

## Survey Practice This Month

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Yesterday, November 24, 2008, 3:55:06 PM | Editor

This is the fourth issue of Survey Practice and we continue to try new formats and types of articles. The universal design article should help web survey designers become more aware of the need to create web instruments that are usable by all. We have a slightly different format for Ask the Experts - we are posing the question this month and will ask pollsters to respond next month.

The counterfactuals article shows the effects of priming on polling results and their changes over an election period. The household composition article provides empirical data to show the differences in participation rates in telephone surveys among different types of households that have young adults.

As always, we welcome your comments on Survey Practice.

The Editors

John Kennedy      Diane O'Rourke  
David Moore      Andy Peytchev

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## Universal Design for Web Surveys: Practical Guidelines

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Yesterday, November 24, 2008, 3:54:28 PM | Editor

Holly Matulewicz, Institute for Community Inclusion at UMass Boston  
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Survey researchers take special care to ensure the instruments they develop are valid measures of what they aim to study, as well as being designed in an easy-to-follow format which minimizes burden and non-response in any mode. In recent years, technological advancement has enabled us to explore the web as a new mode for questionnaire design and administration. By using the web to administer questionnaires, survey professionals have often reduced not only some production costs (associated with labor for administration or entry), but also reduced respondent burden by offering another choice for mode of completion. Many publications have addressed web survey issues such as: who responds, when they respond, and whether there are differences in data quality between the web and other modes of administration. However, very little literature exists discussing how survey professionals can construct web surveys which follow the principles of Universal Design (UD), and are, therefore, fully accessible to a broad spectrum of people.

UD in web surveys takes into account how respondents engage with their computers when they do not receive directives or cues in a visual way through the pages. It also addresses the needs of respondents who do not use a mouse to navigate the screens. Research has shown the state of website accessibility, broadly, is in dire need for improvement (Nomensa, 2006). For example, in 2006, the United Nations commissioned a study which entailed a global audit of five key sectors of websites used in daily life, including: travel, finance, media, politics, and retail. The study found 97 percent of the websites tested from 20 countries did not comply with basic accessibility regulations, despite disability legislation existing for over half a decade (Nomensa, 2006). These findings have implications for

survey researchers administering surveys on the web. While it may not be possible to assume websites and web surveys are equally inaccessible, it is important to consider three key issues. First, web surveys can be embedded within a website which itself may have accessibility barriers. Second, programmers who program websites may also be responsible for the design of web surveys and share a knowledge base. These groups may have had limited exposures to UD concepts. Lastly, survey researchers may not be considering respondent burden or unit non-response from a UD perspective, as evidenced by the dearth of literature discussing the use and features of UD in web surveys.

### **Why Use Universal Design (UD) in Web Surveys?**

Minimizing unit non-response is a critical issue in high quality survey research, as it improves our ability to generalize the findings. Even among the population of digitally literate people with access to the web, opportunity exists for significant non-response bias stemming from programming techniques. When we do not use Universal Design (UD) in web survey programming, we impede the participation of distinct segments of the computer-using population and increase the likelihood of unit non-response bias. These populations include users of either antiquated or cutting-edge technologies, as well as persons with disabilities. Having a disability does not preclude someone from accessing the web, though it may impact navigation. Examples include: people with mobility disabilities who may not be able to use a mouse and navigate a questionnaire via keyboard functions alone; people with cognitive disabilities who may have difficulty navigating complex layouts, or be unable to complete tasks within a predetermined amount of time; and people with a visual impairment who may use a screen reader or may increase the font size on their screens. Other issues can also prevent those without disabilities from participating in web surveys, including: users having antiquated machines or slow internet connections (difficulty downloading image-heavy designs or complex layouts); those with older browsers; and those using new technologies such as: smartphones, Personal Digital Assistants (PDA's), and other hand-held devices. Following UD strategies enables potential respondents to use a wide range of technologies to participate in web surveys and these users span the socio-economic spectrum. This paper fills a gap in the web survey literature and presents practical strategies for using UD in the programming of web surveys.

### **Applying Universal Design in Web Survey Programming**

The goal for a universally designed web survey is for it to be "usable" by all users, regardless of ability and situation (Clark, 2003). This entails a blend of three components: 1) properly crafted HTML forms; 2) the capacity to interface with assistive technology (AT); and 3) adherence to governing standards. Each is described below.

**1. Properly Crafted HTML Forms.** Respondents experience web surveys as a series of HTML forms where they interface with the design and provide responses. Forms are the foundation for all the interaction between the respondent, the instrument, and the data collected. However, sometimes the design of these forms is inaccessible to some groups of users when forms:

Contain elements such as images or movies that a screen reader cannot interpret or convey to the user.

Contain a graphical logo or a diagram which does not have accompanying text to communicate what was being expressed.

Cannot be navigated via keyboard alone.

Do not have labels and identifiers attached to specific fields of response categories, so respondents cannot determine which question matches which response field.

Expect a timed response, where the page forwards or the form itself expires after an allotted amount of time

has passed.

Performs an action without the respondent explicitly telling the page to do so.

Programmers use several techniques to add sophistication to their solid HTML forms, including: Cascading Style Sheets (CSS), client-side scripting languages (such as JavaScript), and server-side languages (exp. PHP, Perl, and ASP). These techniques are also applied in web surveys. Examples include:

CSS stylize the html forms to be more attractive.

Client-side scripting allows for the manipulation of forms and input data (exp. JavaScript used to verify range checks or critical items were not left blank).

Server-side languages which can run more sophisticated input checks (exp. checking that an email address is valid) or server-related tasks (ex. sending email receipts).

Developers can both enhance the survey experience and follow principles of UD by using CSS to separate the styling from the content. Understanding html (xhtml) forms and form interaction to an expertise eliminates the need to create complex layouts, scripting, or other add-ons. As a result, respondents will experience the web forms as "intuitive and easy-to-use." Appendix A describes how these forms, the AT, and UD standards apply in several features common to web surveys.

**2. Interface with Assistive Technology (AT).** A universal design approach to programming promotes the inclusion of users of AT, as recent technological advances have enabled access to the web to people who are blind or visually impaired. Examples include:

- **Screen Readers.** A software program that reads contents of a screen aloud to a user, presenting "a two-dimensional graphical web page to a user who is vision impaired as a one-dimensional stream of characters, either spoken or displayed in Braille" (Thatcher, et al., 2002:54).
- **Voice Browsers.** A [web browser](#) which presents an interactive voice-user interface, presenting information aurally, using pre-recorded audio file playback or using [text-to-speech](#) software by obtaining information using [speech recognition](#) and keypad entry.
- **Screen Magnification.** Interfaces with a computer's graphical output to present enlarged screen content (typically between 1.5x to 32x). (Thatcher, et al., 2002).

Older respondents who have digital literacy and access to computers (e.g. aging baby boomers) may be more likely to utilize screen magnification or screen readers as they participate in web surveys. This demographic may not consider themselves "people with disabilities," but may interact technologically in similar ways to those with disabilities.

**3. Governing Standards and Organizations.** Advocacy organizations are attempting to bridge the gap between those who design and construct HTML forms and those who use these forms with the help of AT. One such organization is the World Wide Web Consortium (W3.org/WAI), which launched the global "Web Accessibility Initiative" (WAI). It develops resources to help make the Web [\[r1\]](#) accessible to people with disabilities and leads the effort to create standards and guidelines for programmers. Governments are also responding to this need. United States legislators incorporated Section 508 as an amendment to the Rehabilitation Act of 1973 to eliminate barriers in information technology, to increase opportunities for people with disabilities, and to encourage development of technologies to achieve these goals.

These three guidelines provide the foundation for all UD web survey construction. The next section discusses how to incorporate UD standards into web survey testing.

### **Universal Design and Web Survey Testing**

It is standard practice to test web survey instruments to ensure they follow programming specifications. Survey researchers can also easily incorporate adherence to UD standards in the testing process in several ways, including: testers using AT or technological devices such as PDAs, testing on slow dial-up connections, and using different web browsers to access the survey. Microsoft's "Explorer" is among the most popular web browsers and is heavily connected to assistive technologies like JAWS. However, the "Firefox" browser offers an architecture that allows user-developed extensions to the browser. For example, the "Web Developer" extension allows testers to view a web survey in different modes, such as: images turned off, CSS disabled, and deprecated elements highlighted. It also allows users to validate forms against standards. Firefox's "Firebug" extension allows programmers to debug forms more easily, as well as see the connections between the CSS styling, JavaScript scripting, and the actual web form. Using any browser, it is also ideal to test the following conditions: style sheets and images are disabled; without javascript; without the use of a mouse (i.e. keyboard only); text size set to very large and with screen size very small or very large; use of an alternative stylesheet (high contrast, large text); and with screen reader AT. There are also online tools available for testing accessibility of a web survey or site, including: Cynthia Says, LIFT, WAVE, and WebXact. They run automated tests, evaluate accessibility, and output possible errors or areas of improvement. However, they should always be used in conjunction with hands-on testing simulating the users' experience as closely as possible, as no one tool can ensure accessibility.

### **Conclusions**

As technology evolves and the computer-literate population diversifies, survey researchers must approach web survey design considering the many possible ways respondents can access a web survey. Programmers must follow guidelines set forth by the World Wide Web Consortium to ensure the forms interface successfully with AT. Failure to take these steps results in inaccessible forms, which may have a negative impact on response, even among digitally literate people with access to the web.

Programmers have made great strides to correct mistakes made in the past, where many forms were built without regard for usability or accessibility. A push for standards by web users, developers, and browser developers has helped to bring the technology to where it is today. With the sudden rush of new technologies (from the Web 2.0 revolution), developers may not have learned from the mistakes of the past, as many new technologies (such as AJAX, and heavy uses of JavaScript) have been brought into production with seemingly no regard as to UD and compatibility with AT. While survey researchers and programmers have an opportunity to make web surveys more dynamic and interactive, they also shoulder a responsibility to create a virtual space that is accessible for all.

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## Tables

<b>Appendix A. Accessible design issues in common elements of web surveys.</b>		
<b>Feature</b>	<b>Challenge to UD</b>	<b>Applying UD Method</b>
Sophisticated Layout / Use of Color	<ul style="list-style-type: none"> <li>• While visually appealing, layout may be based on illogical markup.</li> <li>• Color is not recognized as emphasis for screen readers.</li> </ul>	<ul style="list-style-type: none"> <li>• Use "well formed" markup to code the form, using CSS to handle layout.</li> <li>• Avoid using tables if possible.</li> <li>• Use a combination of color, shading, font style and decoration to communicate.</li> </ul>
Grid or Table Layout for Scaled items	<ul style="list-style-type: none"> <li>• Using tables for layout mixes content with layout.</li> <li>• Without labels, users</li> </ul>	<ul style="list-style-type: none"> <li>• Separate content from layout but coding the form in unstyled HTML and add separate CSS to style it.</li> </ul>

	won't know which response category an option links to in the table.	
Hyperlinks	<ul style="list-style-type: none"> <li>Using link text like "click here," "more info," and "next" can confuse screen reader users who need the link text to describe what it is linking to.</li> </ul>	<ul style="list-style-type: none"> <li>Use descriptive text, clearly expressing where the link leads.</li> <li>For added information, use the TITLE tag to embed even more information.</li> </ul>
Pop-ups	<ul style="list-style-type: none"> <li>Can interfere with screen readers' ability to interpret a form.</li> <li>An unannounced change in focus of respondent can be confusing.</li> </ul>	<ul style="list-style-type: none"> <li>Find another way to communicate the message communicated by the pop-up.</li> <li>If you must use it, announce that the action results in a pop-up window.</li> </ul>
Navigation Process	<ul style="list-style-type: none"> <li>User unable to easily tab through survey in logical order because the HTML form is not well-formed.</li> <li>Labels are not logically placed near the inputs.</li> <li>Without page headers, sequence or location in the instrument will be difficult.</li> </ul>	<ul style="list-style-type: none"> <li>Mark-up the HTML form to work without the use of tables or CSS.</li> <li>Validate against a W3C standard then add styling with CSS.</li> </ul>

#### **Appendix B. Technical guidelines for programming accessible web surveys.**

Mark-Up	<ul style="list-style-type: none"> <li>Use xHTML and CSS to separate content from style.</li> <li>Use proper mark-up for form elements.</li> <li>Organize pages in a logical manner, meaning they will read correctly, top-to-bottom, without CSS styling.</li> <li>Use headings (&lt;h1&gt;, &lt;h2&gt;, etc.) and fieldsets and legends to organize forms.</li> <li>Use a logical tabbing order.</li> <li>Do not use deprecated tags like &lt;font&gt;, &lt;b&gt;, &lt;i&gt;.</li> <li>Use tables only for displaying tabular data (with rare exceptions). General page layouts will be done with CSS.</li> <li>All pages will have unique and meaningful title tags. Standard format will be "page name [or survey title], name of site."</li> <li>Use text in place of images when possible.</li> </ul>
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	<ul style="list-style-type: none"> <li>• Use &lt;abbr&gt; and &lt;acronym&gt; elements when appropriate. Use the title attribute to define the abbreviations and acronyms.</li> <li>• Use &lt;fieldset&gt; and &lt;label&gt; elements for forms.</li> </ul>
<b>CSS</b>	<ul style="list-style-type: none"> <li>• Try to not rely on “classes” too much. Rather, write your stylesheet to format tags within a specified &lt;div&gt;. Also avoid using &lt;span&gt; tags.</li> <li>• Avoid “div soup,” which is when you overuse divs or have many nested divs.</li> <li>• Do not rely on browser-specific hacks. A few might be necessary, such as the @import hack to prevent NS4 from using CSS, but don’t write separate styles for separate browsers.</li> <li>• The majority of measurements within pages will be done with “em” or “%”. Control fonts with CSS keywords (small, x-small, etc.). Use pixels only with images and related items.</li> </ul>
<b>Design</b>	<ul style="list-style-type: none"> <li>• Pages will be designed to use a “liquid design” technique. This means a technique that does not rely on fixed sizes. Users can resize windows, view the site on small screens, and increase or decrease fonts without breaking the design.</li> <li>• A design does not need to look perfect in an unsupported browser, but it does have to “degrade gracefully” and still look logical and usable.</li> <li>• Use contrast between foreground and background colors.</li> <li>• Use client-side scripting (JavaScript, ECMAScript) sparingly. No page should require client-side scripting to be usable.</li> </ul>
<b>Content</b>	<ul style="list-style-type: none"> <li>• Avoid contextually meaningless link text, like “Click Here”, “Learn More”, or “Go”.</li> <li>• Links should describe the destination page/resource.</li> <li>• Use title attributes to provide additional contextual meaning for links.</li> <li>• For the sake of screen readers, avoid combining two words into one, such as “homepage”. Instead you would use “home page”.</li> <li>• Make it short. Design navigation with the least amount of steps and clicks.</li> </ul>
<b>Best Practices</b>	<ul style="list-style-type: none"> <li>• Layout the form in a logical way in that additional ‘tabindexes’ are required in a minimum. Tab order should be naturally in the correct order. “Skip to content” could replace a complicated behind-the-scenes tab ordering scheme.</li> <li>• Avoid using scripting if possible; if not possible, allow form to operate if scripting is turned off.</li> <li>• Use labels and id’s to connect form elements to their</li> </ul>

labels.

- If possible avoid use of access keys due to conflicting use with AT products.
- Avoid using javascript at all to make dropdowns have actions. Keyboard-only users cannot navigate the dropdown without inadvertently selecting an option and invoking that option's action.

Comments: 0

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## Evaluating the 2008 Pre-Election Polls – The Convergence Mystery

Yesterday, November 24, 2008, 3:54:03 PM | Editor

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In the aftermath of the 2008 election, several news stories ([here](#) and [here](#) and [here](#)) have already announced that the polls were mostly accurate in their final predictions of the presidential contest. These encomiums to the polls, however, overlook the fact that during the campaign - even in the last couple of weeks - many polls provided contradictory estimates and trends. Ultimately, most polls converged to a point reasonably close to the outcome, but that raises an intriguing question about why such a convergence occurs (as it has in other presidential elections), and what that means about the "accuracy" of polls during the campaigns.

Of course, there is no objective way to assess whether the polls are "accurate" during the campaign, but we can say that not all of the polls were right - because they often contradicted each other.

Thus, in mid-October, the Pew poll showed Barack Obama up by 14 percentage points over John McCain, while the AP/GfK poll found Obama leading by just 1 percentage point - a statistically significant difference of 13 points. A week later, Pew reported a 15-point lead, compared with just 3-point leads reported by IBD/TIFF and GWU - again, a statistically significant difference of 12 points. And polls completed on Sept. 7 by Gallup showed McCain leading by 10 points, while IBD/TIPP showed Obama up by 5 points - a statistically significant swing of 15 points.

These are cherry-picked results, of course, but a systematic analysis shows that the above examples simply illustrate the variability of the poll results that were being reported - *until the final pre-election polls*. At that time there was a substantial convergence of results.

Shown below are the variances in the *lead* that Obama had over McCain reported by the polls during the dates indicated. The final week of the campaign is broken into two segments - the final, final days (Nov. 1-3), and the previous four days (Oct. 28-31).

Ending Dates of the poll	Average (in Obama's lead over McCain)	Variance (in the Obama advantage over McCain)	No. of Polls
Nov 1-3	7.6	3.2	20

Oct. 28-31	6.3	5.4	13
Oct. 21-27	7.6	8.3	29
Oct. 14-20	6.3	5.7	21
Oct. 7-13	7.9	6.9	25
Oct. 1-6	6.3	7.9	18
<b>OCTOBER</b>	<b>7.3</b>	<b>7.5</b>	<b>106</b>
All results discussed in this essay were taken from <a href="http://Pollster.com">Pollster.com</a> .			

Note that Obama's *average lead* each week varies only slightly over the whole month of October, with a range of less than two percentage points. Still, the variability of the polls is quite substantial each week, in comparison with the variability in the final three days (where we see the results of the final pre-election polls).

The major question raised by these results is - Why do different polls show such variability over the month of October, and then suddenly converge in the last week of the campaign? Of course, it's true that opinions "crystallize" in the final weeks, but why should that make polls so relatively unreliable during the campaign? Shouldn't polls conducted at the same time produce the same results, even if many people are still mulling over their decisions? Shouldn't different polls find the same proportion of indecisive people?

If it turns out that polls cannot produce "reliable" (consistent) results when many people are still thinking about an issue, what does that say for polls during non-election periods - when polls ask people to express their views about specific policy matters? For the most part, these issues are not the subject of months-long campaigning, like the presidential election, and there must be many people whose ideas are not fully crystallized. Yet, does that prevent pollsters from reliably measuring public opinion on these matters?

Next month, the *Survey Practice* editors will be asking many of the media pollsters who polled throughout the election campaign what their explanation is for the convergence phenomenon, and what its significance for the reliability of polls may be more generally. In the meantime, we welcome any contributions that you readers think would help address this convergence mystery. You can either send your comments in a message to [survprac@indiana.edu](mailto:survprac@indiana.edu) or post in the comments below.

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## Measuring "What if?" Standard Versus Priming Methods for Polling Counterfactuals

Yesterday, November 24, 2008, 3:53:16 PM | Editor

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How might people have behaved in the 2006 midterm elections were it not for the ongoing conflict in Iraq? A casual observer of US politics might respond glibly, "Republicans would still control Congress!" Indeed they might. There is, however, a way to quantify this counterfactual, as we did in the 2006 New Jersey Senate race between Democrat Bob Menendez and Republican Tom Kean.

While Democrats in New Jersey had easily won every statewide race in the previous five years, there was reason to believe that the 2006 Senate race would be different. First, the Republican challenger was the son of a popular former governor, and thus had a level of name recognition far exceeding most statewide politicians. Second, he had no significant challenge in the primary election. Finally, the Democratic contender had serious problems to overcome. While technically the incumbent, Menendez had been appointed to the seat only a few months earlier and was little known outside of his home district in Hudson County. Hudson County, in turn, was mostly known for a truly remarkable level of corruption.

The only problem fly in the ointment was the Iraq war. While in the House of Representatives, Menendez had voted against the resolution to go to war, and often referred to it as one of the most important votes of his career. Kean, on the other hand, had been reluctant before the campaign to criticize either the President or the war in a state which had become very critical of both. Menendez would make this difference paramount in his campaign.

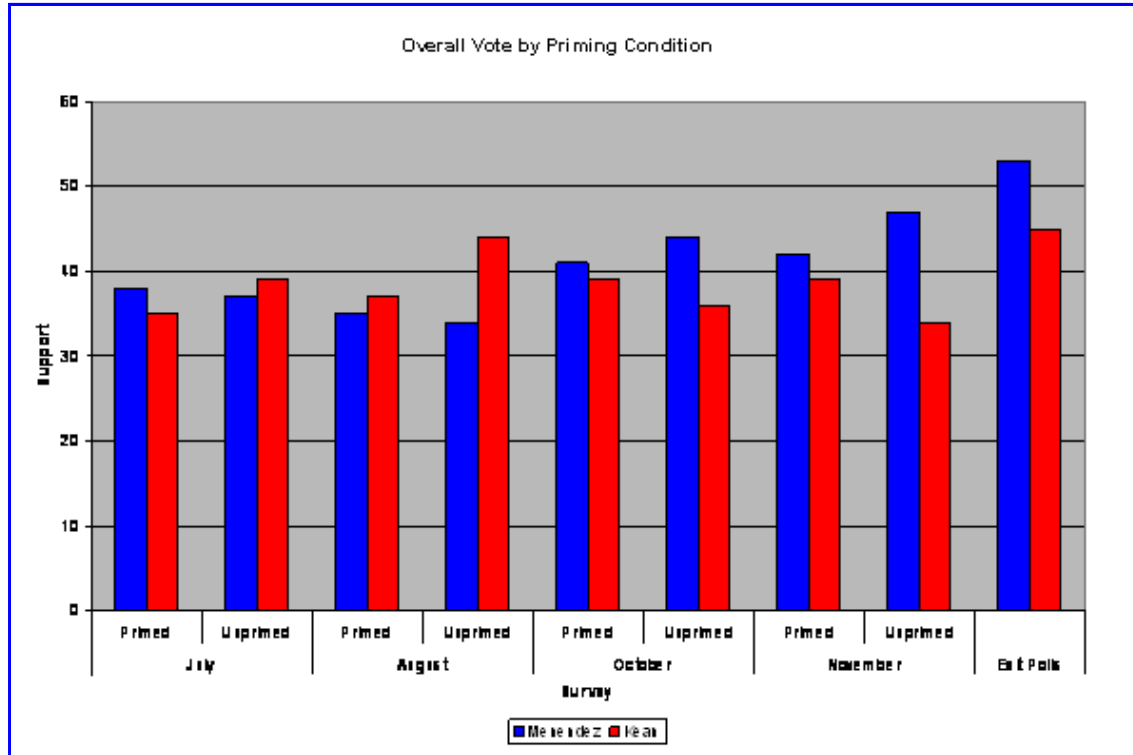
### **Testing the Iraq Counterfactual**

In the end, Menendez won the race by a margin of 53 to 45: a victory widely attributed to his stance on the war. To test this attribution, we have to make two well supported assumptions. The first is that some percentage of respondents to the survey is thinking about the war in Iraq when we ask them questions about the Senate race, whether the question mentions it or not. The second is that respondents don't necessarily know the causes of their own preferences - an assumption supported by the two major theories of the survey response, Zaller and Feldman's "simple model" and Lodge and colleagues' online processing model.

Because respondents don't know what underlies their preferences for candidates or anything else, we can't simply ask them about the effects of Iraq on their vote choice. What we can do is create an experimental condition in which one portion of the sample is prompted to think about the Iraq war, and compare the vote choice of that group with that of the control condition. If no one in the control condition is thinking about Iraq in reference to the election at hand, and that everyone in the experimental condition is thinking about Iraq, the difference between the two groups will give us the true estimate of the impact of Iraq on the race. If, as is more likely, some people in the control condition are thinking about the war, and the priming fails to make some in the experimental condition do so, the difference between the groups will underestimate the true effect.

We do this by experimentally altering question order. Half of respondents in the four polls discussed here received questions about President Bush and the war in Iraq at the beginning of the survey, well before questions about the candidates and the candidate's issue stances. The other half received questions about Bush and Iraq only after answering questions about the candidates in the Senate race. This experiment was carried in four RDD surveys of likely voters in New Jersey, between in July 2006 and the week before the election (average  $n$ : 547).

### **Results**

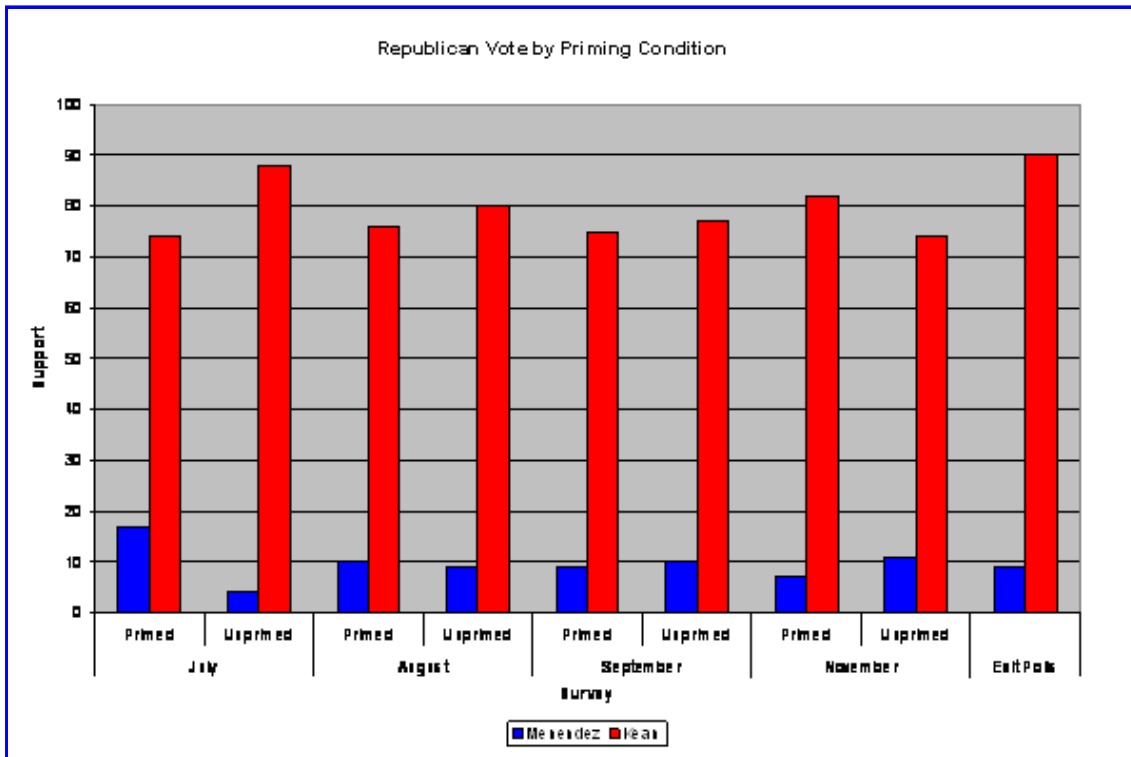
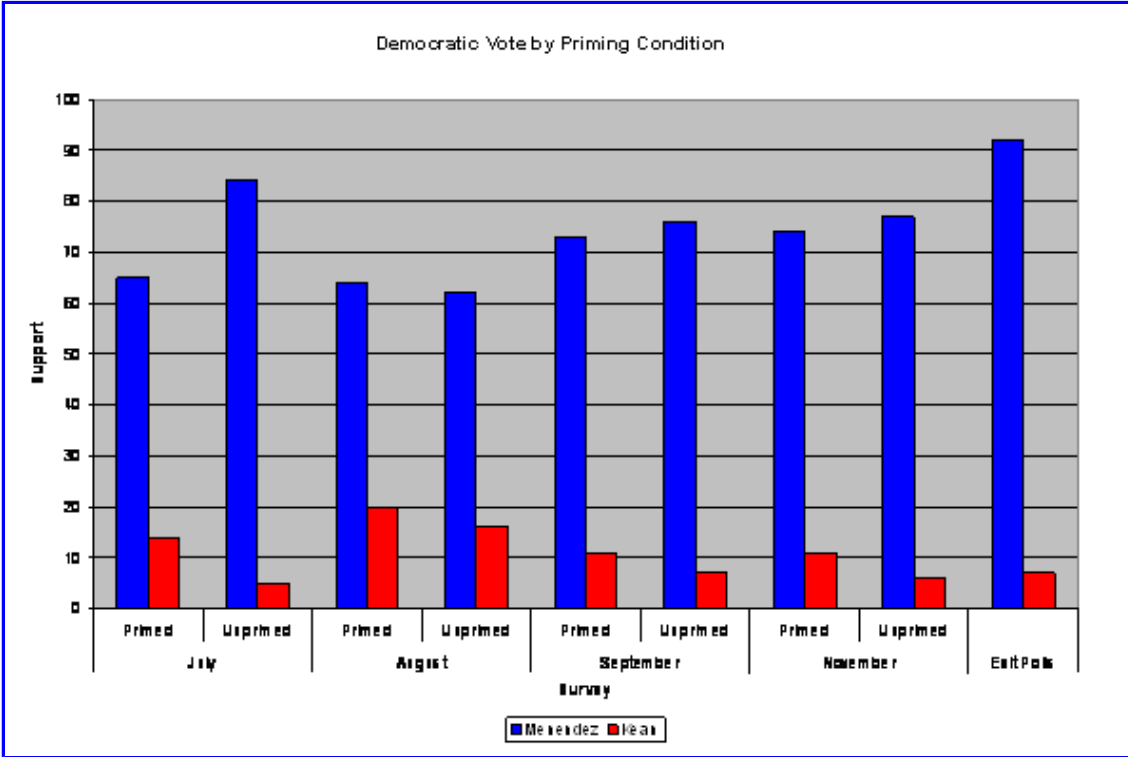


When we look at the results of the primed versus unprimed conditions across all partisan groups, we can see a dramatic impact of the priming in the early months of the race and relatively little late in the race. In the early surveys, before the campaigns had gone into high gear, priming respondents to think about national issues marginally increased support for Menendez (by 3 percentage points in July and 5 in August), and substantially reduced support for Kean (by 5 percentage points in July and 8 in August).

Combined, these changes substantially altered the spread of the race. A dead heat in the unprimed condition in the July poll - similar to the results of other polls taken at the same time - turned into an eight point lead for Menendez in the primed condition.

Since we know that priming led to an eight point shift in July, we can say that if the entire electorate had been thinking about Iraq, Menendez would have gained at least that much. As evidenced by the decrease in Kean's support in the priming condition, a substantial proportion of voters preferred him despite his views on the war. When the subject of the President and the conduct of the war were made salient to them, though, they ceased to support the Republican.

However, something interesting happens later in the campaign as voters begin to know more about the candidates, giving us different results in our last two surveys. By the end of September, with advertising and media coverage in high gear, voters were likely to know more about the candidates and issues, making the priming less potent. In other words, all voters are far more likely late in the campaign to be thinking about the President and the Iraq war when they come to the phone to be interviewed. We see that Kean's support is higher in the primed than in the unprimed condition, and Menendez's support is lower. The key to these results can be found by breaking the results down by the party identification of the respondent.



Note that in all of the surveys the priming condition slightly *increases* support for Kean among Democrats. This suggests that a small proportion of Democrats supported the war in Iraq without supporting Kean, and that reminding them of the war led to an increase in support for Kean.

In the two final polls, Kean gained overall support in the priming condition as the result of his slight uptick in support among those Democrats who had misgivings about Menendez's strong anti-war stance. Also, reminding Republicans of the President and his Iraq policy in the final days of the election seems to have increased Republican support for the Republican candidate. The priming condition, it seems, reminded Republican voters that had been flirting with Menendez where their loyalties lay.

### Conclusion

According to Zaller and Feldman's "simple model" of the survey response, the primary cause of response instability is changing bundles of considerations. On one day, for instance, ethics might be a voter's primary concern. On another, the war might be paramount. Priming has the advantage of holding these considerations relatively constant, and so, to the extent that we know what the major issues will be on Election Day, it allows us to predict those results well in advance of traditional polling.

The consistency of the primed condition is evident from Figure One. Not counting those voters who were undecided or supported a third party candidate, Menendez had a four point lead in July. In the final poll, taken a week before the election, the primed condition predicted Menendez would win 52 to 48. On the day of the vote, Menendez won 53 to 45. This is not to say that there weren't shifts in primed support, but that these shifts are far smaller than those in the unprimed condition, which fluctuated by almost 20 points. In the primed condition, unlike the unprimed condition, and unlike all of the other major polls taken of the race, Kean never had a lead. From day one, the primed condition made it evident that if Iraq were an issue, Kean was going to lose, and that's exactly what happened. Absent the war in Iraq, the July results among the unprimed group indicate that Kean could have eked out a victory, but the primed condition suggested from the start it was never to be.

Thus, aside from the practical advantages of the experimental use of priming that we have laid out, priming allows us to move beyond anecdotal evidence in explaining counterfactuals. Those of us who carry out polls and report the results to the media and to the public are often called upon to explain what caused a swing, or how the race would be different if something were, or were not, an issue. No matter how well qualified we are to answer these questions, doing so moves us away from quantifiable, scientific polling to the realm of punditry. We can make educated guesses as to the effect of the war in Iraq or ethics scandals on a race, but there's no way to attach a margin of error to our guesses, and the priming condition allows us to do just that.

Comments: 0

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## Effect of Household Composition on Young Adult Survey Participation

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Yesterday, November 24, 2008, 3:52:58 PM | Editor

Robin Gentry, Arbitron, Inc.  
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To successfully complete an interview in a telephone survey, we need the person who answers the phone to cooperate and provide access to the intended respondent or respondents within the household. The first contact is a household contact, often a screening call. The contact person acts as a gatekeeper to other household members, and may influence the likelihood of cooperation among these other members. Characteristics of the household are known to influence the likelihood of contact and response (1). This article discusses the importance of household

composition in survey cooperation. In particular, it focuses on the young adults who often respond at rates lower than their older counterparts.

The number and the age and sex of persons living in the household, in this study conducted by Arbitron, Inc. were found to be related to survey cooperation rates. If the contact person is enthusiastic about participating in the survey, he or she may be more effective in encouraging other household members to do the same. Alternatively, if the contact person fails to cooperate with the request or is negative about the request, other household members' participation may be jeopardized. Thus, there may be a complex set of household composition factors which drive non-response in an RDD survey design.

Household composition effects may play a particularly important role for young adults between the ages of 18 and 24. There is a great deal of literature which suggests that monetary incentives are an effective method of increasing response rates (2). Furthermore, the leverage-saliency theory posits that survey response is dependent on how salient each positive and negative aspect of the survey task is made during the survey request and how much leverage each of those aspects has on an individual's response propensity (3). Based on this theory, incentives may be used in an attempt to overcome the negative leverage associated with the burden of completing the survey.

However this approach is not fully informed because it ignores the potential effect of household composition. In a 2004 follow-up survey (4) conducted with 18 to 24 year old men whose households participated in the Arbitron survey, nearly 60 percent of the respondents reported that another household member took a particular interest in making sure they completed their survey diaries. The most common person to fill this "shepherd" role was their mother (56.6%), followed by their father (15.8%) or their spouse (11.8%).

Another Arbitron experiment of a targeted mailing to men 18 to 24 years old, found that when all household members were under the age of 25 the young men in the household were significantly less likely to return their radio listening diaries than when the household contained at least one person outside that age range (a return rate of 42.1% in younger households vs. 56.7% in older households).

### **Study Design**

The most recent Arbitron study of the effects of household composition on survey return of adults ages 18 to 24 takes advantage of new data from enumeration of all household members 12 and older by age and sex. The Arbitron survey of radio listening starts with an RDD phone interview of any adult in the household from whom consent is obtained to send one-week diaries for all persons 12 or older to record their radio listening. In this study, we analyzed the enumeration data of 50,904 households from 91 metropolitan areas representative of differing population sizes, demographic composition and geographic regions from our Winter 2008 survey.

The logistic regression analyses were conducted in two stages, first examining the predictive value of different household characteristics on the likelihood of survey return for young adults 18 to 24 years of age. Our second stage of analysis grouped the young adult households into types based on their composition (e.g. only young adults, young adults living with someone 35+, couples, etc.). The first model allows us to look at household characteristics which play the largest role in young adult diary return while the second set allows us to contrast the probability of survey return across different types of households. The dependent variable is whether or not all of the household members in the target demographic (men or women ages 18-24) returned a diary.

Household characteristics were selected based on prior knowledge of key correlates of diary return and included the number of men 18-24 or number of women 18-24, household size, presence of person age 35 or older, and the age and sex of the person who completed the phone interview. The models controlled for other variables related to survey return, including other sample characteristics and survey attributes, such as incentives. Because these models

explore the characteristics related to household interactions and composition, they were run only for households with two or more respondents. Detailed descriptions of the variables and models are available from the authors.

## **Results**

Key findings, as seen in Table 1, on the household characteristics that predict young adult diary return include:

Regardless of age or gender, the larger the household the lower the odds of receiving diaries from all adults ages 18-24 in the household.

A household with all adults under the age of 35 is associated with lower odds of diary return for Males 18-24 and Females 18-24.

The presence of an adult female, age 18 or older, in a young male household improves the odds of diary return.

If the person who agrees on behalf of the household to participate in the survey is female and/or older, the odds of diary return increase significantly.

As the number of young adults in the target group increases, the likelihood of getting diaries back from each of them decreases.

Table 1. Odds Ratios of Household Composition Predictors on Likelihood of All Diaries Returned by Men and Women Ages 18-24

	<b>Young Men 18-24 (N=4608) Odds Ratio</b>	<b>Young Women 18-24 (N=4540) Odds Ratio</b>
<b><u>Household Composition</u></b>		
PPH 2		
PPH 3	0.613*	0.675*
PPH 4	0.547*	0.728*
PPH 5+	0.468*	0.637*
Female Consenter	1.213*	1.537*
Consenter Age	1.040*	1.052*
Consenter Age <sup>2</sup>	1.000*	1.000*
No Adult Female	0.511*	NA
HH all Under Age 35	0.762*	0.760*
Number of People in Target Group	0.586*	0.578*
Constant	1.353	0.456

\* Statistically significant at 95% confidence level.

**Note:** Shaded category is comparison group. Models include controls for race, ethnicity, market size, contact history, incentives and other household characteristics and survey attributes.

The second set of models used the findings from the household characteristics models to define three main groups - young adult couples, other combinations of young adults living together, and young adults living in mixed ages households. We were interested in the effect of these household "types" on the probability of receiving all diaries back from the young men or young women. Findings from these models (Table 2) include:

In comparison to a household with a member age 35 or older, a group of 3 or more young adults living together are less than half as likely to return all the diaries from the 18-24 year olds.

Young couples' return rates are comparable to those of 18-24 year olds living with older adults.

Men 18-24 living with only other men 18-34 return all their diaries at a 40% lower rate (odds ratio = .571,  $p < .05$ ) than their counterparts living with someone age 35 or more. This is not the case for women 18-24 (odds ratio = .893, n.s.)

Table 2. Odds Ratios of Household Type Predictors on Likelihood of All Diaries Returned from Men and Women Ages 18-24

	<b>Young Men 18-24 (N=4703) Exp (B)</b>	<b>Young Women 18-24 (N=4678) Exp (B)</b>
<b>Household Composition</b>		
Number of People 18-24 in Target Group	0.500*	0.561*
<b>Young Adults Only</b>		
YM 18-24 only PPH 1	0.678	
YM 18-34 only PPH 2+	0.571*	
YF 18-24 only PPH 1		0.714
YF 18-34 only PPH 2+		0.893
YA 18-34 only PPH 3+	0.495*	0.426*
<b>Young Adult Couples</b>		
YM/YF 18-24 with Opposite Sex 18-34	1.128	1.088
<b>Family Households</b>		
Living with 35+ Person		
Living with Person 12-17 and No one 35+	0.281*	0.263 *
Constant	2.446	1.542

\* Statistically significant at 95% confidence level.

Note: Models include controls for race, ethnicity, market size, contact history, incentives and other household characteristics and survey attributes.

### **Conclusions**

Who the respondent lives with can make a difference in the likelihood of participating in the survey. The household characteristic model indicates that odds of survey return decline with household size, but are increased with the presence of a woman, the presence of someone age 35 or older, and an older and/or female consentor. In 18-24 year old male households, the odds of survey return declines sharply if they are living with only other young men or a mixed-sex group of young adults, compared to young men living with an adult age 35+ (probably a parent). In contrast, women 18-24 living with other young women are just as likely to return all their diaries as those women living with an older adult.

The findings of this study have application in consideration of household composition when trying to gain survey cooperation. Whether targeting a single individual within the household or multiple household members, the dynamics of the household interaction can act to facilitate or put up barriers to participation. By knowing the household membership and anticipating its effect on cooperation, survey effort can be directed accordingly to maximize response rate.

1. Groves, R. and Couper, M. (1998) *Nonresponse in Household Interview Surveys*, New York: John Wiley.
2. Singer, E. (2002) "The Use of Incentives to Reduce Nonresponse in Household Surveys." In R.M. Groves, D.A. Dillman, J.L. Eltingem and R.J.A. Little (Eds.), *Survey Nonresponse*, 163-177, New York, Wiley.
3. Groves, R. , Singer, E. and Corning, A. D. (1999), "Leverage-Saliency Theory of Survey Participation: Description and an Illustration", *Public Opinion Quarterly*, 64, pp. 299-308.
4. Arbitron Research Report 04-05-Young Male Call-Back Study.

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## Call for Papers

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Yesterday, November 24, 2008, 3:52:13 PM | Editor

Now that Survey Practice has been published for four months, we hope that you can see the types of articles we will continue to publish. However, we can always use more articles and welcome new submissions. You can submit research articles and other types of articles, such as reviews, that Survey Practice publishes.

In particular, we would like to increase the number of "how to" articles we publish. These articles could include research done by organizations to improve their procedures, processes, and outcomes. The research might be to increase response, save money, improve data quality, and other similar types of small research projects organizations regularly conduct. Based on the successes (and failures), we can all learn more and they will collectively improve our profession.

Please consider submitting an article of any length. The editors are very author-friendly and work with authors to make the articles appropriate for Survey Practice. Ideally, articles are 1,500 words or less.

If you have questions or want to submit an article, please send them to [survprac@indiana.edu](mailto:survprac@indiana.edu).

The Editors

John Kennedy  
David Moore

Diane O'Rourke  
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