Technology and You
State Advisory Council on Aging
2014

In 2010, the Commission on Services to the Aging expressed interest was interested in learning knowing about the "digital divide" among older adults in Michigan. The Commission charged its State Advisory Council (SAC) to examine internet/technology use by older adults in three areas:

1. Access to computers and support for older adults offered by senior centers;
2. Computer/technology programs offered by Area Agencies on Aging; and
3. Individual use of computers and devices among older Michiganians.

The SAC invited presentations by several senior center directors from centers around the state. The topic was an overview of the centers' computer resources and technology support for older adults. The SAC heard about computer classes and labs, digital camera classes, classes on using social media, and electronic game competitions. The array of offerings at senior centers varied and included assistance by other entities. Some centers relied on volunteers, such as retired computer professionals, to provide computer classes or tech support sessions, while others had links to the technology staff of educational resources, e.g., school district, community education. All of the centers provided some level of technology support for center members, either informally or through classes. Participant demand was a key factor in the number and type of computer classes. Classes ranged from setting up e-mail accounts, scanning family photographs, to managing a Face Book page and installing new software.

In addition to these presentations, the SAC reviewed research on internet use conducted by the Pew Research Center.[1] According to the Pew Internet and American Life Project[2]

- Americans 50+ are the fastest growing new users of social media and new communications;
- Between April 2009 and May 2010, social networking use among internet users ages 50-64 grew by 88%--from 25% to 47%;

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[1] Older Adults and Social Media: Social networking use among those ages 50 and older nearly doubled over the past year, Mary Madden, Senior Research Specialist, August 27, 2010.

[2] Full report at http://pewinternet.org/Reports/2010/Older-Adults-and-Social-Media.aspx

- During the same period, use among those ages 65 and older grew 100%--from 13% to 26%.

The 2011Pew Internet report focused on the use of social media, e.g., Facebook, Linked In. Respondents were ages 18 and above and all were already online.

In February 2012, the Pew Internet project conducted a survey of who is online and issued a chart[3]. The percentage drops as age increases: 94% of people ages 18-29 to 48% of those age 65 and above.

A 2011 U.S. Department of Commerce report[4] stated that 68% of all households have broadband, but only 45% of older householders (65+) have broadband. There are several factors, such as rural, income, and education. However, older adults appear to be part of the third of all Americans who are not online.

After the senior center presentations, the SAC invited selected Area Agencies on Aging (AAAs) to present their activities to support technology use among older adults. One AAA provided computer training as part of the senior employment program. Another had arranged a reverse mentoring program that paired teenagers from a youth group with older persons. The teens were computer mentors. These impressive programs were not uniformly available, due to the lack of local collaborations, funding or other factors.

SAC members developed a picture of the growing number of publicly accessible computers, from public libraries to senior housing and apartment buildings and community centers, with various levels of computer supports. Some sites provided only the hardware, while others had staff to assist computer users. Access to community online resources appears to be within reach of many older adults; however, other factors contribute to whether or not an individual decides to use or own a computer, smartphone or other internet device. SAC members enumerated several factors of ownership, such as equipment cost, ability to connect to the internet, internet connection fees, trouble-shooting and maintenance, and the rapid change cycle in hardware and software. The release of new products makes older products obsolete.

To learn about older adults' attitudes and use of computers and similar devices, the SAC proposed conducting a survey of older adults. A sub-committee of SAC members

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[3] Available at http://pewinternet.org/Static-Pages/Trend-Data/Whos-Online.aspx

[4] Full report at http://www.esa.doc.gov/Reports/exploring-digital-nation-computer-and-internet-use-home.

met to develop the questions. First, they defined "older adult" as someone age 50 and above, in order to capture the "baby boomer" generation. The baby boomers have been in the workforce during the computer/internet age. The survey included items about using cell phones, electronic readers, and other devices that rely on internet connections. The SAC wanted to know reasons that people didn't use internet. The survey was released in mid-October, with a deadline of January 15, 2012.

The survey was available in two formats: paper copies and web-based. SAC members, members of the Commission on Services to the Aging, and Area Agencies on Aging directors received both formats: an electronic version of paper survey for printing and distribution and the web-link to the computer-based survey. Additionally, OSA posted the web-link on its website. Through the SAC members, many local groups and agencies received one or both of the formats.

By mid-January 2012, OSA received over 1200 paper surveys from around the state and the web link had over 750 responses. As responses entered the database, it was evident that most areas had good response rate, but some areas of the state were under-represented. OSA re-issued the survey to specific areas, made contacts with agency staff in those areas, and additional responses were received.
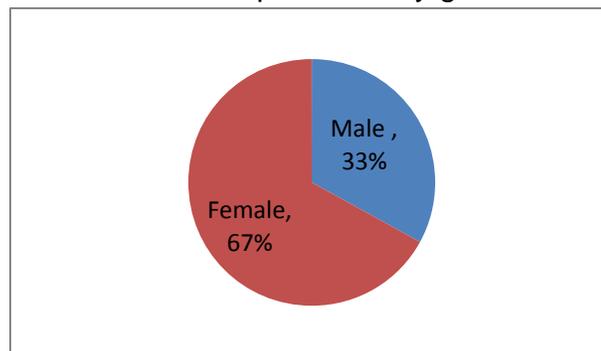
The SAC's intent was to gather information. The survey stimulated interest in the issue among aging services and older adults, and even the media. The current cohort of older adults witnessed dramatic changes in communication and information retrieval during their lifetime. From party line telephones to smart phones and video calls, people connect and communicate in methods that were science fiction fifty years ago.

Survey Results

A total of 1,957 responses combining two waves of survey data collection were received.

- The majority of respondents were female (67%) while males constituted the remaining (33%).

Chart 1 Respondents by gender

- Respondents' age was categorized in three groups. Of those groups, those in the youngest category (50-69) made up 45% (n= 817) of the total sample. Those in the middle category (70-79) made up 31% (n= 567), while those in the oldest category (80+) constituted the remaining 24% (445) of the range in ages.

Age	N	%
50-69	817	45
70-79	567	31
80+	445	24

The United States Census Bureau (2011) data on computer ownership and internet access at home from households of all ages in the entire nation (see table 1) show a 30% increase in ownership and access to the internet with comparable rates. Compared to national figures, Michigan stands a bit higher on internet access (see table 2).

Table 1

Households With a Computer and Internet Use: 1984 to 2011			
(In thousands.)			
Selected characteristics	Total	Household with computer at home	Household with Internet use at home
		Percent	Percent
Householders [1]			
Year			
2011	119,250	75.6	71.7
2010	119,545	76.7	71.1
2009	119,296	74.1 [2]	68.7
2007	117,840	69.7 [2]	61.7
2003	113,126	61.8	54.7
2001	109,106	56.3	50.4
2000	105,247	51.0	41.5
1997	102,158	36.6	18.0
1993	98,736	22.9	(x) [3]
1989	94,061	15.0	(x) [3]
1984	87,073	8.2	(x) [3]
Source: U.S. Census Bureau, Current Population Survey, October 1984, 1989, 1993, 1997, 2000, 2001, 2003, 2007, 2009, 2010, 2011. Footnotes: [1] The householder refers to the person (or one of the persons) in whose name the housing unit is owned or rented (maintained) or, if there is no such person, any adult member, excluding roomers, boarders, or paid employees.			

Table 2

Reported Internet Usage for Individuals 3 Years and Older, by State: 2011					
(In thousands.)					
Selected characteristics	Total 3 years and older	Individual accesses the Internet from some location [1]		Individual lives in household with Internet use [2]	
		Number	Percent	Number	Percent
United States	**293,414**	**204,596**	**69.7**	**224,349**	**76.5**
Michigan	**9,438**	**6,916**	**73.3**	**7,512**	**79.6**
Source: U.S. Census Bureau, Current Population Survey, July 2011. Footnotes: [1] "Some location" means Internet access that occurs either inside or outside the respondent's home. [2] At least one member of the individual's household reported using the Internet from home .					

Results from the "Technology and You" survey reveal a similar proportion of computer ownership with about 73% (n= 1338) of respondents indicating they own a computer. A Census report on adults ages 45 years and older on internet access indicates that 78% of those age 45-64 live in a household with internet use, whereas for adults 65 and older, the percentage diminishes to about 57% (Table 3).

Table 3

Reported Internet Usage for Individuals 3 Years and Older, by Selected Characteristics: 2011							
(In thousands.)							
Selected characteristics	Total	Individual lives in household with Internet use [1]		Individual accesses the Internet from some location [2]		Individual accesses the Internet from home	
		Number	Percent	Number	Percent	Number	Percent
Age							
45-64 years	80,947	63,289	78.2	58,630	72.4	54,911	67.8
65 years and older	39,641	22,671	57.2	18,026	45.5	16,582	41.8
Source: U.S. Census Bureau, Current Population Survey, July 2011. Footnotes: [1] At least one member of the individual's household reported using the Internet from home, even if that individual did not report use themselves. [2] "Some location" means Internet access that occurs either inside or outside the respondent's home.							

In comparison, the SAC survey data on Table 4 shows that about 40% (n= 714) of those ages 50-69 reported owning a computer with internet use. In the 70-79 years of age category, about 23% (n= 419) reported owning a computer with internet use. Lastly, only 11% (n= 205) of those in the 80+ reported the same.

Table 4
SAC Results of Computer Ownership w/ Internet

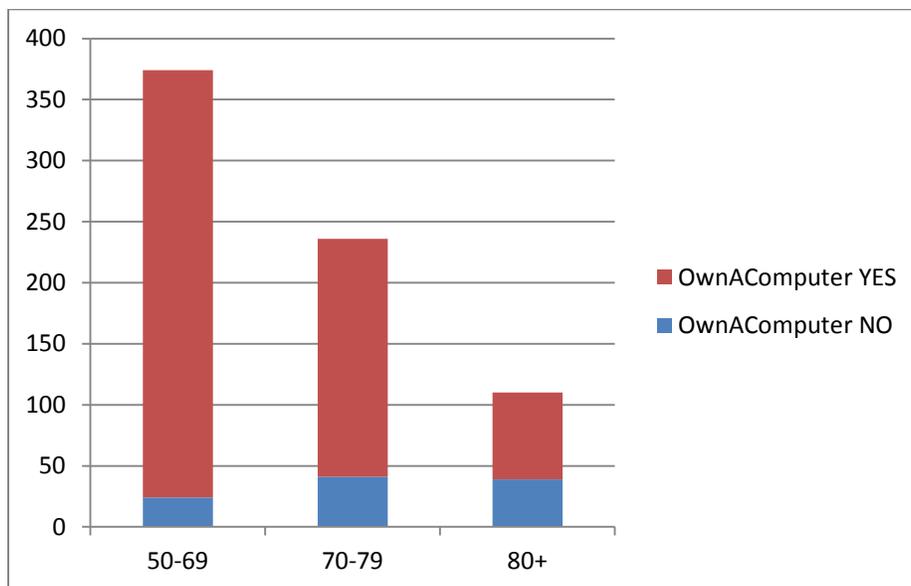| Age	Own Computer w/Internet	% respondents
50-69	714	40%
70-79	419	23%
80+	205	11%

These proportions are slightly lower than the national average reported by the Census. When analyzing computer ownership by sub-groups of age, the data from the SAC survey shows that the overwhelming majority (93%, n= 374) of those ages 50-69 do own a computer.

Reasons for Computer ownership: During analyses of the reasons participants use a computer, the two most popular reasons participants reported were to access email and the internet, both tasks requiring internet connection.

The Impact of Volunteering, Working, and Retirement

When cross tabulating the data by age and volunteer status, some marked differences were observed. Of those age 50-69 who volunteer, about 66% (n= 350) reported owning a computer. Volunteers age 70-79 reported computer ownership at around 87% (n= 195). Lastly, participants age 80+ who volunteered reported owning a computer at about 75% proportion (n= 71).

Volunteers by age and computer ownership

Respondents who indicated being employed full-time fell into two groups, ages 50-69 and 70-79. No one age 80+ responded to being employed full-time. Further examination of cross tabulation for age by full-time employment status revealed that those age 50-69 who work full-time and own a computer constitute about 89% (n= 266).
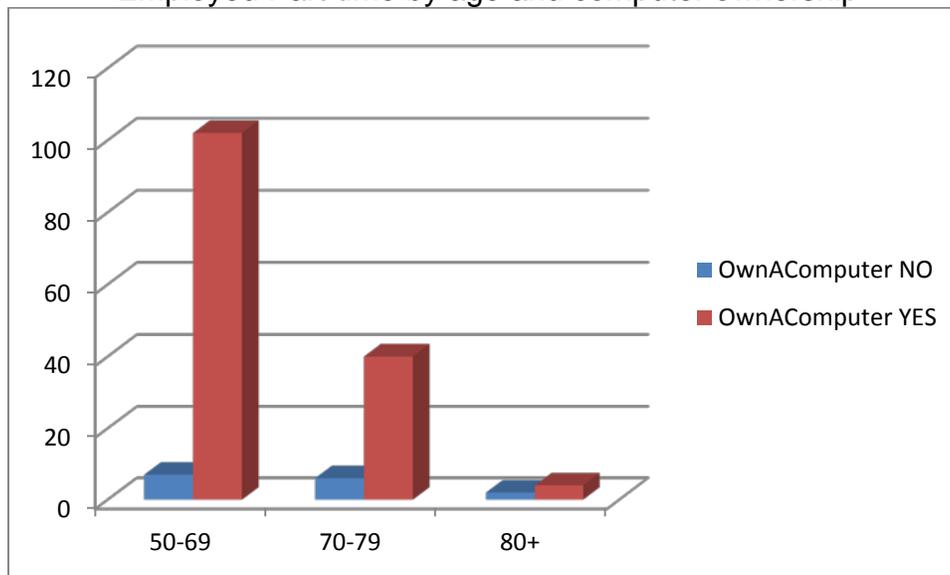
The number of those age 70-79 who worked full-time and reported computer ownership is about 5% (n= 15). This distribution shows that the vast majority of those employed full-time are in the 50-69 years old category and have a high rate of computer ownership, perhaps because they also use computers at work. See chart below.

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Employed Full-time by age and computer ownership

Reports from participants working part-time yield a slightly different pattern; see chart below. The participants in 50-69 years of age group is still the highest category for owning a computer with 63% (n= 102). The group of people age 70-79 working part-time is larger, but there is a drop in computer ownership with 25% (n= 40), followed by ages 80+ that only had 2% (n= 4). These results for working respondents reflect the fact that most people retire around 65 and very few remain working beyond 80.

Employed Part-time by age and computer ownership

Retired participants represented a significant number of responses. Within this category, those ages 50-69 reported about 25% (n= 332) of the computer ownership.

Further, those ages 70-79 owned computers at about 29% (n= 371), which is slightly higher than those in the previous age category. Most surprising was the group of 80+ years of age that had 15% (n=197) computer owners. The majority of age categories within retired participants show a much greater proportion of those who own a computer in comparison to those who reported not owning one. The exception is the category of 80+ where it was about half and half with 5 participants more (n= 202) for those who do not own a computer.
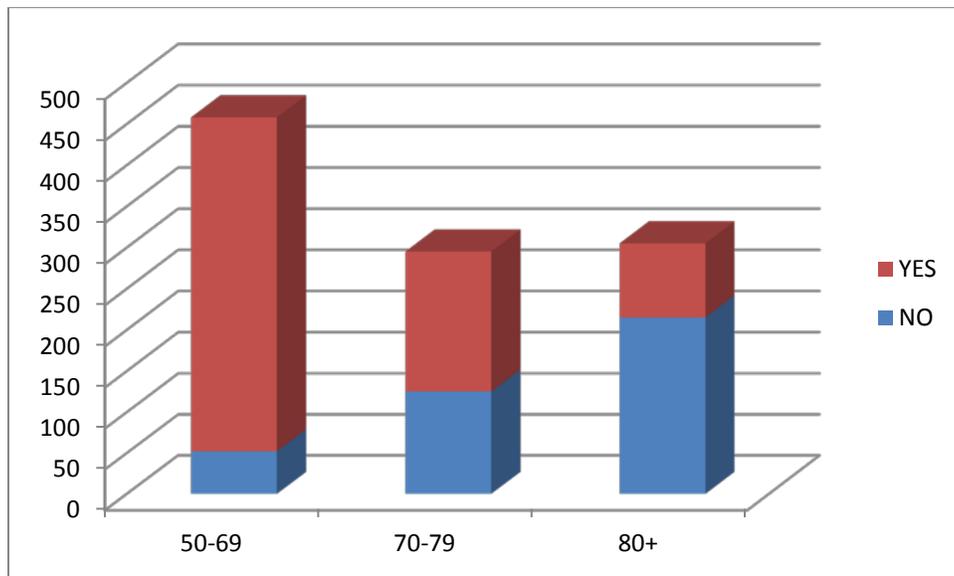
Retired by age and computer ownership
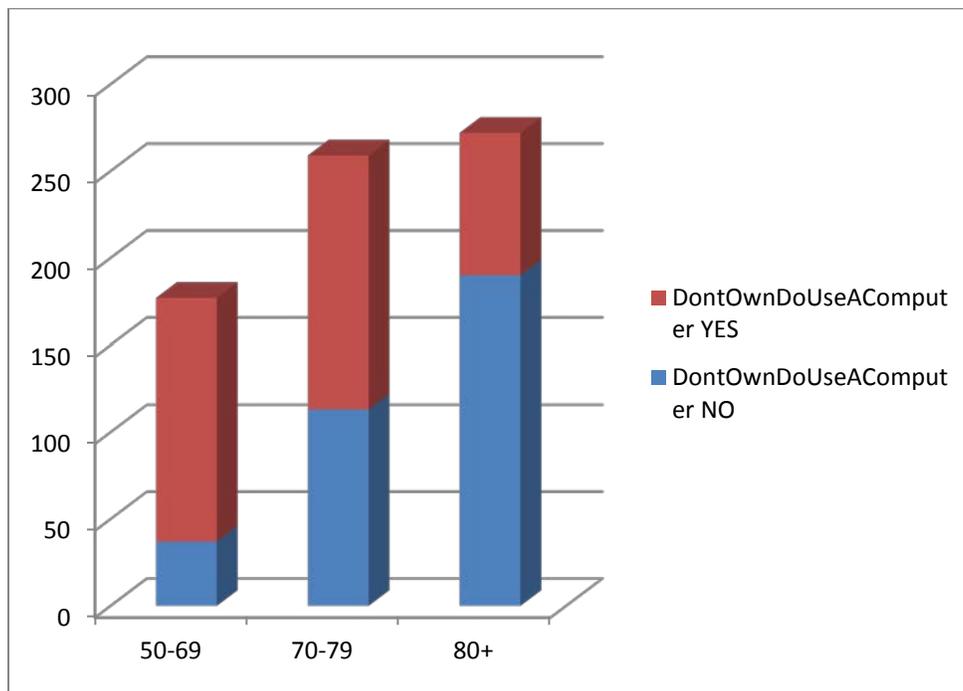

Computer use without ownership:

Participants who did not own a computer were asked if they had access to one. This question assessed the accessibility of computers by those who do not own a computer. In responding to the location of the computer used, public library was the top response, followed by family member's home and senior center. When examining that group by age, we find that for age 50-69 about 38% (n= 406) use a computer; followed by 16% (n= 170) of those 70-79 use a computer. Lastly, those in the 80+ category reported computer use at 8.5% (n= 90). Comparatively, there were more respondents that do use a computer at all age categories than those who do not.

Use computer but does not own

There was a different pattern when examining computer use (without ownership) among the retired participants. For that group, there was a higher percentage (26.8%) that do not use or own a computer among those in the 80+ age group (n= 190). Those in age group 70-79 (n= 113) had a much lower percentage (16%) of participants not using or owning a computer.
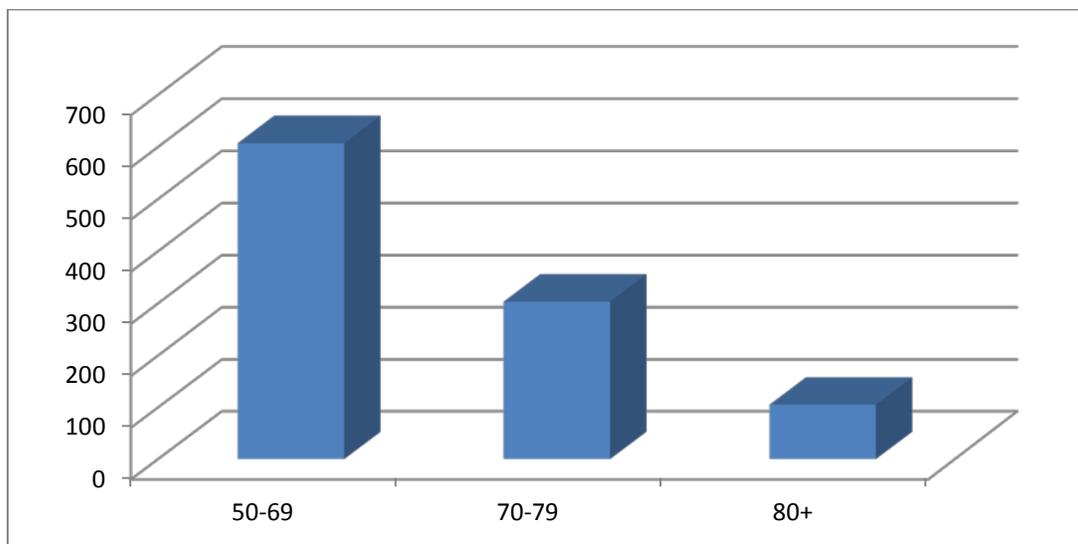
Retired, does not own computer

Use of digital devices:

The survey asked participants to check as many as seven devices used during the month prior. Three devices, cell phones, computers, and digital cameras, were the most frequently used devices. When looking at those who use of 3 or more digital devices by age-group, findings show that in the 50-69 age-group 60% (n= 607) of the participants used three or more devices. Further examining the 70-79 age-group about 30% (n= 303) of them used three or more devices. Lastly, the 80+ group was the least user of multiple devices at about 10% (n= 105). With these results a pattern points to a clear advantage for using digital devices among those who are younger.

Use Three or More Digital Devices by Age

There were no differences between rural and urban participants among those who listed use of 3 or more technology devices in the previous month.
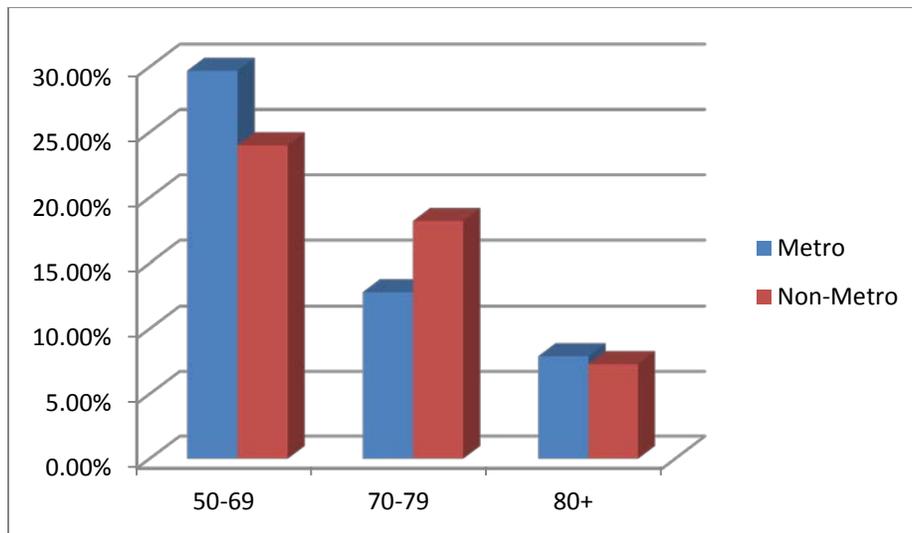
Urban Vs. Rural

We also examined metropolitan and non-metropolitan areas as defined by the USDA BEALE codes. For comparison purposes these counties were dummy coded or dichotomized. Counties with populations over 20,000 residents and adjacent to a metropolitan area were designated as Urban (n= 912). Conversely, counties that were not adjacent to metropolitan areas were designated Rural (n= 951).

The rate of computer ownership was about the same for urban (n= 692) and rural (n= 678) counties. When examining those who did not own a computer, slightly more rural participants reported not owning one. Further, there was not a significant difference between those who do not own a computer but use one.
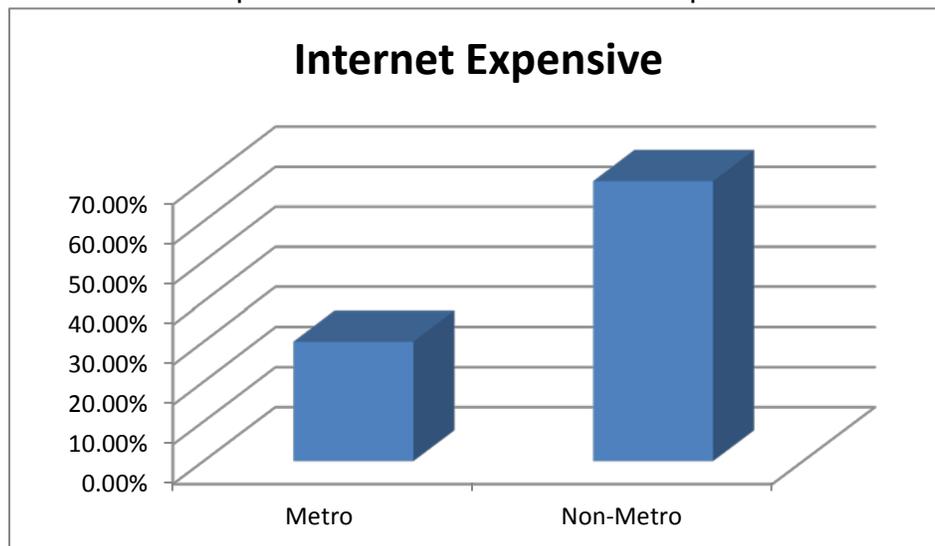
Dividing participants by age-group and rural or urban yielded more detailed results for computer ownership. Of those who reported owning a computer there were more urban participants in the 50-69 age category (n= 390) than rural (n= 314); however, the difference is not significant. Among those in the 70-79 age category, the pattern is inverse with more rural participants (n= 239) reporting ownership of a computer, compared to urban (n=168). At the 80+ age category the differences level off.

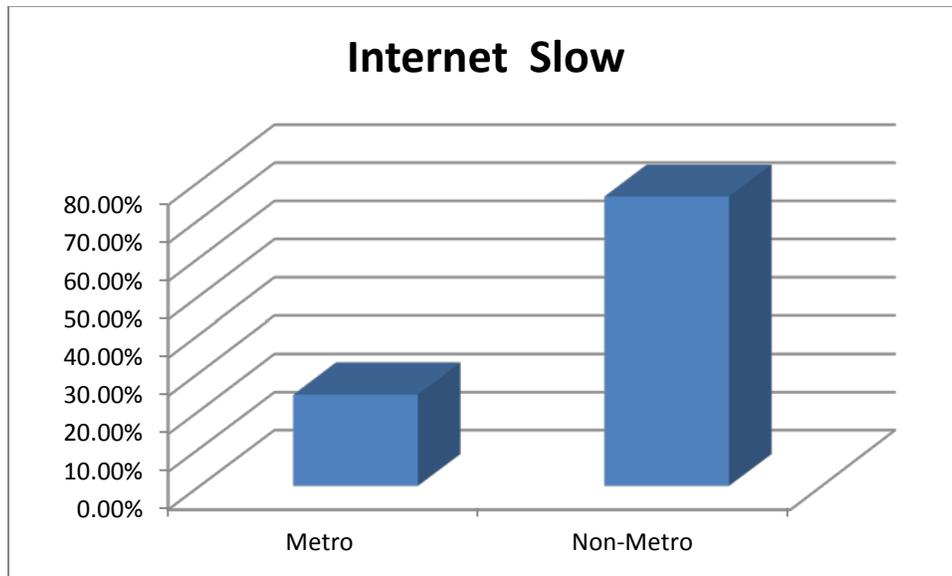Urban vs. Rural: Computer Ownership

Participants were asked for reasons for not using the internet. When examining availability of internet as a reason not to use a computer, there was only a slight difference between rural and urban. As for the cost of internet, the rural participants (n= 63) reported in greater number than urban (n= 47) that the high cost of internet was a reason for them not to use a computer.

Expense as reason to not use computer

Not all of Michigan is covered by broadband, although progress has been made since the survey was distributed. As a reason for not having internet connection, a slow internet connection was cited in a similar pattern for those in metropolitan and rural areas.

Slow internet as reason to not use computer

Internet Slow

In summary, the SAC technology survey received 1,957 responses, nearly 1,200 on paper delivered by the U. S. Mail. The SAC ensured that all regions of the state were represented in the results. While about 73% of the respondents reported owning a computer, comparable to the national numbers, not everyone who owns a computer has internet access. The two major barriers to the internet are cost and speed. As web sites become more complex and graphic, faster transmission speeds are necessary for access.

Not surprising, being in the younger age category, 50-69, was linked to higher computer ownership and use. This is the Boomer generation. Older and retired respondents reported less computer ownership than those working. As the Boomer generation moves into retirement, will they take their computers/smart phones/ tablets with them?

The SAC failed to ask about race and ethnicity, an unfortunate omission. We did not ask for demographic data beyond county, zip code, and gender.   There were also many written comments that expressed either positive or negative views of computers. Some felt the computer helped to keep them in touch with family, while others said they'd

"rather look at a loved one's face than a screen." A few responded with "I hate technology" and no answers beyond that.

Clearly, this was a preliminary survey, with many flaws. However, it touched a chord with many people. As more information is put on the internet, the aging network needs to be mindful of access issues, as it appears that the oldest old and economically insecure are more likely to not be on the internet.

Recommendations:

1. Revisit this issue in the future--Due to technology changing at record speeds and with the use of tele-health video conferencing increasing, this is an important issue to review every few years.
2. Seek funding for a possible grant to contract with formal evaluators from a Michigan university to perform a formal evaluation.

Acknowledgments:

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