

## **SUNspot – Adults with Disabilities, Age and Use of Wireless Devices**

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*We created “SUNspot” to share some of the latest findings from ongoing data collection for our Survey of User Needs (SUN), our cornerstone survey on use and usability of wireless technology by people with disabilities. We launched the first version of the SUN in 2001. The current version (Version 4) was launched in September 2012. The data reported here are preliminary results. Data collection is ongoing.*

This SUNspot addresses the question of whether age is a factor in the use of mobile wireless technology by people with disabilities. Two questions will be addressed:

- Does age affect the TYPE of wireless devices (basic cell phone, smartphone, or tablet) that people with disabilities own?
- How do ownership rates of basic cell phones, smartphones and tablets by age compare between SUN respondents with disabilities and the general population as measured by the Pew Research Center’s Internet and American Life Project Tracking Survey?

Of over 900 SUN respondents to date, 716 reported having one of the following difficulties:

- Difficulty concentrating, remembering or making decisions
- Frequent worry, nervousness, or anxiety
- Difficulty seeing
- Difficulty hearing
- Difficulty speaking so people can understand you
- Difficulty using your arms
- Difficulty using your hands and fingers
- Difficulty walking or climbing stairs

### **Wireless use and type of devices used**

Among adult SUN respondents who reported having one or more of the difficulties listed above, 91% reported owning or using a wireless device such as a cellphone, smartphone or tablet. Excluding tablet owners, 82% reported owning only a cell phone, whether a basic (or

“feature” phone) or a smartphone (Table 1). This figure is substantially lower than the 91% of the general population of adults in the Pew Research Center’s surveys on cell phone use.

Age appears to affect the ownership rates of both sets of respondents, but in different ways. For SUN respondents with disabilities, ownership rates increase slightly but steadily from the lowest age group in Table 1 (18-34 years) to the second highest (55-64), and then drop substantially among those 65 years of age and older. For the Pew respondents, ownership rates drop at accelerating rate from the very high rate (97%) of the youngest age group to the oldest (76%). The data for the general population more strongly support the hypothesis that cell phone ownership declines as age increases.

**Table 1 – CELLPHONE ownership (either a basic phone or a smartphone) by age (SUN and Pew)**

Age range	SUN - Yes (%)	Pew – Yes (%)*
18-34	81%	97%
35-44	83%	96%
45-54	85%	92%
55-64	85%	87%
65 and older	74%	76%
<b>All respondents with disabilities who reported their age</b>	<b>82%</b>	<b>91%</b>

\*Sources: Pew Research Center, “Smartphone Ownership – 2013 Update”, June 5, 2013, <http://pewinternet.org/Reports/2013/Smartphone-Ownership-2013/Findings.aspx>, accessed July 8, 2013; “Cellphone Ownership Hits 91% of Adults”, June 6, 2013, <http://www.pewresearch.org/fact-tank/2013/06/06/cell-phone-ownership-hits-91-of-adults/>, accessed July 8, 2013.

Distinguishing between basic or “feature” phones and smartphones shows strong age effects among both the SUN respondents with disabilities and the Pew respondents (Table 2). Two hypotheses are supported here:

- Basic cell phone ownership increases as age increases (direct relationship)
- Smartphone ownership decreases as age increases (inverse relationship)

With regard to basic cell phones, both the SUN and Pew samples show a strong direct relationship between basic phone ownership and age. Both samples show steadily increasing ownership from the youngest age group to the oldest, but the slope of the curve for the SUN sample is flatter. The SUN sample begins at a higher level for the youngest age group (24% versus 17% for the Pew sample), and ends at a much lower level of the oldest age group (40% versus 58% for the Pew sample).

**Table 2 – BASIC PHONE and SMARTPHONE ownership by age (SUN and Pew)**

Age range	Basic phone		Smartphone	
	SUN	Pew	SUN	Pew
18-34	24%	17%	59%	80%
35-44	22%	27%	66%	69%
45-54	32%	37%	53%	55%
55-64	31%	48%	54%	39%
65 and older	40%	58%	38%	18%
<b>All respondents with disabilities who identified their income range</b>	<b>30%</b>	<b>35%</b>	<b>54%</b>	<b>56%</b>

\*Some participants in the SUN reported owning more than one device. Consequently the sum of the two SUN columns above is greater than the percentages reported in Table 1.

For smartphones, both the SUN and Pew samples show strong inverse relationships between age and ownership. Here again, the slope of the curve for the SUN sample is much flatter than that for the Pew sample. Ownership declines steadily among the Pew respondents from 80% for the youngest age group (18-34) to 18% for the oldest group (65 and older).

As with smartphones, an inverse relationship is expected between age and ownership rates of tablets, i.e., as age increases, ownership rates are expected to decrease. The data in Table 3 support this hypothesis, but unevenly. For the Pew sample, there is steady and substantial decline in ownership rates as age increases, except for the youngest age group. The 18-34 age group reported an ownership rate lower than the next two older groups. This probably reflects the fact that for many people tablets are not as essential as a smartphone. Consequently, generally lower income levels of younger adults are probably affecting ownership rates.

**Table 3 – TABLET ownership by age (SUN and Pew)**

Age range	SUN	Pew*
18-34	38%	35%
35-44	37%	49%
45-54	26%	38%
55-64	27%	28%
65 and older	32%	18%
<b>All respondents with disabilities who identified their income range</b>	<b>31%</b>	<b>34%</b>

\*Source: Pew Research Center, "Tablet Ownership 2013", June 10, 2013, <http://pewinternet.org/Reports/2013/Smartphone-Ownership-2013/Findings.aspx>, accessed July 8, 2013.

For SUN respondents, tablet ownership rates decline steadily with increasing age, except for the oldest age group, whose rates are higher than the two next younger age groups. The highest ownership rate in the sample belongs to the youngest age group. This might reflect suspected high adoption rates of tablets by people with developmental disabilities and speech-language limitations.

Despite some notable exceptions described above, three conclusions can be drawn from the data presented for both samples:

1. Age is inversely related to mobile phone ownership (counting both basic cellphones and smartphones together) – as age increases, ownership rates decline.
2. Age is directly related to basic cellphone ownership.
3. Age is inversely related to smartphone and tablet ownership.

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**Data source:** Survey of User Needs (SUN), Rehabilitation Engineering Research Center for Wireless Technologies (Wireless RERC). We share survey data with manufacturers and carriers, as well as with policymakers, for the purpose of improving usability of wireless technology. SUN data are regularly used in guiding industry and government initiatives. We invite the public to take the Survey of User Needs and share how wireless technology affects daily life, and how it could be improved. The survey is available on paper, by phone (404-367-1348), or online at: [https://www.surveymonkey.com/s/SUN\\_2012-2013](https://www.surveymonkey.com/s/SUN_2012-2013).

The data presented here are based on a non-random sample. The survey is promoted as broadly as possible through convenience sampling techniques, with special effort toward reaching under-represented groups.

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