by LSAY young adults, slightly fewer than two involved a physician.

The H1N1 or swine flu epidemic posed the greatest risk to children and high school and college students and young adult

parents reported following the issue more closely and being somewhat more concerned about the consequences of influenza. Did these young parents use the same information sources as other young adults, or did they display a different pattern of information acquisition? The results from the 2009 LSAY survey indicate that parents of minor children engaged in more influenza information

seeking and sharing activities than did similar young adults without minor children at home. The parents of minor children reported 24 information seeking or sharing activities during the preceding month compared to 18 for young adults without minor children (see Table 2). Although there was a great deal of similarity in the distribution of information seeking/sharing activities reported by parents and non-parents, parents of minor children were significantly more likely to talk to friends and family about the influenza epidemic than were young adults without minor children, suggesting that the social network of family and friends was especially effective for obtaining and sharing influenza-related information.



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Table 2: Influenza Information Acquisition, 2009

Information Acquisition Activity		All young adults		Parents with children		Young adults no kids	
Talk	Talk to friends or co-workers	4.9	9.2	5.3	10.1	4.1	7.2
	Talk to other family members	4.1		4.7		2.9	
	Attend lecture about ...	0.2		0.1		0.2	
Expert	Talk to physician	1.6	1.6	1.8	1.8	1.0	1.0
Read	Read newspaper/magazine	2.5	2.6	2.7	2.8	2.2	2.3
	Read book about ...	0.1		0.1		0.1	
Broadcast	Watch television show about	1.6	2.8	1.6	3.2	1.7	3.2
	Listen to radio show about ...	1.2		1.6		1.5	
Online	Found info on the Internet	2.9	4.9	3.1	5.3	2.5	4.1
	Searched Google, Yahoo, ...	1.1		1.3		0.7	
	Read blog about ...	0.4		0.4		0.6	
	Posted on blog about ...	0.1		0.1		0.1	
	Printed/downloaded info	0.4		0.4		0.2	
Special	Learned about ... at museum	0.1	0.3	0.1	0.3	0.1	0.2
	Found info at public library	0.2		0.2		0.1	
Number of cases		2,548		1,795		753	
Cell entries are the mean number of times each activity occurred in the previous month.							



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a large volume of information does not mean that all of the available information is taken in or trusted. Almost all adults make distinctions among information sources, trusting some more and others less.

To explore the patterns of trust that young adults have in various information sources on an emerging issue such as influenza, the 2009 LSAY study asked each participant to rate their level of trust in media and institutions in regard to information about “the flu or viruses.” As expected, the individual’s physician was the most trusted source of flu information with a mean rating of 7.9 on a zero-to-10 scale (see Table 3). A report from the National Institutes of Health was a close second, with a mean trust score of 7.5 on the same scale. Information from a pharmacist had a mean trust rating of 6.9 and information from a county health department had a mean trust score of 6.5. These four sources represent recognized knowledge or competence. Young adults trust these individuals and institutions because of their expertise.

But, being in the business is not enough. Young adults did not trust information from a pharmaceutical company commercial, assigning it a mean trust rating of 3.0 on the same zero-to-10 scale. Motive counts and it appears that most young adults see pharmaceutical companies as being more interested in sales than in providing helpful or truthful information.

The 2009 influenza epidemic illustrates the emergent and fast-moving nature of a great deal of health and science-related information. The issues surrounding the influenza epidemic were dynamic, including periodic changes in the availability of vaccines and changes in the guidelines defining which individuals and populations should be vaccinated first. An individual might have studied the nature of viruses in secondary school or college, but the information about the spread of the epidemic was changing by the week and it is reasonable to expect that individuals living in a community with a higher rate of infection might be more concerned than individuals living in an area that was less severely affected. In this context, few young adults reported that they obtained influenza information from a public library or a science museum.

This pattern indicates that few young adults relied exclusively on either traditional media or the Internet, but appeared to obtain information from a variety of sources. This pattern reflects the greater availability of information in today’s world and the greater access to that information by many individuals. It may also reflect a search to make sense of abundant, but sometimes conflicting, information. When individuals need to digest and make sense of new complex information, they often talk to their friends and co-workers about the issue – influenza in this case – and try to sort out conflicting information and to make a judgment about the consequences for the individual and their family. The high level of conversation among LSAY young adults is an indicator of how this process works.

TRUST IN SOURCES OF INFLUENZA INFORMATION

If there is any one characteristic that is symbolic of modern society it must be the abundance of information. In contrast to our frontier ancestors who waited for weeks for an old newspaper from the east, most Americans live in a sea of information. Young Americans in Generation X are active consumers of print, broadcast, and online information on many subjects and their reports of talking, reading, and listening to influenza information confirm this image. But exposure to

Table 3: Trust in Selected Information Sources on Influenza, 2009

Information source	Mean		
	All young adults	Parents with children	Young adults no kids
Your doctor	7.9	8.0	7.9
National Institutes of Health report	7.5	7.4	7.6
A pharmacist at your drug store	6.9	6.9	6.9
A nurse from the county health department	6.5	6.5	6.6
NOVA/Discovery TV show	6.3	6.2	6.6
Web-MD information	6.1	6.1	6.0
Science museum exhibit or presentation	6.0	6.0	6.0
Weekly news magazine	5.9	5.9	6.0
Network TV newscast (ABC, CBS, NBC)	5.9	5.9	6.0
CNN or MSNBC newscast	5.9	5.9	5.9
<i>New York Times</i> or <i>Washington Post</i>	5.8	5.7	5.8
National Public Radio	5.8	5.6	6.1
Local television newscast	5.6	5.6	5.6
Fox cable newscast	5.6	5.7	5.2
A family member	5.3	5.4	5.2
A close friend	4.9	4.9	4.8
Local newspaper	4.9	4.9	5.0
Speech by President Obama	4.7	4.5	4.9
Wikipedia article	4.5	4.6	4.5
Pharmaceutical company commercial	3.0	3.0	3.0
YouTube video	1.7	1.7	1.9
Number of cases	2,548	1,795	753

Cell entries are the mean scores on a zero-to-10 scale.

Among media sources, the *Public Broadcasting Service* television show *Nova* had a mean trust rating of 6.3, suggesting a combination of expertise and integrity. *Web-MD* had a mean trust rating of 6.1 and a presentation or exhibit at a science museum had a mean trust rating of 6.0 – both reflecting some sense of expertise without overt commercial interest.

The traditional print and broadcast news sources had mean trust ratings between 5.9 and 5.5 on a zero-to-10 scale (see Table 3). A story in a weekly news magazine, a network television newscast, and a *CNN* or *MSNBC* cable news show had a mean trust rating of 5.9, followed closely by a story in the *New York Times* or a story on *National Public Radio* (5.8). A local television newscast and a *Fox* cable news show had mean trust ratings of 5.6. For samples of the size available in the LSAY, differences of less than 0.2 are not statistically significant, thus all of these sources tend to cluster below the centers of expertise – physicians and the NIH – but higher than many other local or personal sources.

Although LSAY young adults reported extensive conversations with friends and family about influenza, they report lower levels of trust in information from those sources. Influenza information from a close friend or a family member had mean trust ratings of 4.9 and 5.3, respectively. These results suggest that young adults use recognized sources of expertise (their doctor, the NIH, a pharmacist, or a local health official) as sources of new information and they use conversations with their friends and family to make sense of the information and integrate it into their thinking and their decision making. Although these young adults have grown up in the midst of a revolution in communication technologies, this process has been known for decades.



In a classic study of communication and information transmission, Katz and Lazarsfeld studied a sample of adults in Decatur, Illinois, in 1945 (before television) and found that many of these adults obtained new information from newspapers,

magazines, and the radio, but that they subsequently talked about it with their friends and used these conversations to enrich their understanding of local issues, current fashions, and new motion pictures. In a 1955 book, *Personal Influence*, Katz and Lazarsfeld described how individuals use conversation to figure out contradictions or confusions in the information they

have acquired from media sources and to fit that information into their own experiences and lives. These results suggest that these same processes are still working 60 years later even though radio and local newspapers have given way to websites and smart phones.

SENSE OF UNDERSTANDING AND KNOWLEDGE ABOUT INFLUENZA

Despite the moderate level of concern about or attention to the influenza issue, a majority of Generation X young adults felt that they were “well informed” or “very well informed” about the issue (see Table 4). The analysis of the sources of influenza information used demonstrated a diversity of sources and a dynamic mixture of media sources and interpersonal conversation in seeking to make sense of the issue and the potential threat to each individual and his or her family and friends. But it is important to inquire how much information the young adults in the LSAY had or acquired about viral infections generally and about the swine flu epidemic specifically.

Table 4: Sense of Understanding about Influenza, 2009

	All young adults	Parents with kids at home	Young adults no kids	
How informed do you feel about the flu this year?	Very well informed (9-10)	25	26	22
	Well informed (7-8)	38	40	35
	Moderately informed (4-6)	28	28	30
	Less well informed (2-3)	6	4	9
	Not well informed (0-1)	3	2	4
Number of cases	3,083	2,188	898	

Throughout the last two decades, the LSAY has measured periodically the level of scientific understanding or literacy of the study participants. In the 2008 survey, a series of science knowledge and understanding items were asked that have been used in other studies of U.S. adults over the last 30 years. Using these data, it is estimated that 44% of LSAY young adults are scientifically literate, that is, they would be able to read moderately sophisticated science news stories similar to those found in the *New York Times* or in a *Nova* television show. This level of scientific literacy makes a wider array of materials accessible and useful to young adults and may facilitate the understanding of problems like the probability of the spread of a viral infection across countries or large population groups.

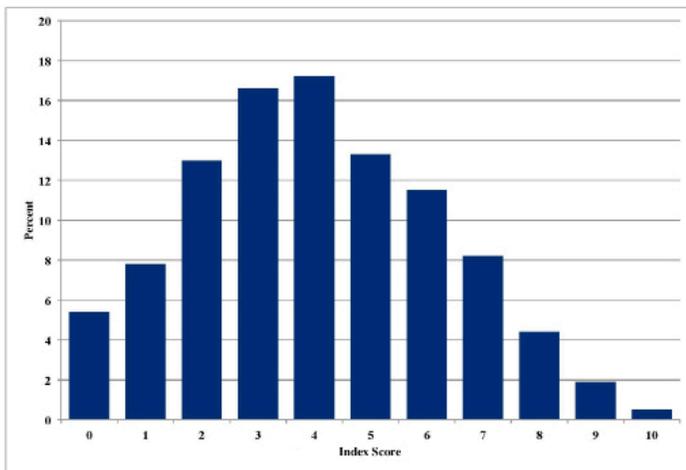
The 2009 LSAY survey also included a smaller set of knowledge items about influenza. Each LSAY young adult was asked to indicate whether each of the following statements are definitely true, probably true, probably false, or definitely false. Respondents were encouraged to check a “not sure” box rather than guess if they did not know the answer (see Table 5).

Table 5: Index of Influenza Knowledge, 2009

	Definitely false	Probably false	Not sure	Probably true	Definitely true
Last year, approximately 36,000 Americans died from seasonal flu infections and complications.	4%	11%	26%	50%	9%
Most viral infections can be treated successfully with a strong antibiotic.	42	12	12	26	7
The new swine flu (H1N1) vaccine is safe.	6	10	31	43	10
Currently, adults aged 65 and older are at greatest risk of swine flu infections.	8	16	13	35	18
Viruses – including the flu virus – can change form or mutate over short periods of time, becoming either more or less dangerous.	1	3	13	42	41
Answers in red are correct and counted as two points toward the Index.					
Answers in blue are partially correct and counted as one point toward the Index.					
Number of cases = 3,086					

The first, third, and fifth statements are true and young adults in the study who indicated that one of these statements was definitely true received two points and respondents who said that the statement was probably true received one point. Statements two and four are not true and respondents received two points for saying that each of these statements was definitely false and one point for saying that it was probably false. The Index of Influenza Knowledge ranged from zero to 10. The mean score on this index for LSAY young adults was 4.0 (see Figure 1).

Figure 1: Mean Influenza Index Scores, 2009



There is a strong relationship between the Index of Civic Scientific Literacy (CSL) and the Index of Influenza Knowledge. Individuals who scored 70 or higher on the CSL (the level judged to be necessary to read material like the New York Times science section) had a mean score of 5.1 on the Flu Knowledge Index compared to a mean score of 3.2 for young adults with a lower CSL score.

Young adults with a baccalaureate degree were more likely to qualify as civic scientific literate and be more knowledgeable about influenza. Some of this advantage comes from courses that these young adults took in college, especially science

courses. The baseline scientific literacy acquired in high school and especially college provides a better set of conceptual tools that help young adults read and make sense of traditional media sources and emerging electronic sources, and this new and enriched knowledge builds on earlier knowledge to create a deeper and stronger understanding of the general action of viral infection and the transmission of influenza.

The final question is whether concern, knowledge, gender, or minor children at home increased the likelihood that a young adult obtained a swine flu shot.

WHO GOT AN H1N1 FLU SHOT?

Although health authorities urged adults to get both a seasonal flu shot and an H1N1 flu shot, there was a strong message that the swine flu shot – for the H1N1 flu strain – was the more important. Although young adults in their late 30's were not a high-risk group per se, many LSAY young adults had minor children at home or encountered minor children in family or work settings. The 2009 LSAY study asked each participant about whether they had already taken both a seasonal flu shot and an H1N1 flu shot and, if they had not, whether they planned to do so.

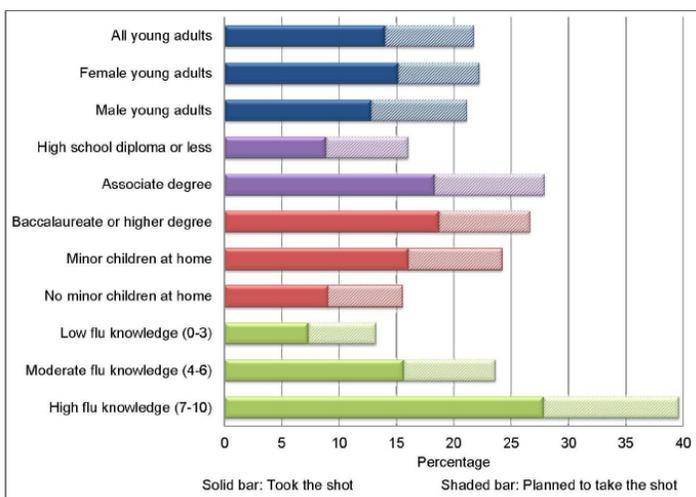


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At the time of the 2009 survey in November and December of 2009 and January of 2010, 14% of LSAY young adults reported that they had already had an H1N1 flu shot and an additional eight percent said that they intended to take the shot in the near future (see Figure 2). It is reasonable to assume that many of the individuals who reported that they intended to take the shot did so, but some may not have taken the shot due to a vaccine shortage in their area or to a perception that the primary threat had passed in their community. Assuming a little slippage, these results indicate that about 20% or one in five Generation X young adults took an H1N1 flu shot during the 2009-10 influenza epidemic.

In broad categories, young men and young women were almost equally likely to get an H1N1 flu shot and young adults with an associate degree or more were significantly more likely to get the shot than were young adults with only a high school education (see Figure 2).

Figure 2: Percentage of young adults who took or planned to take the swine flu shot, 2009



Given the differences in risk associated with various age groups and individuals with other conditions, it is important to look at the rate of H1N1 inoculation among various segments of this population. It is necessary to recall that supplies of the H1N1 flu vaccine were limited during the early months of the flu season and that many institutions and counties imposed some limitations on which individuals were eligible to get the H1N1 shot until the supply expanded. In this context, young adults who were the parents of minor children were significantly more likely to get an H1N1 flu shot than young adults without minor children at home. The differential (24% of parents of minor children and 16% of young adults without children) was smaller than would have been expected given the risk factors associated with the H1N1 virus.



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The level of knowledge about or understanding of influenza was strongly related to getting or planning to get a swine flu shot. Only 13% of young adults with a low level of flu knowledge had taken or planned to take a swine flu shot, compared to 24% of young adults with a moderate level of flu knowledge and 40% of young adults with a high level of flu knowledge (see Figure 2). Clearly, understanding the nature and implications of influenza made a difference in the likelihood of getting a swine flu shot.

It is important to recognize that many characteristics interact at the individual level. The level of flu knowledge and the presence or absence of minor children at home illustrate this point. Parents of minor children who had a high level of flu knowledge were the most likely to have taken a swine flu shot or planned to do so with 44% reporting that they had taken

the shot or planned to do so in the near future. Only 26% of young adults with the same level of flu understanding but without minor children at home made a similar report. Within each level of flu knowledge, parents with minor children at home were more likely to have taken or planned to take a swine flu shot. Both knowledge and circumstance count.

A SUCCESSFUL ENCOUNTER WITH AN EPIDEMIC

On balance, these results suggest that the young adults in Generation X did reasonably well in their first encounter with a major epidemic. Young adults with minor children at home were at the greatest risk and they responded with higher levels of awareness and concern and displayed a relatively high level of information acquisition about influenza generally and about the unique threat associated with the H1N1 virus. Young adults in their late 30's without minor children at home were at less direct risk from the swine flu epidemic, but it appears that many of these young adults monitored the crisis through traditional and electronic media – although less frequently than the parents of minor children.

Generation X is the most scientifically literate generation of Americans to date, with 44% qualifying as scientifically literate. These young adults appeared to use this basic conceptual knowledge to acquire additional information from traditional and emerging media. And, like generations before them, they talked with their friends, family, and co-workers about the swine flu epidemic and used these conversations to organize

and make sense of the large volume of influenza information available during the primary months of the epidemic in 2009 and early 2010. The strong relationship between the level of civic scientific literacy and the acquisition of influenza-specific information from current media illustrate the role that scientific literacy should play in the 21st century. It is impossible for any individual to acquire and store all of the scientific information that they may need to cope with emerging issues in the 21st century, but command of a strong set of basic scientific concepts and ideas provides a tool kit for making sense of new information as it emerges and as it is needed.

In the decades ahead, the young adults in Generation X will encounter numerous other crises – some biomedical, some environmental, and others yet to be imagined – and they will have to acquire, organize, and make sense of emerging scientific and technical information at that time. It is the nature of life in the 21st century. The experience of coping with the swine flu epidemic of 2009 was a good learning experience and it appears that Generation X did well. ◆

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.

