

**Sampling Young Adults:
The Effects of Survey Mode and Sampling Method on
Inferences about the Political Behavior of College Students**

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Driven by the high cost of multi-stage probability samples for face-to-face surveys and the alarming difficulties associated with the meteoric rise in reliance on the cell phone, Internet surveys now abound. Internet surveys, usually relying on the “opt-in” (volunteer) panel as the method of recruiting respondents, are far less costly than face-to-face surveys and promise to overcome problems associated with the inability to conduct representative interviews over the telephone.

In political science, specifically, Internet surveys are rapidly becoming an accepted procedure,¹ though questions about them remain. Recently, researchers have started to evaluate the quality of these surveys, trying especially to assess the degree to which they yield representative samples of the public. So far, however, while there may be much common wisdom about both the advantages and pitfalls of Internet surveys, these studies fall far short of establishing any sort of generalizable patterns.² The earlier use of Internet-based samples of convenience, clearly problematic by almost any standard, has given way to a wide array of hybrid methods that promise to overcome the earlier problems, usually involving some type of specialized respondent selection method combined with post-sample weighting. Yet even with sophisticated methods of *post facto* weighting now employed by survey organizations, it isn’t clear whether Internet surveys with non-probability samples represent reasonable alternatives. And more to the point here, it is not at all clear whether Internet surveys might represent a preferred alternative for selected subgroups of the population.

There is at least some evidence that Internet-based opt-in sample surveys yield samples that are disproportionately composed of political activists and people whose political ideologies are more on the extreme – very liberal or very conservative. Malhotra and Krosnick (2007: 297, 299) report that both YouGov and Harris Internet surveys exhibit this pattern when compared to National Election Studies samples of the general adult population. A recent study by Gibson and McAllister (forthcoming 2008) also suggests that online surveys tend to over-represent respondents with strong party identifications and under-represent those with weak or no party identifications. As they note, “the online poll, however, was far less accurate in replicating offline estimates of partisan strength; very strong identifiers were over-estimated by some 12 percentage points, and not very strong identifiers, in the opposite direction, by 15 percentage points” (pp. 14-15).

This paper will focus on one specific population – college students aged 18-24 – a group that has proven to be especially difficult to reach with other methods. Young people rely more on cell phones than others, tend to be less reachable through land lines, and are somewhat more mobile than older individuals. Correspondingly, these young people are also more likely to be frequent users of the Internet. Theoretically, at least, one could make the argument that if any group of people would seem especially appropriate to target with Internet surveys, it would be college

¹ Note, for example, the popularity of the Cooperative Congressional Election Study (Vavreck and Rivers 2008).

² Sanders, Clarke, Stewart, and Whiteley (2007) conclude that there is “strong support for the claim that properly designed Internet surveys can have a useful role to play in research on electoral choice in Britain,” while Malhotra and Krosnick (2007: 286) write that “researchers interested in assuring the accuracy of their findings in describing populations should rely on face-to-face surveys of probability samples rather than Internet samples of volunteer respondent.” Hill, Lo, Vavreck, and Zaller (2007) suggest that “a mildly biased but large Internet survey can produce more reliable estimates than an unbiased but small survey.” Berrens et al. (2003, 21) argue that Internet surveys will sometimes, but not always, be appropriate for social science research.

students. We take a special look at college students aged 18-24, a group that is increasingly of interest as a major part of the young adult population. This group was basically ignored when face-to-face interviews were the norm (Converse 1976: 49; Kalton 1983: 6-7; Weisberg 2005: 208) and, we suspect, is under-sampled in many telephone surveys. Here, again, Internet surveys appear to overcome the difficulties associated with capturing such specialized populations, thus expanding our ability to assess the opinions of particular populations.

Substantively, the political behavior of young people has attracted increased attention in recent years for a variety of reasons. First, research sponsored by the Center for Information and Research on Civic Learning and Engagement (CIRCLE) has shown that for the first time since 18-20 year olds received the franchise in 1972, electoral participation of the young is on the rise (Marcelo, Lopez, Kennedy, and Barr 2008). Civic engagement of this age/education cohort also seems to be on the rise (Zukin, Keeter, Andolina, Jenkins, and Delli Carpini, 2006). Second, in the midterm elections of 2006, there is significant evidence that the increased participation of the young influenced a number of congressional races that resulted in changed party control of Congress. And much common wisdom suggests that the last few election cycles have witnessed a significant shift in party identification among the young, toward Democrats and away from Republicans and Independents. All of this points to an increased interest in accurately sampling this group.³

Using data on samples of the same underlying population – college students aged 18-24 – generated from multiple sources, including two Internet surveys conducted by Polimetrix for Tufts University, two Internet surveys conducted by Harris Interactive for the Institute of Politics (IOP) at Harvard, and one telephone survey conducted by the Prime Group for the Institute of Politics, and comparing the results of these surveys to data from other sources, including two telephone-based National Civic Engagement Surveys (NCES) and a Knowledge Networks web-enabled survey, we make an effort to understand the effects of Internet survey sampling methods on the assessment of specific political variables including voter registration, party identification and political ideology, and political engagement

Although there are limitations to the robustness of comparisons of samples that focus on a small number of selected variables, our approach here is to concentrate on political behavior characteristics. In short, we want to know whether Internet surveys generate samples of young people (college students) that are skewed when compared to telephone surveys. Do Internet surveys produce samples that are more liberal or conservative than those derived from telephone surveys? Are Internet respondents more likely to be Democrats or Republicans? Do Internet surveys yield a higher proportion of political activists? Such comparisons may be subject to challenges on issues of generalizability, but they represent a widely practiced method for analyzing biases that might be due to specific sampling frames, techniques, or modes. Of course, we are limited here in our ability to conduct comparisons by the range of questions asked in the surveys. We have focused on those political behavior characteristics that have been measured in identical or reasonably comparable ways across surveys (we report the actual question wordings at the end of each table) and on which there is reason to believe that Internet samples might be

³ Likewise, there is increased interest in and debate about the political attitudes and civic behavior of young people, sparked by a concern over the generational changes in political trust and efficacy and in conventional and unconventional political participation (e.g., Dalton 2008; Wattenberg, 2008).

biased. There are some basic characteristics that we might like to analyze but cannot because they were not asked in enough surveys. For example, while we analyze a number of types of political participation, we do not analyze turnout rates because (surprisingly, perhaps) many of the surveys never asked about past voting experiences or ask in such idiosyncratic ways as to make comparisons problematic.

In the best of all worlds, we would like to compare the findings from Internet surveys to some “gold standard,” data whose quality and accuracy are well established. In this case, however, there is no gold standard either in terms of the particular population (people aged 18-24 or college students) for the specific variables we are interested in. There is no established alternative source of information on the political attitudes or behaviors of young people that is generally considered to be extremely accurate. Thus, we approach the comparisons from the perspective that we may not know with a high level of certainty what the true population characteristic is but that major differences across surveys likely point to sampling effects associated with each type of survey. Indeed, our persistent finding that the Internet surveys, especially those conducted by Polimetrix, seem to attract respondents who are more politically active, suggests to us that online surveys based on opt-in panels, even when the selection of individual respondents is based on a matching technique, do not produce representative samples. While the Internet continues to provide an enticing and efficient mechanism for reaching young people, problems with the opt-in panel suggest that serious attention needs to be given to improved ways of sampling.

The Data Sources

Our comparisons focus on measures of political attitudes and behavior from nine surveys, all of them conducted between 2002 and 2007 and all with a focus on young people:

- Three telephone surveys: one conducted by Prime Group for the Institute of Politics (IOP I) and two conducted by Schulman, Ronca, and Bucavals for Keeter, Zukin, Andolina, and Jenkins (2002) (NCES I and NCES II). The IOP survey used a proprietary list of college students. The NCES surveys used random digit dialing.
- Four Internet surveys: two conducted by Harris Interactive using its Harris Poll Online opt-in panel for the Kennedy School’s Institute of Politics (IOP II and IOP III), and two conducted by Polimetrix for the Tufts Tisch College of Citizenship and Public Service (designated Tufts I and Tufts II).
- A web-enabled survey conducted by Knowledge Networks for Keeter et al. (2002).⁴
- A mixed mode survey (designated CPHN). The telephone respondents were selected through RDD with a sample provided by Survey Sampling International, Inc. The smaller, online portion of the survey used Survey Sampling International’s SurveySpot online panel.

⁴ KN’s web-enabled surveys utilize web-based responses from “an on-going research panel based on a nationally representative, list-assisted, random-digit-dial (RDD) sample drawn from all 10-digit telephone numbers in the U.S.” (Laird et al. 2002).

Summary information about each survey is provided in the appendix. Though the focus of all of the surveys was on young people, the precise populations sampled varied. To make the comparisons shown below, we identified, insofar as possible, persons aged 18-24 who were full-time college students. However, in several cases students were simply coded as being in college, so the respondents we used may include some who were enrolled part-time. In addition, in some of the surveys, students were limited to those in four-year colleges, while in others they may have included students who were in two-year schools. The exact steps used to select the students to analyze, along with specification of weighting information, are also contained in the appendix.

Comparison across Surveys

Our goal is to compare as many as possible of the nine surveys on attitudinal and behavioral items. We limit the comparisons to questions that are worded similarly, though as is usually the case, wordings, as well as the order and context in which they are asked, are not identical. The problem of different questionnaires is overcome in the last instance, where we compare telephone to Internet respondents in the CPHN mixed mode survey (though the number of cases is small and the Internet survey was used largely for minorities).

The fact that the surveys were conducted at various times over a five-year period may also affect the comparisons. As a reminder of this, we include the year of each survey in the table headings. Despite these unavoidable differences, we believe the question wordings are similar enough and the underlying behaviors stable enough over time that meaningful comparisons can be made.

Political Ideology: Liberal-Conservative Self-Placement

Perhaps the most basic set of political attitudes that can be assessed relates to self-perceptions of political ideologies. We look at results from questions asking respondents to place themselves on the liberal-conservative continuum. Table 1 provides the comparisons among eight surveys; the question wordings are provided below the table.

The results of these initial comparisons are strongly suggestive though not entirely persuasive. First, compare the surveys in the left-hand side of the table. In these four surveys, the question wording was identical. The percentages of moderates in the three Internet surveys are very similar, varying by no more than four percentage points (though the comparison is complicated slightly by the presence of DK responses in two of the surveys). In contrast, the IOP I (phone) survey had more moderates than any of the Internet surveys, with a margin of 7-11 points. Now consider the right-hand side of the table. In these four surveys, the question wording was also very similar (though different from those on the left-hand side). In the three phone (or mostly phone, in the case of the CPHN) surveys, 36-47 percent of the respondents were in the middle (moderate) category, but this figure drops to 26 percent in the Tufts I (Internet) survey. Conversely, there are more respondents in the extreme categories in the Tufts I survey.

What makes the results less than fully persuasive is that we cannot tell whether the Internet surveys on the left-hand side would have yielded more extreme respondents if “very liberal” and “very conservative” categories had been available. In addition, the observed differences may be

due to other, unspecified factors.⁵ Still, the smaller number of moderates in all of the Internet surveys and the greater number of extreme respondents in the right-hand side comparisons support the expectation that online surveys yield less moderate, more extreme samples of college students.

[Table 1 Here]

Party Identification

Just as political ideology is a mainstay of political behavior research, so too is self-reporting of respondents' party identification. Table 2 shows the responses. The NCES phone surveys, the mixed-mode survey, and the IOP III (Internet) survey rely on essentially the same, seven-point response categories. These are shown on the right-hand side of the table. The Tufts surveys and the IOP I and II surveys did not distinguish levels of partisan intensity, capturing only whether respondents identified themselves as Democrat, Republican, or Independent.

Consider first the left-hand side of the table. The IOP II and Tufts I and II (Internet) surveys have fewer respondents in the middle category and considerably more on the extremes than does IOP I (phone) survey. However, if that difference is meaningful, it is contradicted by the results for the IOP III survey and the NCES surveys shown on the right-hand side. That is, the IOP III (Internet) survey shows a few percentage points *more* in the middle category than NCES II survey and quite a few more than in the NCES I and CPHN surveys (though the latter comparisons are plagued by the large number of "don't know" and "other" responses). Thus, ~~as with political ideology,~~ it is not clear that there are differences in responses associated with Internet versus phone surveys, but neither is it certain that the alternative methods yield similar results.

[Table 2 Here]

Voter Registration

Voter registration is the first actual behavior on which we compare the various types of surveys. All surveys, of course, are likely to over-estimate actual registration figures, so we expect the figures to be quite high. The numbers may also vary substantially across years. If one judges from voter turnout, interest in the election among young people was higher in 2004 and 2006 than in other recent presidential and non-presidential elections, respectively (Marcelo, Lopez, Kennedy, and Barr 2008: 1). In any case, comparisons across surveys within a given year should be meaningful.

The data are shown in Table 3. Added to the comparisons are data from the Census Bureau's Current Population Survey. The data reveal wide variations in the proportion of college students reported being registered. The lowest estimate is that from the CPS for 2002. As expected, the CPS estimate suggests that more students were registered in 2006.⁶ The registration rate in the

⁵ The time of the surveys does not seem to be a likely explanation, as phone surveys both before and after the Tufts I survey show contain more moderates. Nor are there obvious time differences on the left-hand side of the table.

⁶ The CPS estimate for 2004 was markedly higher, at 71 percent. Because of the wide variation between

2002 KN (web-enabled) survey and in the NCES I and NCES II (phone) surveys are notably higher than the CPS result.⁷ In 2005, the IOP I (phone) survey yielded an even higher estimate, whether due to spillover from 2004 or to a less representative sample. The estimate from the CPHN mixed-method survey in 2006 was also on the high side.

As high as these numbers were, estimates from the Internet surveys were all higher, by only four percentage points if one compares the IOP II to the IOP I survey or by as much as 17 percentage points if one compares the Tufts I survey to the CPHN (mixed) survey. Admittedly, there could be some question wording effects at work here, since the IOP I and II and Tufts (Internet) surveys used a wording that made no mention of people not being registered, while the KN (web enabled) and NCES (phone) surveys referred to official records, with the IOP III wording perhaps falling between these two.⁸ So, while the results must be regarded as somewhat tentative, the magnitude and consistency of the differences does suggest that Internet surveys attract a disproportionate number of registered voters.^{9, 10}

[Table 3 Here]

More Demanding Forms of Participation

Voting, of course, represents a modest form of political participation that is typically thought of as not very demanding. Political scientists are often interested in more challenging forms of participation, understanding that fewer people engage in them. For the purposes of this paper, we focus on six of these: participation in protest activities; signing a petition; contacting or visiting a public official; contacting the media about a problem or issue; attending a local public meeting, such as a city council or school board meeting; and contributing money to a political campaign. Each of these will be addressed separately.

Participating in Protest Activities: According to Verba, Schlozman, and Brady (1995: 51), only about six percent of the general population 18 years of age or older engage in protest activities in any given year.¹¹ But what about college students? How much protest behavior do they engage in? Five of the surveys asked questions about whether students engaged in protest behavior; the results of these surveys are shown in Table 4.

The NCES phone surveys yield estimates that are not very different from overall population

presidential and non-presidential election years, and because none of the other surveys was completed in a presidential election year, we do not use that figure.

⁷ Though they are not exact comparisons, the differences between the CPS and other estimates reminds one of the greater overestimate of voter turnout in the American National Election Studies than in the CPS (Brady 1999: 774-75).

⁸ The CPS also makes no mention of people not being registered, but it follows after the vote question, which does refer to people possibly not being registered.

⁹ It should be noted that Berrens et al. (2003: 16) found almost no difference in voter registration rates between a national telephone survey and two Harris Internet surveys; although all three reported higher percentages than a Knowledge Networks survey.

¹⁰ Note also that the Tufts II (Internet) survey was conducted in 2007, a year with no federal elections, so registration might have dipped somewhat from the fall of 2006. Yet the estimate was greater than for any of the non-Internet estimates.

¹¹ Dalton (2008: 65) cites a seven percent figure from the 2000 Social Capital Benchmark Survey.

estimates—on the order of 5-10 percent – with the CPHN mixed mode survey showing that 11.5 percent participated in protest behavior. In contrast, the Tufts I and II (Internet) surveys show much higher levels of engagement in protest activities. The NCES surveys were conducted at a number of years before the Tufts studies, but the more recent CPHN study seems to confirm the limited involvement of students in these protest activities. The magnitude of the differences and the consistency of differences between Internet and phone surveys strongly suggest that the respondents to the Internet surveys are considerably more likely to be politically active, at least with respect to this kind of behavior. But does this difference translate into other forms of demanding political behavior?

[Table 4 Here]

Signing a Petition: Table 5 focuses on another frequently queried form of engagement, signing a petition dealing with a political or policy issue. As with the question asking about protest behavior, the Internet surveys seem to attract a disproportionate number of respondents who report having signed a petition. Indeed, nearly twice as many respondents reported engaging in this behavior in the two Tufts surveys as in the phone surveys. The fact that the Knowledge Network web-enabled survey produced respondents with the lowest level of participation in petition-related activities suggests that there could be mode differences. Alternatively, it is possible that the time lag between the phone surveys and Internet surveys made some difference, though the results from the 2006 CPHN survey suggest this is not a timing issue. It is also possible that differences among the surveys could be the product of variations in question wording, yet the subject referent – signing a petition – is not terribly ambiguous or subject to widely varied interpretations. And all the wording refer to both e-mail and paper petitions and to a 12 month period. Clearly, it would seem, the Tufts (Internet) surveys attracted far more respondents who engage in petition-signing behavior than any of the other surveys.

[Table 5 Here]

Contacting Public Officials: Another important form of political engagement involves contacting behavior. Clearly more demanding on individuals than merely registering to vote or voting, contacting requires some greater level of effort. Typically, questions involving contacting focus on efforts to communicate one’s views to elected officials, although later we also deal with contacting news media. Most of the surveys query respondents about whether they have “contacted or visited a public official – at any level of government – to express your opinion.” Table 6 shows the results from six surveys asking a question of this sort. Again, as with petition-signing behavior, the Tufts (Internet) surveys reveal far higher levels of contacting behavior than either of the phone surveys, the mixed-mode survey, or the Knowledge Networks survey. Around a third of the sample of college students reported some form of contacting behavior in the Tufts surveys, compared to only a tenth of the samples from the phone and CPHN (mixed) surveys and an extremely low level in the Knowledge Networks survey. Again, then, the Tufts surveys seem to have recruited far more students who have engaged in a demanding political behavior the phone or web-enabled surveys.

[Table 6 Here]

Contacting the Media: Along with contacting public officials, some of the surveys asked respondents whether they had contacted various kinds of media to express views or opinions on public issues or political candidates. Table 7 provides comparisons of the two phone-based NCES surveys and the CPHN mixed-method survey with the two Internet-based Tufts surveys on questions involving contacting newspapers, magazines, radio, or television. As with the other forms of political engagement, the Internet surveys report more contacting behavior than the phone surveys, although the CPHN mixed-method survey falls close to the lower of the two estimates in the Tufts surveys. Were we to combine the results from the two phone surveys and likewise to combine the results from the two Internet surveys, we would conclude that the frequency of media contacting among college students is twice as high were we to use the Internet estimates.

[Table 7 Here]

Attending a Meeting: In addition to contacting behavior, three surveys – the two Tufts surveys and the KN web-enabled survey – asked respondents about attending meetings of local city or town councils, school boards, or neighborhood associations. Clearly, this is a challenging form of political behavior for college students, many of whom attend college far away from the locality they most identify with. One might expect that only a small fraction of this population to engage in such activity. Indeed, Verba, Schlozman, and Brady (1995: 51) report that about 14 percent of the general population 18 years old or older attend such meetings, whereas a little more than half that report doing so in the KN student survey. In contrast, Table 8 shows that the Tufts (Internet) surveys contain considerably larger numbers of attenders. Indeed, a quarter of the Internet samples reported having attended meetings at least once during the previous year, while only about a third of that number reported such behavior in the web-enabled survey.

[Table 8 Here]

Contributing to a Political Campaign: Finally, we look at the propensity of college students to make financial contributions to political candidates. While about a quarter of the general population reports making such contributions (Verba, Schlozman, and Brady 1995: 51), this proportion is likely to be considerably lower among college students. Contributing to political campaigns is strongly influenced by personal income, and students typically have little in the way of discretionary funds. Nevertheless, the four surveys of college students, as reflected in Table 9, show substantial variation. The Tufts I (Internet) survey is five times as likely to contain respondents who report having made political contributions as the NCES I (phone) survey, and the Tufts II (Internet) survey is 10 times as likely to have such respondents. The results for the CPHN (mixed-method) survey are much closer to those in the phone survey, containing far fewer students who contributed to political campaigns.

[Table 9 Here]

A Split-Sample Comparison

All of the comparisons so far have been across samples, with all the attendant problems of different timing, question wording, context, and so on. We can overcome many of these

problems by comparing phone and Internet respondents from a single survey – the mixed-mode, Civic and Political Health of the Nation (CPHN) Survey. Unfortunately, this survey has problems of its own, making comparisons worthwhile but not definitive.

As noted above, the survey was conducted primarily by phone. However, an online addition was used to create an over-sample of young Latino, African American, and Asian American respondents. As a result, 96 percent of the white respondents (among 18-24 year old college students) were interviewed by phone, while 55 percent, 43 percent, and 9 percent of African Americans, Latinos, and Asian Americans, respectively, were interviewed by phone. Thus, reasonably valid comparisons can only be made if we control for race, and the numbers are sufficient for descriptive purposes only for minority groups. Even then, the numbers of cases in each condition are small, and the fact that the survey designers felt they had to turn to the Internet suggests that the phone interviews are not, by themselves, fully representative of the designated populations.

Keeping all these reservations in mind, we compare phone and on-inline African American, Latino, and Asian American respondents in Table 10. For African Americans, the online respondents are almost without exception more active than the phone interviewees, and the differences are typically large. Why voter registration is an exception is not clear, but the exceptions are so few that the conclusion seems inescapable that the online respondents are considerably more active than the phone respondents. Among Latino respondents, the results are split almost down the middle – the online respondents are more active 8 more times and the phone respondents 7 times. On the other hand, in only a few instances are the phone respondents more active by a wide margin (contacting public officials, doing something else for a cause), whereas the online respondents are substantially more active in a number of instances (called radio/tv, protesting, signing a written petition, boycotting, walking for a cause, and voting). Among Asian Americans, online respondents are more active for a majority of the items, but the differences are greatest when the phone respondents are more active. Thus, the results are somewhat ambiguous.

Combining responses to all of the activities into a 15 point summary scale yields the mean scores shown at the bottom of the table. The mean summary scale scores again indicate that the survey method made a substantial difference for African Americans; among Hispanics, the difference was in the same direction but not statistically significant; and among Asian Americans, the mean scores are nearly identical

[Table 10 Here]

An additional way of checking for differences by survey method is to regress the 15-point scale on a number of independent variables. This allows us to include respondents of all races (i.e., all 18-24 year old college students) and to control for possibly confounding variables. Ordinarily, of course, education would be a primary control factor. Since we are including only college students, that measure is a constant. However, there are a number of other potentially important factors. Whether respondents are employed and are married may affect their level of participation (though in which direction is not so clear). The same is true for gender. Despite the limited age range, we included it as well on the chance that younger/older students (who are,

of course, typically earlier/later in their college careers) might participate at different rates. Race and ethnicity are less likely to make a difference, but we included these variables on the chance that they were an important correlate of participation (as suggested by the over-sampling of minorities). We estimated two models. In one we added to the above variables the respondent's self-report of the extent to which he or she followed politics. This variable may itself affect who answers Internet versus phone surveys.¹² However, including it suggests that there may be something about online questionnaires that especially attracts activist individuals. Lastly, of course, we included in both models a dichotomous variable indicating whether the survey was completed by phone or online.

The results are shown in Table 11. In both models, the variable survey type is positive and significant, indicating that online respondents participated in more political activities than phone respondents, even when controlling for how often the respondent follows politics. The magnitude of the effect is about one and a half acts. Though the scale runs from 0-15, three-quarters of the respondents are in the 0-5 range, making an act and a half a relatively large jump in reported actions. Given the limitations of this sample noted above, along with the divergent results for the different racial/ethnic groups, even these multivariate results are not conclusive. Nonetheless, they reinforce the concerns that online surveys may seriously overestimate rates of political participation by college students.

[Table 11 Here]

Conclusion

Clearly, the multiple Internet-based surveys examined in this study show significant differences with surveys conducted using other sampling methods. As a general rule, the Internet surveys attracted a more activist sample of college students than the phone surveys. They also seemed to attract more ideologically extreme respondents. Less clear is whether they attracted strong partisans at the expense of Independent identifiers.

With the substantial difficulties in reaching young people, especially college students, through traditional phone sampling methods, Internet-based surveys certainly hold great promise. The potential for obtaining representative samples of young people via the Internet appears to be substantial. Yet there is also little question that the methods used to acquire such samples to date have not lived up to this potential. Online surveys appear to substantially over-sample from an activist population and under-sample those who tend to be disengaged from politics. So what can be done to enhance the representative character of future surveys?

One answer would seem to lie in conducting mixed-method surveys, where part of sample is gathered through one sampling method and another part is gathered using a different method. The 2006 Civic and Political Health of the Nation (CPHN) Survey provides an example, though in that instance different methods were used largely in an effort to survey difficult-to-reach minority populations.

¹² Confounding the results about participation, African American phone respondents were *more* likely to follow politics frequently while Hispanic and Asian American phone respondents were *less* likely to do so.

The challenge, of course, is to understand *a priori* the nature of sampling biases associated with any one selection method and to design a frame that promises to compensate for these biases. Nearly all of the Internet based surveys analyzed here contain some method for achieving that compensation, including sample matching (as with the Polimetrix surveys) and post-survey weighting. Yet the results we report here strongly suggest that these methods are not up to the task, at least when the results for political engagement and activism of college students are assessed. Since assessing the political and civic engagement of young people constitutes one of the central reasons for conducting many of these surveys, this represents a significant weakness indeed. It remains to be seen whether a survey of college students that is largely based on the Internet can fruitfully be augmented with telephone interviews, especially given the promise of lower costs associated with Internet surveys.

Clearly, there is a need for much more systematic assessment of the effects of different survey modes and sampling techniques associated with Internet samples. The results examined here are instructive but not entirely definitive. Differences across surveys may have been affected by different question wordings and by the different times during which the surveys were conducted. Moreover, there were differences in what constituted a “college student” that undermined our ability to compare respondents from the exact same underlying population. It may well be time to design and conduct a large-scale project on the political and civic behavior of college students where everything except the mode and sampling methods are held constant. Only through this kind of analysis will we be better able to understand how to design Internet surveys that are capable of producing representative surveys of college students and, perhaps, of young people more generally.

Appendix

Summary Information about the Surveys

IOP I—Institute of Politics, Harvard University, 2005 Fall Survey

Population: College students
 Unweighted sample size: N=1,204 aged 18-24
 Method: Telephone survey conducted by Prime Group, Inc.
 Fielded: Oct. 10-18, 2005

IOP II—Institute of Politics, Harvard University, 2005 Fall Survey

Population: College students
 Unweighted sample size: N=1,142 aged 18-24
 Method: Internet survey conducted by Harris Interactive
 Fielded: October 25-31, 2005

IOP III—Institute of Politics, Harvard University, 2006 Fall Survey

Population: Ages 18-24
 Unweighted sample size: N=2,546; 1,210 full-time college students aged 18-24
 Method: Internet survey conducted by Harris Interactive
 Fielded: October 4-16, 2006

Tufts I—National Survey of Civic and Political Engagement of Young People, Tufts University

Population: Ages 18-24, half full-time college students, half non-college; all non-full-time military
 Unweighted sample size: N=1,000; 500 full-time college students
 Method: Internet survey by conducted by Polimetrix
 Fielded: Nov. 17-27, 2006

Tufts II—National Survey of Civic and Political Engagement of Young People, Tufts University

Population: Ages 18-24, half full-time college students, half non-college; all non-full-time military
 Unweighted sample size: N =1,000; 500 full-time college students
 Method: Internet survey conducted by Polimetrix
 Fielded: November 1-9, 2007

NCES I—National Civic Engagement Survey I

Population: Ages 15 and older
 Unweighted sample size: N =3,246 (1,001 aged 15-25)
 Method: Telephone survey conducted by Schulman, Ronca, and Bucavals
 Fielded: April 4-May 20, 2002

NCES II—National Civic Engagement Survey II

Population: Ages 18 and older
 Unweighted total sample size: 1,400 (136 aged 18-24 with some college)
 Method : Telephone survey conducted for Rutgers University by Schulman, Ronca, and

Bucavals

Fielded: November 14-20, 2002

KN—National Youth Survey of Civic Engagement 2002

Population: Ages 18-24

Unweighted total sample size: 1,166 (249 aged 18-24 with at least some college)

Method: Internet survey by Knowledge Networks

Fielded: January 29-February 25, 2002

CPHN—Civic and Political Health of the Nation Survey

Population: Ages 15 and over

Unweighted total sample size: 2,232; 1,658 aged 15-24; 324 aged 18-24 enrolled in college (210 interviewed by phone and 114 were surveyed on the Internet)

Method: Primarily RDD telephone conducted by Princeton Survey Research International and Braun Research Inc.; augmented by Internet. The online portion of the survey was used to create an over-sample of young Latino-American, African American, and Asian American respondents.

Fielded: April 27-June 11, 2006

Details about the **IOP surveys** can be found at www.iop.harvard.edu and about the **NCES and CPHN surveys** at www.civicyouth.org. Details about the Tufts surveys are as follows:

Tufts I & II: The National Survey of Civic and Political Engagement of Young People.

The sample was produced from email contacts with the permanent PollingPoint opt-in panel maintained by Polimetrix, Inc. Email messages were sent to all people in the panel matched against a frame of records randomly selected from the U.S. Census Bureau's 2004 American Community Survey (<http://www.census.gov/acs/www/>); invitees were chosen based on the strength of match to the frame and their expected response rate to the survey (Rivers undated). Each invitee was asked to visit a web site maintained by Polimetrix that contained the questionnaire. Initial screening questions were used to determine whether the respondent qualified based on age and non-military status. Another question was used to determine whether qualifying respondents were full-time college students or non-college people. Responses were accepted from qualified respondents until the quotas of 500 questionnaires of each type were completed.¹³

Steps Used to Select College Students Only; Sample Weights

IOP I and IOP II: Used age = 18-24.

¹³ In the case of the Tufts I survey, initial analysis showed what seemed on its face to be extreme over-representation of political activists, and this fact was reported to Polimetrix. Polimetrix re-assessed the raw sample, and replaced over 200 respondents from the original sample with new respondents. The data analyzed here are from the revised sample. The effect was to lessen the number of political activists in the sample. No such issues arose in the 2007 survey.

IOP III (2006): Used wt_compare; q405m4 = 1 (yes to 4-yr college/Univ); q1155 = 1 (full-time student)

Tufts I (2006): Used weight (case weight); studentstatus = 1 (enrolled)

Tufts II (2007): Used weight (weight); wsb216 (full-time college student) = 1 (yes)

NCES I: Used step1wt (weight for analysis of individual age groups); only those with schl = 2 and age = 18-24. The education code means: "Are you currently enrolled in school?" (Yes, in College (Undergraduate)). So, they may be in a junior college and may be only part-time.

NCES II: Used weight (combined weight); only those with educ = 5 (some college) and recage (recoded age) = 1 (18-24)

KN: Used weight (sample based weight); ppcm0060 = 1 (a full-time college student); ppagecat = 1 (18-24)

CPHN: Used weight (weight); q8 = 2 (enrolled in college); recage = 2 (18-24)

Table 1: College Students' Self-Placed Political Ideology

IOP and Tufts II response categories	Tufts II Internet 2007	IOP III Internet 2006	IOP II Internet 2005	IOP I Phone 2005	Tufts I, NCES & CPHN response categories	CPHN Mixed 2006	Tufts I Internet 2006	NCES I Phone 2002	NCES II Phone 2002
Liberal	29.0	33.3	34.4	31.6	Very liberal	8.5	13.3	9.3	2.4
Mod. leaning lib.	18.0	16.6	12.1	10.2	Liberal	16.0	28.4	26.3	27.6
Moderate	17.2	14.2	13.2	24.1	Moderate	46.9	26.3	36.1	46.6
Mod. leaning cons.	12.1	15.3	14.1	8.8	Conservative	20.7	19.0	16.9	16.3
Conservative	19.4	20.6	26.2	21.3	Very cons.	4.6	6.7	4.3	0.0
Don't know	3.9	-----	0.0	3.9	Don't know	1.7	4.9	6.9	1.7
Other	0.3	-----	-----	-----	Other	-----	1.4	-----	-----
					Refused	1.6	-----	0.2	5.8
N	500	1,195	1,142	1,069		1,224	500	136	123

IOP and Tufts II wording: When it comes to most political issues, do you think of yourself as a Liberal, a Conservative, or a Moderate? [For Moderates] Do you lean Liberal or Conservative?

IOP III wording: When it comes to most political issues, do you think of yourself as a liberal, moderate or conservative? (If moderate ask: as a moderate, which way do you lean?)

Tufts I wording: How would you describe your own personal political orientation? Would you say you are Very Liberal, Liberal, Moderate, Conservative, or Very Conservative?

NCES I, NCES II, and CPHN wording: In general, would you describe your political views as Very Conservative, Conservative, Moderate, Liberal, or Very Liberal?

Table 2: Party Identification

Tufts and IOP I & II response categories	Tufts II Internet 2007	Tufts I Internet 2006	IOP II Internet 2005	IOP I Phone 2005	NCES, CPHN, IOP III response categories	CPHN Mixed 2006	IOP III Internet 2006	NCES II Phone 2002	NCES I Phone 2002
Democrat	32.9	37.1	33.2	32.6	Strong Dem.	15.6	15.5	20.3	10.9
	-----	-----	-----	-----	Weak Dem.	14.4	21.2	19.5	21.3
	-----	-----	-----	-----	Ind. Dem.	10.3	12.5	12.5	10.4
Independent	25.6	31.5	34.3	37.7	Independent	8.0	15.4	13.1	5.0
	-----	-----	-----	-----	Ind. Rep.	5.7	6.8	5.3	4.5
	-----	-----	-----	-----	Weak Rep.	17.3	16.3	15.4	11.4
Republican	35.9	26.2	32.5	25.1	Strong Rep.	6.9	12.4	10.6	11.4
Don't know	5.6	3.8	-----	1.7	Don't know	9.5	-----	1.7	11.4
Other	-----	1.4	-----	2.9	Other	-----	-----	2.8	13.4
Skipped	-----	0.2	-----	-----	Refused	12.2	-----	-----	0.5
N	500	500	1,142	1,069		1,224	1,271	121	202

IOP I and IOP II wording: When it comes to voting, do you consider yourself to be affiliated with the Democratic Party, the Republican Party, or are you independent or Unaffiliated with a major party?.

IOP III wording: When it comes to voting, with which party do you consider yourself to be affiliated? (If Republican or Democrat ask: Would you call yourself a strong Democrat/ Republican) (If Independent ask: Do you think of yourself as closer to the Democratic or Republican party?)

Tufts I and Tufts II wording: Do you consider yourself a Democrat, and Republican, an Independent, or something else?

NCES I, NCES II, and CPHN wording: In politics today, do you consider yourself a Democrat, Republican, Independent, or something else? (Independent includes those who responded "neither" or "DK/No opinion" to the follow-up question.) For Democrat and Republican responses: Do you consider yourself a strong [Republican/Democrat] or not so strong? For Independent/neither/DK responses: Do you lean more toward the Democratic party or more toward the Republican party?

Table 3: Voter Registration

Voter registration	Tufts II Internet 2007	IOP III Internet 2006	Tufts I Internet 2006	CPHN Mixed 2006	CPS 2006*	IOP II Internet 2005	IOP I Phone 2005	NCES II Phone 2002	NCES I Phone 2002	KN Web-enabled 2002	CPS 2002*
Registered	83.8	80.9	91.3	73.9	56.0	82.1	78.0	69.6	64.9	59.1	52.3
Not registered	13.3	16.0	7.2	24.9	44.0	15.2	21.5	30.4	31.8	24.5	47.7
Not sure	3.9	3.1	1.5	1.0	-----	2.6	0.5	-----	3.2	16.4	-----
N	495	1,272	500	1,224	3,532	1,142	1,204	123	200	174	3,599

*Current Population Survey, November Supplement. Estimates based on weighted data, but the N's shown are the unweighted N's.

IOP I and II wording: Are you registered to vote?

IOP III wording: We understand that plenty of young people are not registered to vote, but we are wondering if you are registered to vote?

Tufts I and Tufts II wording: Are you currently registered to vote?

NCES I, NCES II, and CPHN wording: In talking to people, we find that many are not registered to vote because they are too busy or move around often. Would official state records show that you are now registered to vote in your election district, or not?

KN wording: Many people are not registered to vote because they are too busy or they move around often. Would official state records show you are registered to vote in your election district or election district?

Current Population Survey wording: Were you (was name) registered to vote in the November [date] election?

Table 4: Participation in Political Protests

	Tufts II Internet 2007	Tufts I Internet 2006	CPHN Mixed 2006	NCES II Phone 2002	NCES I Phone 2002
Yes	24.6	21.3	11.5	4.7	10.2
No	73.9	75.8	88.5	95.3	89.7
Skipped	1.6	2.9	-----	-----	-----
N	500	500	1,224	123	200

Tufts I and Tufts II wording: How many hours were you involved with this organization or activity in the last twelve months: Participated in a protest, march, or demonstration. None, 10 hours or less, 11-25 hours, 26-60 hours, 61-120 hours, or more than 120 hours.

- “Yes” if response was “10 hours or less” through “More than 120 hours”
- “No” if response was “None”

NCES I, NCES II, and CPHN wording: Now I'm going to read you a quick list of things that some people have done to express their views. For each one I read, please just tell me whether you have ever done it or not. (FOR EACH YES, PROBE: And have you done this in the last 12 months, or not?): Taken part in a protest, march, or demonstration?

- “Yes” if response was “Yes, within last 12 months”
 - “No” otherwise
-

Table 5: Signing a Petition

	Tufts II Internet 2007	Tufts I Internet 2006	CPHN Mixed 2006	NCES II Phone 2002	NCES I Phone 2002	KN Web- enabled 2002
Yes	72.0	64.7	35.6	35.2	37.7	13.2
No	27.3	33.3	64.4	64.8	62.3	75.0
Don't know/Refused	-----	-----	-----	-----	-----	11.8
Skipped	0.8	1.6	-----	-----	-----	-----
N	500	500	1,224	123	199	76

Tufts I and Tufts II wording: How often did you do any of the following activities in the last twelve months: Did you sign a petition (paper or e-mail) about a political or social issue in the last twelve months?

- “Yes” if response was “Often” or “Seldom”
- “No” if response was “Never”

NCES I, NCES II, and CPHN wording: Now I'm going to read you a quick list of things that some people have done to express their views. For each one I read, please just tell me whether you have ever done it or not. (IF YES, PROBE: And have you done this in the last 12 months, or not?): Signed an e-mail petition about a social or political issue? And have you ever signed a written petition about a political or social issue?

- “Yes” if response was “Yes, within last 12 months”
- “No” otherwise

KN wording: I'd like to ask about signing petitions related to a political or social that was important to you. First, have you ever signed an e-mail petition, such as an e-mail message that you add your name to and forward on to others you know? And how about any other kind of petition – have you ever signed a written petition related to a political or social issue that was important to you? Need to add part asking about 12 months.

- “Yes” if response was “Yes, within last 12 months”
 - “No” otherwise
-

Table 6: Public Official Contacting Behavior

	Tufts II Internet 2007	Tufts I Internet 2006	CPHN Mixed 2006	NCES II Phone 2002	NCES I Phone 2002	KN Web- enabled 2002
Yes	38.4	30.5	11.4	9.1	10.9	2.5
No	59.3	66.5	88.6	90.9	88.6	89.7
Don't know/Refused	----	-----	-----	0.0	0.5	7.8
Skipped	2.3	3.0	-----	-----	-----	-----
N	500	500	1,224	123	200	116

Tufts I and Tufts II wording: How many hours were you involved with this organization or program [contacted or visited a public official (at any level of government) to ask for assistance or to express my opinion] in the last twelve months? None, 10 hours or less, 11-25 hours, 26-60 hours, 61-120 hours, More than 120 hours

- “Yes” if response was “10 hours or less” through “More than 120 hours”
- “No” if response was “None”

NCES I, NCES II, and CPHN wording: Now I'm going to read you a quick list of things that some people have done to express their views. For each one I read, please just tell me whether you have ever done it or not. (IF YES, PROBE: And have you done this in the last 12 months, or not?): Contacted or visited a public official – at any level of government – to express your opinion?

- “Yes” if response was “Yes, within last 12 months”
- “No” otherwise

KN wording: Have you ever written a letter to a newspaper or government official?

- “Yes” if response was “Yes, within last 12 months”
 - “No” otherwise
-

Table 7: Media Contacting Behavior

	Tufts II Internet 2007	Tufts I Internet 2006	CPHN Mixed 2006	NCES II Phone 2002	NCES I Phone 2002
Yes	24.5	18.1	16.0	13.3	8.5
No	73.3	79.3	84.0	86.7	91.5
Skipped	2.2	2.6	-----	-----	-----
N	500	500	1,224	123	200

Tufts I and II wording: How many hours were you involved in this activity in the last twelve months: Contacting a newspaper, magazine, radio, or televisions program to express my opinion on an issue or candidate? None, 10 hours or less, 11-25 hours, 26-60 hours, 61-120 hours, More than 120 hours

- “Yes” if response was “10 hours or less” through “More than 120 hours”
- “No” if response was “None”

NCES I, NCES II, and CPHN wording: Now I'm going to read you a quick list of things that some people have done to express their views. For each one I read, please just tell me whether you have ever done it or not. (IF YES, PROBE: And have you done this in the last 12 months, or not?): Contacted a newspaper or magazine to express your opinion on an issue? Or called in to a radio or television talk show to express your opinion on a political issue, even if you did not get on the air?

- “Yes” if response to either question was “Yes, within last 12 months”
 - “No” if response to both questions was “No, haven’t done it” or “Yes, but not in last 12 months”
-

Table 8: Attending a Community Meeting

	Tufts II Internet 2007	Tufts I Internet 2006	KN Web- enabled 2002
Yes	23.3	21.7	7.7
No	73.8	75.0	86.9
Don't know/Refused	-----	-----	4.9
Skipped	2.9	3.4	.5
N	500	500	174

Tufts I and Tufts II wording: How many hours were you involved with this activity: [Attended a meeting of town or city council, school board or neighborhood association] in the last twelve months? None, 10 hours or less, 11-25 hours, 26-60 hours, 61-120 hours, More than 120 hours

- “Yes” if response was “10 hours or less” through “More than 120 hours”
- “No” if response was “None”

KN wording: Have you ever attended a meeting of your town or city council or neighborhood organization”?

- “Yes” if response was “Yes, within last 12 months”
 - “No” if response was “No, haven’t done it” or “Yes, but not in last 12 months”
 - “Don’t know/Refused” if otherwise
-

Table 9: Contributing to a Political Campaign

	Tufts II Internet 2007	Tufts I Internet 2006	CPHN Mixed 2006	NCES I Phone 2002
Yes	32.7	15.9	4.2	3.2
No	65.9	78.2	95.8	96.0
Don't know	-----	-----	-----	0.7
Skipped	1.4	2.3	-----	-----
N	500	500	1,224	200

Tufts I and Tufts II wording: Did you contribute money to a candidate, political party or any organization that supported candidates in the last twelve months?

- “Yes” if response was “Often” or “Seldom”
- “No” if “Never”

NCES I and CPHN wording: In the past twelve months, did you contribute money to a candidate, political party, or any organization that supported candidates?

Table 10: Results from the Mixed-Mode 2006 “Civic and Political Health of the Nation Survey”

Activity	Black		Hispanic		Asian	
	Phone	Online	Phone	Online	Phone	Online
Is registered to vote	76.6	72.0	63.6	61.7	63.5	54.7
Voted in 2004	54.9	62.0	40.7	57.1	56.9	38.3
Wore a campaign button	19.8	26.9	38.6	36.7	20.3	23.3
Contributed money	0.0	17.2	11.4	8.2	2.7	8.2
Contacted/visited public official	12.6	20.7	11.4	0.0	21.6	11.6
Contacted newspaper/magazine	17.1	14.0	0.0	6.7	0.0	12.8
Called radio/tv talk show	6.3	23.9	0.0	10.0	15.1	12.8
Took part in protest/march/demonstration	5.4	20.7	15.9	30.0	16.4	16.5
Signed an e-mail petition	9.9	31.5	31.1	29.5	37.0	30.2
Signed a written petition	21.8	40.9	27.3	41.7	28.4	32.6
Boycotted a product	33.9	38.0	31.8	43.3	37.8	41.9
Buycotted a product	21.6	45.2	33.3	28.3	28.4	32.9
Walked/ran/biked for a charitable cause	19.8	20.7	4.5	13.3	10.8	15.1
Did something else for a cause	16.1	31.2	24.4	16.9	35.1	30.2
Canvassed for political/social group/cand.	6.2	14.0	0.0	3.3	0.0	4.7
N	111	93	44	60	74	86
Mean score on above 15 items*	3.11	4.64	3.18	3.71	3.58	3.50

Note: Entries for voting registration and voted in 2004 are the percentage yes; for all others, the percentage yes in the last 12 months. Mean score is the mean number of items answered yes (or yes in last 12 months) across respondents.

Question wordings: Same as in the NCES I and NCES II surveys.

* $p < .001$ (two-tailed) for blacks; n.s. for Hispanics and Asian Americans

Table 11: OLS Regression of the Number of Participatory Acts on Survey Type, from the 2006 CPHN Mixed-Mode Survey

	Model 1	Model 2
Variable	b (se)	b (se)
Constant	2.685 (1.830)	-2.617 (1.802)
Survey type 1 = online; 0 = phone	1.517** (.320)	1.416** (.295)
Gender 1 = male; 2 = female	-.399 (.288)	-.074 (.268)
African American 1 = AA; 0 = others	1.062* (.397)	1.031** (.366)
Latino 1 = Latino; 0 = others	.627 (.428)	.941* (.396)
Employed 1 = employed; 0 = no	.795* (.323)	.735* (.298)
Married 1 = yes; 0 = no	1.266* (.420)	1.180* (.387)
Age 18, 19, 20, 21, 22, 23, or 24	-.109 (.083)	-.079 (.076)
Follow politics 1 = never...; 4 = very often	-----	1.456** (.174)
Adj. R ² N = 395	.074	.214

Note: The dependent, ranging from 0-15, counts the number of activities from Table 10 in which the respondent answered yes (or yes in the past 12 months). Follow politics is coded 1 (never), 2 (rarely), 3 (sometimes), 4 (very often); employed means full- or part-time; married means married or living as married.

* $p \leq .05$ ** $p < .001$

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