

GALLUP Panel™
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Addressing Coverage Error in Online Probability-based Panels

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Probability-based panels give researchers a frame for reaching respondents via email, but non-internet users are excluded.

- Probability-based panels deal with coverage of non-internet users in a few main ways:

\$ Accept under-coverage – exclude non-internet users

- **Pros:** Least expensive
- **Cons:** Coverage error – exclude approx. 10 – 15% of the population

\$\$ Offer alternative modes of responding (mail or phone)

- **Pros:** Less expensive than providing devices, improves coverage
- **Cons:** Individual studies may be more costly because of mixed-modes; possible measurement issues with mixing modes, may require longer timelines

\$\$\$ Offer web enabled devices and internet access

- **Pros:** Improves coverage
- **Cons:** May be prohibitively expensive; assumes that non-users will become users

Literature/Background

- **Rookey, Hanway, and Dillman (2008)¹ found that:**
 - Web and mail respondents are demographically different.
 - Web and mail respondents gave significantly different responses to some questions.
 - The addition of mail respondents may significantly improve the accuracy of estimates.
 - Weighting did not adequately adjust for bias introduced by excluding “non-internet” users.
- **The number of adults who use the internet has increased from approx. 50% in 2000 to 90% in 2018².**
 - Post-stratification weighting may now adequately adjust for any coverage bias.
- **Offering internet access, devices or alternative modes is costly. Important to continue to evaluate the benefits.**

¹Bryan Rookey, Steve Hanway, and Don Dillman. 2008. “Does a Probability-Based Panel Benefit from Assignment to Postal Response as an Alternative to Internet-Only?” *Public Opinion Quarterly* 72 (5) 962 – 984.

²Anderson, Perrin, and Jiang. 2018. “11% of Americans don’t use the Internet. Who are they?” Pew Research Center. Retrieved from: <http://www.pewresearch.org/fact-tank/2018/03/05/some-americans-dont-use-the-internet-who-are-they/>

Research Objectives

- 1 How do internet and non-internet users differ demographically?
- 2 Do results differ when non-internet users are excluded?
- 3 Does post-stratification weighting adequately reduce coverage bias?
 - Post-stratification weighting requires an assumption that those who are included in the survey represent those who were excluded.
 - Do results differ within demographic groups that are highly correlated with internet access and where we'd expect responses to be substantively different (i.e. self-reported health among adults over the age of 65).
- 4 Do results differ across different survey and topics?

Data collection – Overview of the Gallup Panel

Nationally representative, probability-based panel of U.S. adults who agree to participate in surveys

Built off of randomly generated telephone/address sample

Multi-mode

- Panelists can be surveyed by phone, web, mail, or SMS

Current Panel size:

- **100,000 panel members.** 80,000 can be reached via web.



Data Collection, cont...

- **Members who do not have Internet access can participate via mail and phone.**
 - Try not to mix interviewer and self-administered modes.
- **Most studies are conducted via web.** These studies exclude people without internet access.
- **When the Gallup Panel began in 2004, members assigned to “web” or “mail” contact based on frequency of internet use.**
 - Approximately 50% were assigned to the “web” contact type.
 - This recruitment strategy, and 50% assignment to the “mail” contact, was the basis of the Rookey, Hanway, Dillman (2008) study.
- **The default for current recruitment is to assign to a “web” contact, unless they say they don’t have an email or never use the internet.**
 - 80 - 85% of respondents are now assigned to the “web” contact type.

Data Collection

- **Health Survey (?s related to physical health and health care)**
 - Conducted Mar/April 2018 via web and mail.
 - Sample size of 5,377.
 - 91% of surveys were completed via web (n=4882) and 9% via mail (n=495)
- **Government Survey (?s on role of government, agencies and military)**
 - Conducted Jan/Feb, 2016 via web and mail.
 - Sample size of 25,418
 - 87.8% of surveys were completed via web (n=22,307) and 12.2% via mail (n=3,111).
- **Political and Economic Survey (?s on government approval and economy)**
 - Conducted Jan/Feb, 2016 via phone.
 - Sample size of 3,031.
 - 30% of survey completed from “mail” members (n=916) and 70% from “web” members (n=2115).
- **Insurance Survey (?s related to insurance – 65+ population)**
 - Conducted Fall 2019 via phone and web
 - Sample size of 949
 - 77% of surveys were completed via web (n = 733) and X% via phone (n = 216)

Data Collection, cont...

- Results of all studies were weighted.
 - Weights include a base weight, which accounts for the probability of selection into the panel
 - Two post-stratification weights were constructed. One for the total sample (web + mail/phone) and another for web only.
 - All weights used national targets based on the most recent CPS figures for age, gender, race/ethnicity, education, and region.

Comparison of “internet” and “non-internet” respondents

Members with internet access are demographically different than members without internet access. Substantive results are also significantly different between web and mail members.

- Members without internet access are more likely to be older, have lower levels of education and be from a racial or ethnic minority group.
 - 50% of members without internet are over the age of 65.
 - 16% of those without internet have less than a high school diploma, compared to 2% of those with internet access.
 - 75% of members without internet are white, compared to 82% of those with.
 - 70% of Spanish speaking members do not have internet access.

- Members without internet access have substantively different responses (weighted).

Survey	# ?s	# Δ > 3% < 5%	# Δ > 4.9% < 7%	# Δ > 7%
Politics & Economy	48	5	21	15
Total	48	10%	44%	31%

Comparison of results with and without “internet” members

There are very few differences between weighted results when comparing results with “internet” AND “non-internet” respondents as compared to only results from “internet” members.

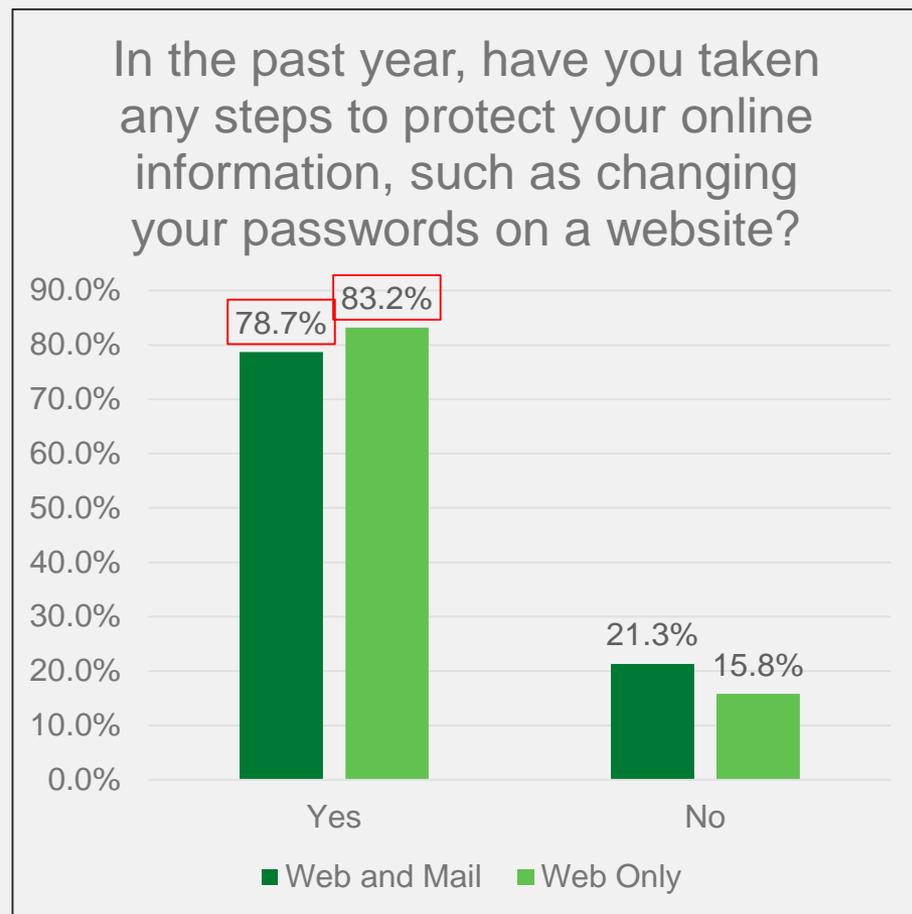
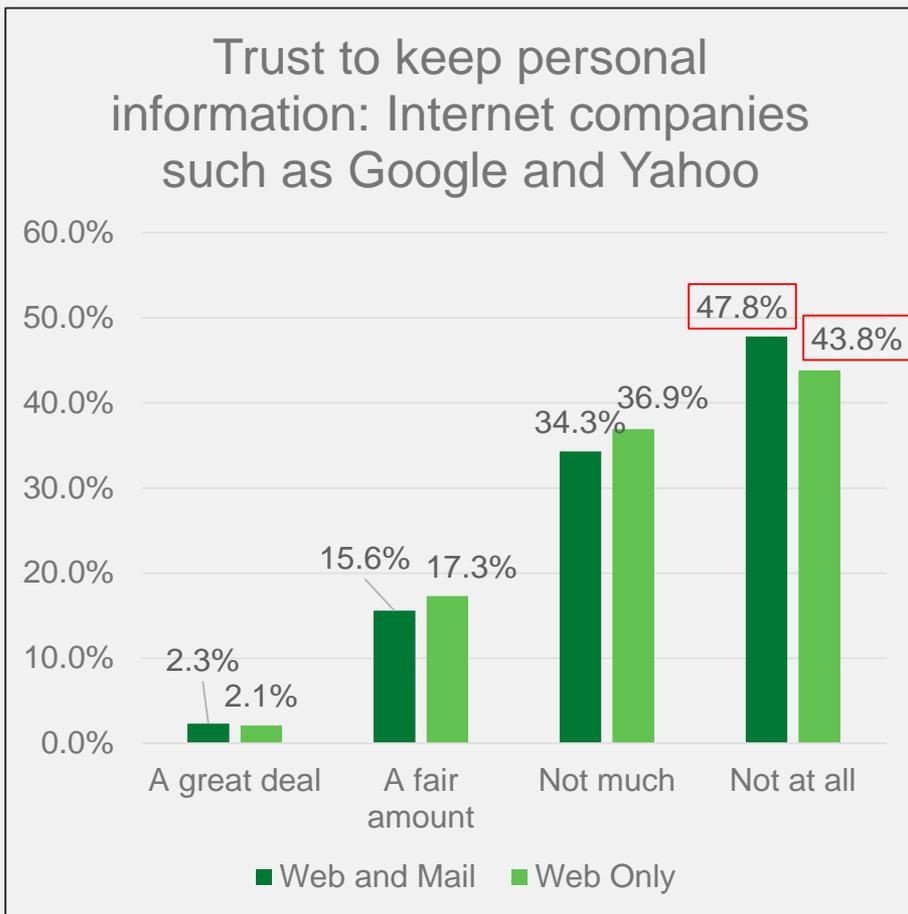
- Very few differences were observed when comparing results with and without internet members.
- The health survey, had no differences greater than 2% and most were within less than 1%.
- In political survey, differences were on demographics related to internet use.
- In government survey, most differences were related to “confidence in security” items. Largest differences correlated with internet access (i.e. confidence internet providers will keep information private).
 - Some of these differences would be expected due to chance.

Survey	# ?s	# Δ > 3%	# Δ > 5%	# Δ > 7%*
Health	42	0	0	0
Politics & Economy	48	4	0	0
Government	140	7	1	1
Total	230	3%	2%	<1%

* None were greater than 10%

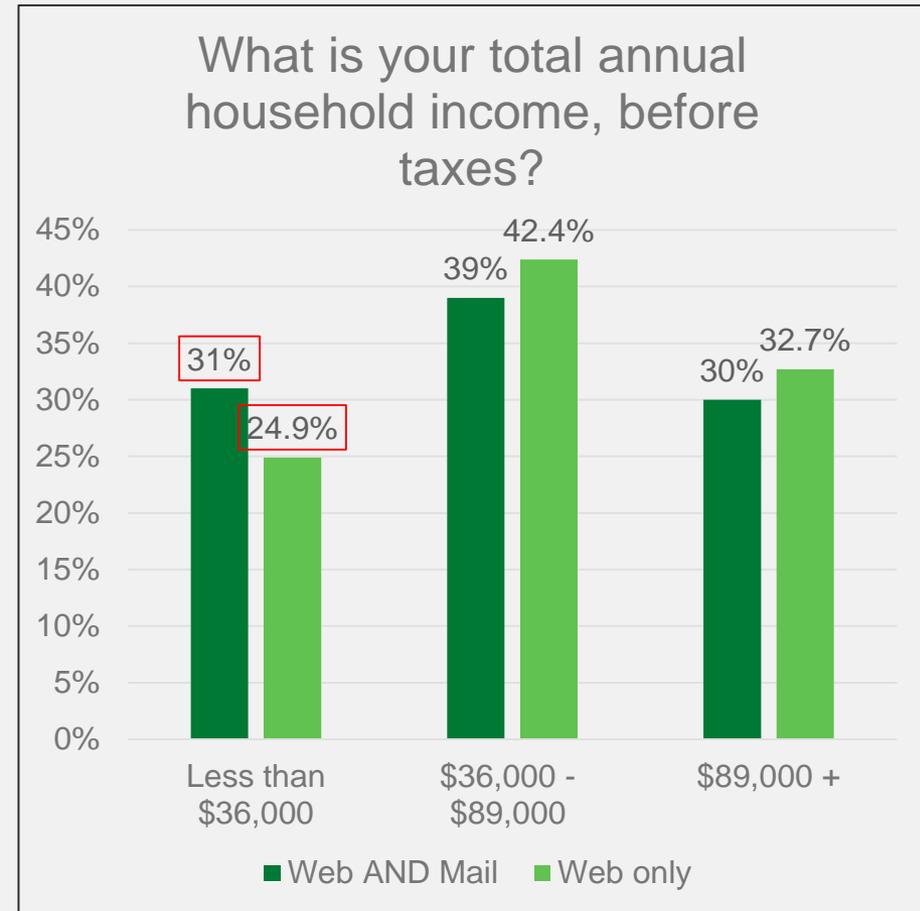
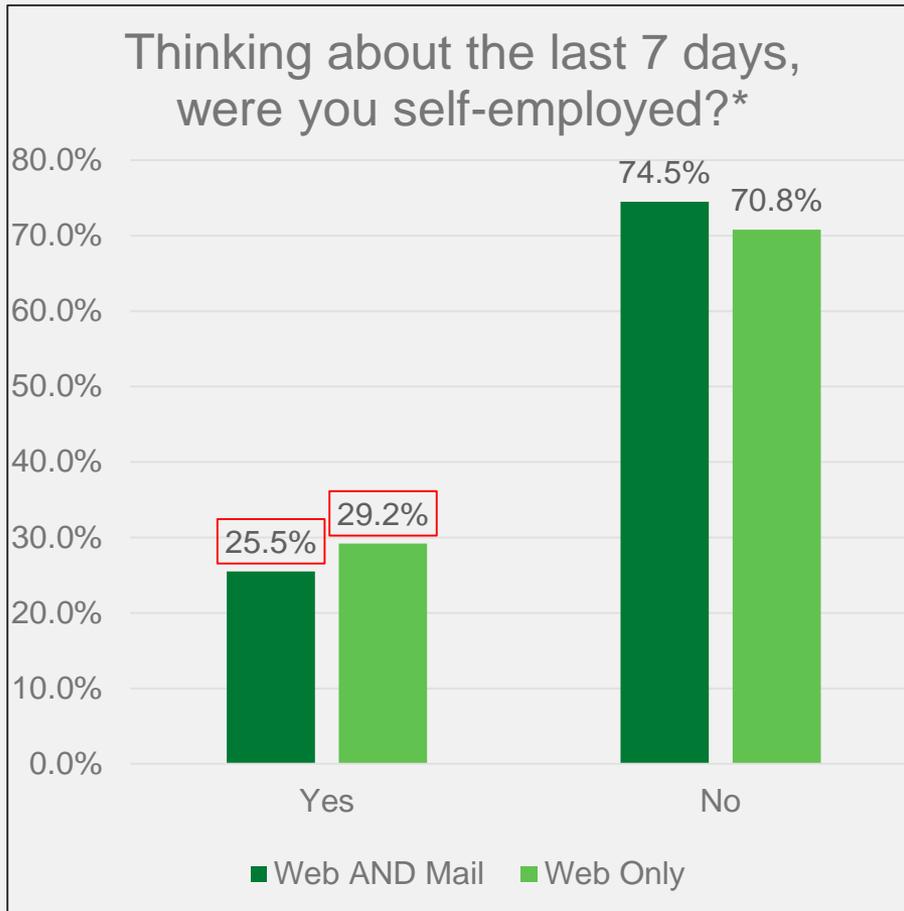
Government Survey – Examples of differences

Observed differences between results with and without internet members were all on questions that are highly correlated with internet access. These differences may or may not be important depending upon research objective and target population.



Politics and Economy Survey – Examples of Differences

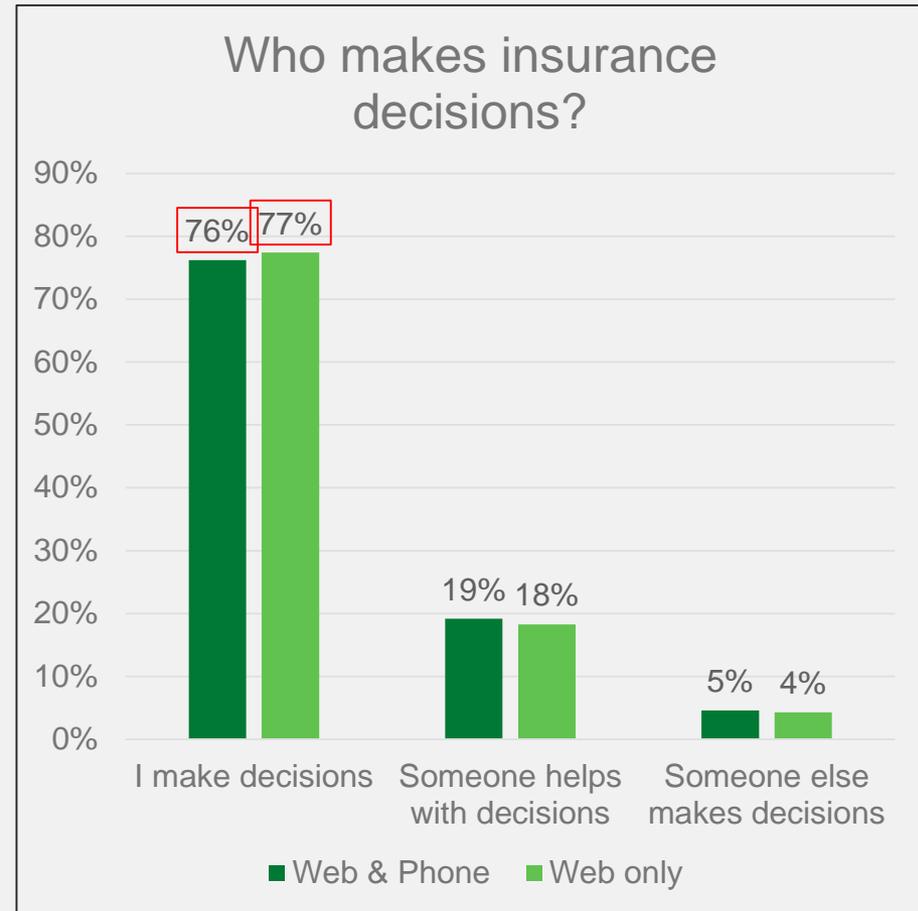
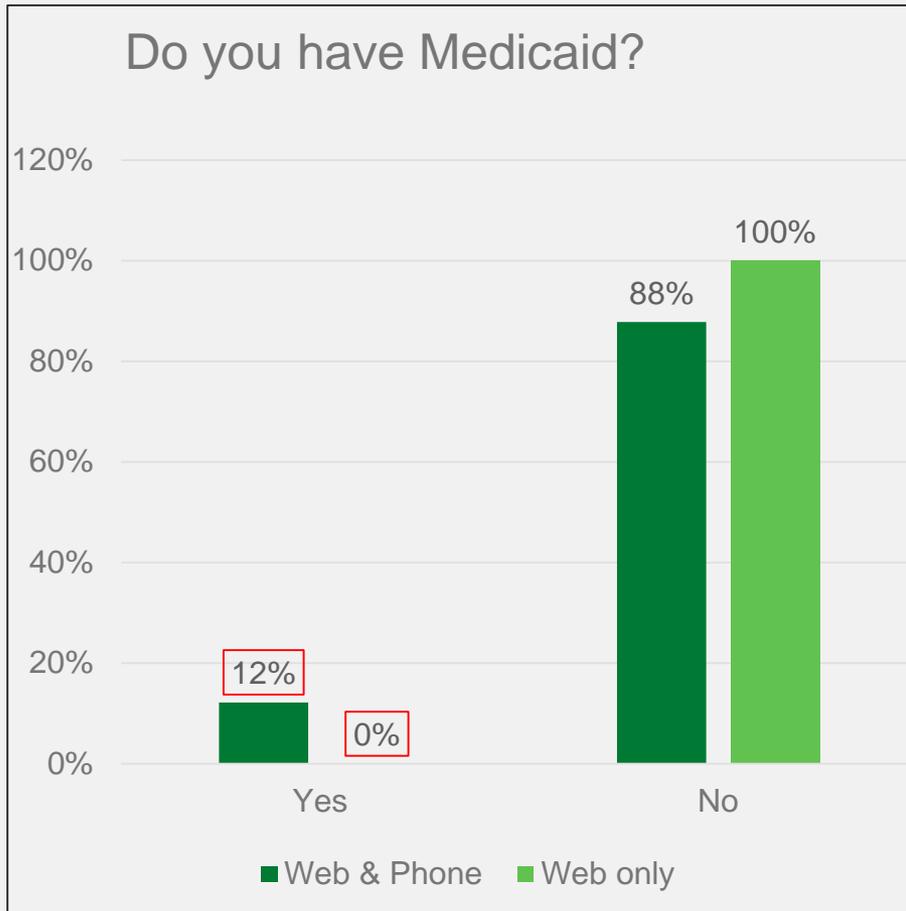
Observed differences between results with and without internet members were on demographic questions and weighting was not able to correct for the difference.



* Asked of a subset of respondents.

65+ Insurance Survey – Examples of Differences

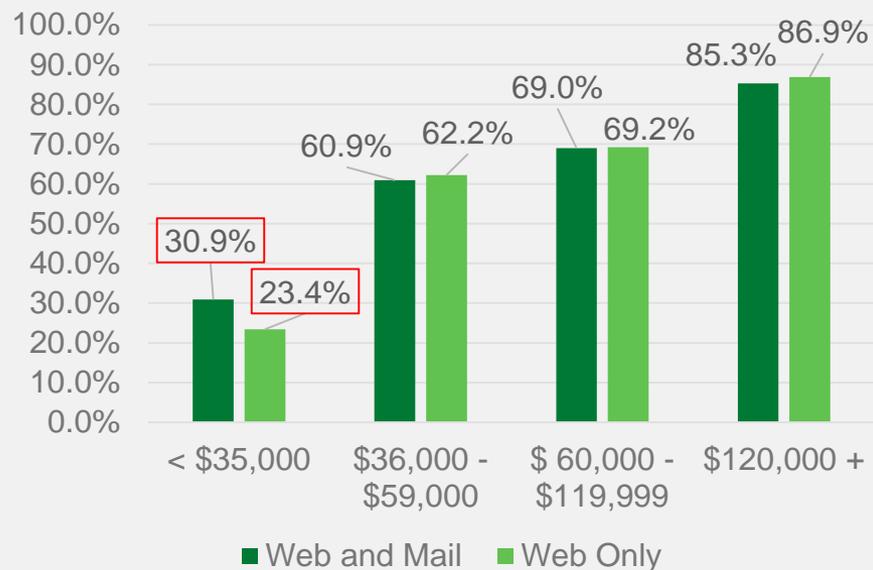
In some cases, differences were quite large, while in others, there was no significant difference.



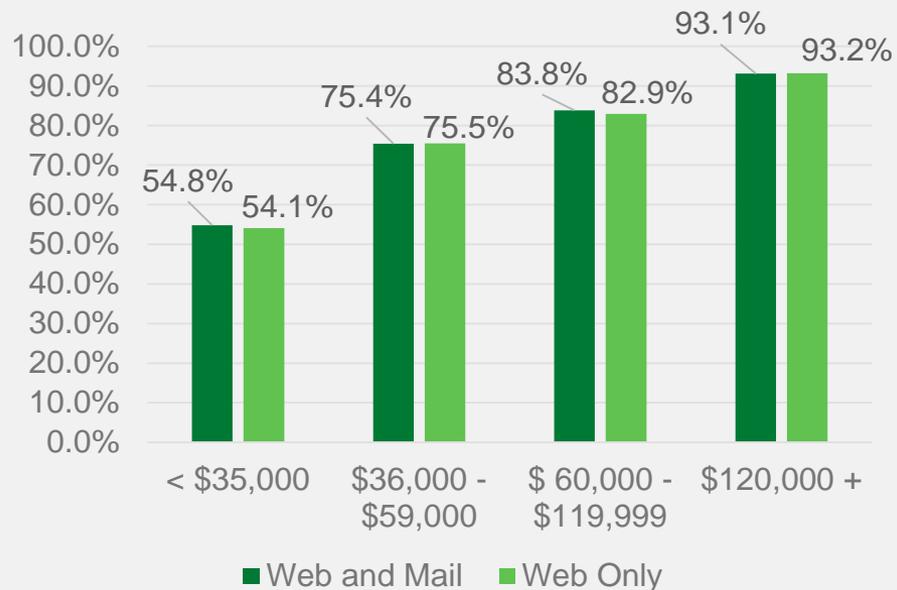
Results by income subgroups – Politics and Economy

Some demographic subgroups differed substantively, even after weighting, though there was no clear pattern in the differences.

Right now, would you be able to afford a major purchase, such as a car, appliance, furniture, or home repair, if you needed to?
% Yes

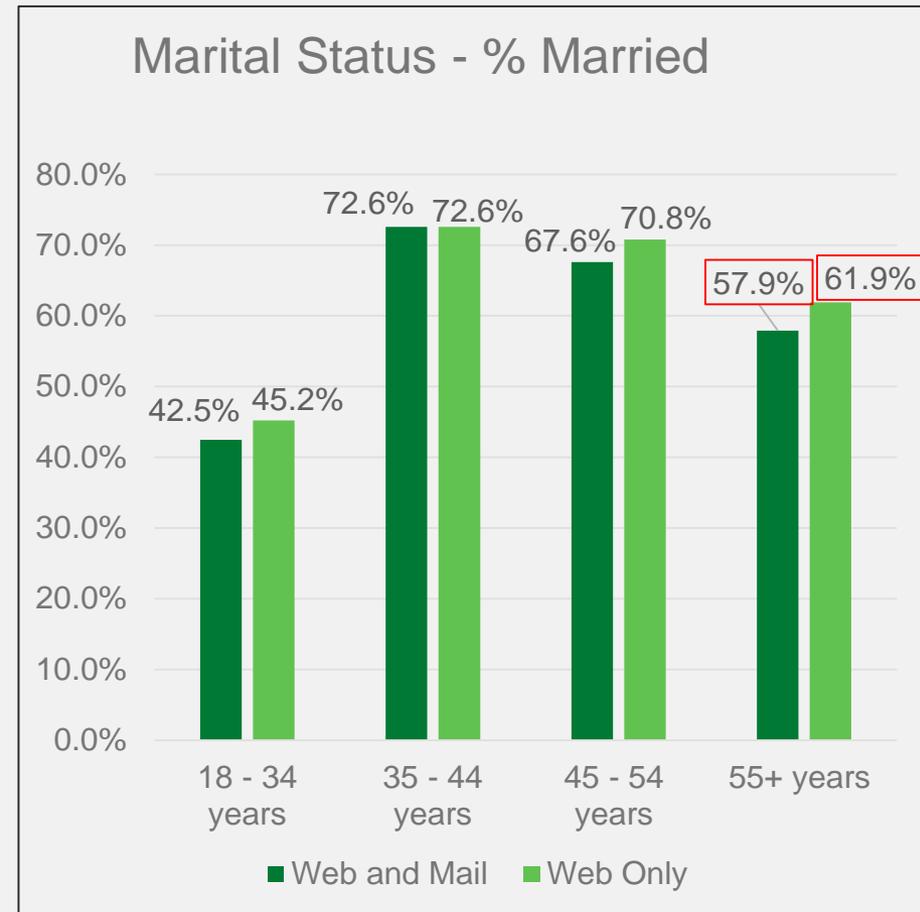
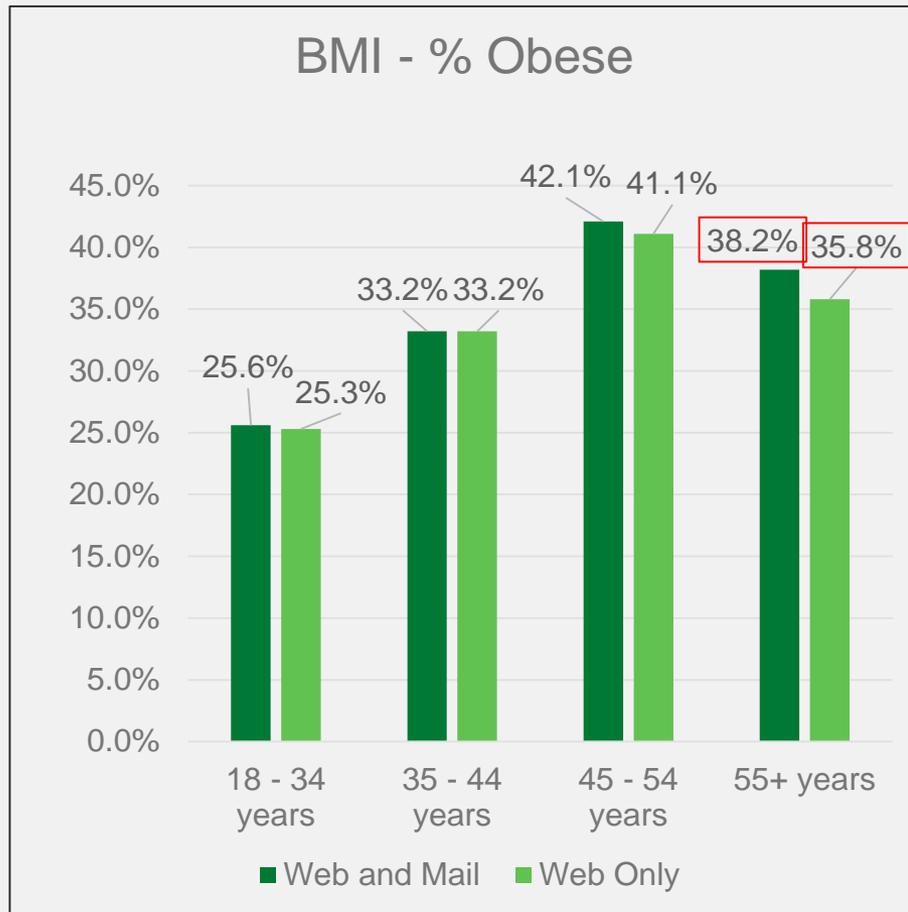


Do you have enough money to buy the things you need, or not?
% Yes



Results by age groups – Health (total pop. Study)

Minor differences were observed by age subgroups, although the differences were minor.



Conclusions & Limitations

- Increasing internet penetration is reducing the coverage error in web surveys.
- Evidence from our research suggests that bias is minimal in topline results.
 - The non-internet users are a small enough proportion of the sample that they have little overall influence on results.
 - Post-stratification weighting adequately adjusts for coverage error.
- The exception to this is demographics that are highly correlated with internet access or questions that ask about attitudes/behaviors related to the internet or technology.

Conclusions & Limitations

- Bias may not be ignorable if objective is produce precise population estimates.
- Caution should be used when analyzing data for sub-groups that are highly correlated with internet access. Alternative weighting methods may have produced different results.
- This analysis was limited to only 3 surveys and sub-group analysis was limited. More work is needed, especially in the area of subgroup analysis.
- Alternative approaches to analysis, such as a model controlling for demographics and mode, could have been used.

Thank you!
We welcome your feedback.

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