A Deep Dive into the River

Comparing Multiple Streams of River Respondents

Background

DMS created the first river sample for use in online research in 1995. In recent years, other online research companies have looked to develop similar sample products that resemble a river of online respondents. However, despite this greater presence of river samples in the market, it is not surprising that there is continuing uncertainty about this resource among sample buyers, given the distinctive and less familiar nature of river samples as opposed to more well-known panel samples.

As the founder of River Sample™, we have addressed various questions and concerns regarding the significance and validity of this unique online sample source, but recognize that there is still much to learn and communicate about how (and how well) River sampling fits into the overall research landscape. Beginning in 2007, we executed a comprehensive, multi-phase research initiative to better understand the advantages and limitations of multiple modes of research (including River Sampling, Panels, and RDD CATI) with the goal of not only erasing confusion and concern regarding River sampling as a respondent source, but also evaluating each of the three modes on a wide range of respondent and data quality measures.

Phase 1 of this research examined the similarities and differences between the DMS River Sample™ and online panelists (an aggregate of three panel samples), and included an RDD CATI sample to place the online sampling methodologies into a broader quality context. This research addressed key issues including respondent profiles, past and recent survey history, survey-taking motivations and earnings, in-survey behavior and data quality, and overall proximity to benchmarks based on the overall US population. The findings provided a clear understanding of the differences and similarities between the groups and clarified how these differences might influence the research design and conclusions resulting from the use of a particular online sample. Findings from this research can be found in our white paper entitled, "What's the Catch?: Comparing River Respondents to Panelists."

In this, the second phase of our research, we turn the spotlight on River sampling, building on the findings from the first phase and addressing the same key questions from Phase 1:

- Who are they? (a profile of River respondents)

  In order to understand the composition of multiple River samples and evaluate whether a one-time survey opportunity (such as that offered by River Sampling®) engages a "different type of person" than a panel (which requires a greater commitment), we surveyed respondents across demographic categories, attitudinal statements, product ownership, and a broad range of other topics including political, current events, social dynamics, and media consumption.

- Where have they been? (a review of respondent survey history)

  While the issue of the "professional respondent" has come to the fore as a research issue affecting online panels, it is not clear whether this phenomenon also affects River respondents. We measured the level and frequency of previous participation in market research, membership in research panels, and estimated survey earnings to understand how various River sources contribute to the overall quality of online market research.

- What do they do and why do they do it? (an analysis of respondent survey behavior)

  After they are in the survey, it is important to understand how these respondents behave – and how much they misbehave. We utilized standard data quality measures such as “data traps,” internal consistency, low incidence questions, survey completion times and open-ended responses to determine if the response quality of one respondent source outshines that of another. We also probed for motivations/detractions from joining panels, as well as motivations for participating in online surveys, to understand what moves respondents to accept a survey or panel invitation and if there is any underlying response bias.

- Who tells “the truth”? (a comparison of respondent sources to benchmarks)

  Comparisons to benchmarks and verifiable data show us how closely respondent populations mirror the overall US population. We surveyed respondents from several River samples on a range of benchmark measures – from product ownership to presidential voting – to establish proximity to the overall population.

The results of this research reveal that there are differences – and similarities – in respondent populations by sampling methodology and within the river sampling methodology. The analysis that follows will detail these findings and explore the implications of the differences in River sampling methodologies.

An Overview of the Sampling Methods Used in This Research

To ensure that the study results are uniformly understood, the online sampling methods used in this research are outlined briefly here.

- River Sampling is an online sampling method that drives potential respondents to an online portal where they are screened for studies in real-time. Qualified respondents are then randomly assigned to a survey. River samples are currently sourced in three ways.
  - The broadest River samples use a variety of online ads and promotions across thousands of web sites reaching millions of online Internet users.
  - Targeted real-time sampling uses promotions on web sites that are frequented by a unique online population, such as social networks, to reach hard-to-find populations like young adults.
  - Panel-based real-time samples cycle their panel membership through a survey routing system in a random and measured fashion so that members are always available, and screened for multiple studies for improved sample usage.

  There are large differences in the types of audiences these sourcing schemes draw from, and those differences often result in data biases that will be discussed later in this paper.

- Online panels are generally recruited from affiliate and partner sites, through which members are registered and encouraged to become long-term survey participants. Once respondents agree to participate, the panel company sends emails to invite respondents to a particular survey, and interested respondents who qualify then complete the survey.

Methodology

The Phase 2 research includes the following:

- DMS River Sample (using DMS Opinion Place River Sample ®)
- External River samples from four different River providers
- Panel aggregate (where appropriate, the panel aggregate from Phase 1 is included for comparison purposes)

Phase 2 interviews among River samples were completed during March 2008, with a total of 2,011 responses received. Between 300 and 400 responses were collected in each cell and statistical significance was tested at the 95% confidence level. With the exception of two river cells, quotas were set to control for gender, age, income, and ethnicity, and were used to ensure that each cell reflected the overall US population (according to US census estimates). Two of the external river sources were known to skew toward younger respondents (based on their sourcing methodology) and were not subject to the age quotas; due to this difference, there are two groups of River cells that are analyzed and addressed separately in this analysis:

- Rivers referenced through this report as "balanced" refer to the three River Samples subject to all quotas and with a representative mix of ages. They are:
  - River 1
  - River 2
  - River 3
- Rivers referenced throughout this report as "younger" rivers refer to three River samples composed of respondents under age 55 (and primarily between the ages of 18-34). These include:
  - River 3B (which includes the same respondents as River 3, but excludes respondents over 55 and applies weighting to the remaining respondents to match the age composition of Rivers 4 and 5)
  - River 4
  - River 5

Precautions were taken at every step to ensure that the research was as unbiased, clear and objective as possible. In addition to surveying multiple different external river and panel samples, the sources of which were unknown to us, we also outsourced the data collection, tabulation, and statistical analysis to further ensure objectivity of results.

The River Respondent Profile

Demographic and Other Differences

One of the central questions surrounding river sampling is whether there is a difference in the type of respondent who would agree to participate in an online research panel compared to someone who might agree to complete a single survey opportunity such as that presented by River sampling. The profile (or at least, the stereotype) of the panelist is better understood –a frequent survey taker eager to share her opinions and earn rewards, and, according to several recently published studies, one of a very small number who collectively supply a large portion of all survey research – but what of the River respondent profile? A question of key concern to researchers is whether respondents intercepted in real time for surveys are as (or more) representative of the population in general than those recruited for online survey panels. A further consideration is whether River sampling actually attracts different kinds of respondents and results in a broader range of attitudes, experiences, lifestyles, and backgrounds. And finally of concern is whether there are differences among various River samples themselves as a result of how and where respondents are intercepted, recruited and screened.

Demographics Among the three Rivers subject to quotas, demographic differences were minimal or non-existent due to quotas that controlled for age, income, gender and ethnicity. Despite some variations in marital status (River 3 has a higher proportion of single respondents), education (River 2 is slightly better educated), and employment status (River 1 is less likely to be employed and more likely to be retired), all of the "balanced" Rivers seem to attract relatively the same demographic profile, and with appropriate quota controls, have the capability of being equally representative of the overall population in terms of demographics.

As indicated in the Methodology section above, two of the river samples included in this research were known to skew toward younger respondents due to sourcing (these samples recruit primarily from social networking sites). Not surprisingly, these "younger" Rivers have a higher proportion of single respondents (though not a higher proportion of childless households) as well as a higher proportion of students, as compared to the balanced rivers. However, when compared to River 3B (the younger respondents from the more broadly sourced river), all three younger river samples were similar to each other in their demographic profile.

One consideration regarding River sampling is its ability to target a low-incidence demographic group, such as low or high income respondents. Due to the way Rivers are sourced and depending on the ability of the River provider to recruit on targeted sites, it may be hard to fill certain demographics, or at least, to fill them quickly. For this reason, we have previously recommended panels as a better method for reaching low-incidence groups.

Media consumption There are slight variations among the River sources in terms of media consumed, though as with demographic variations, no trends appear. Rivers 1 and 2 spend more daily hours on average watching TV than River 3, while River 3 spends a little more time than Rivers 1 and 2 listening to the radio. Print media consumption, including magazines and newspapers, and hours online are relatively even across the three balanced Rivers.

Of the younger respondent sources, all watch slightly *fewer* hours of television on average; River 3B spends a little more time than Rivers 4 and 5 listening to the radio. Rivers 4 and 5 share slightly higher magazine readership than River 3B (and are slightly more avid consumers of magazines than the three age-balanced rivers as well). Not surprising, newspaper readership is generally lower among all younger river respondents.

Politically Most respondents are "middle of the road" politically, though Rivers 1 and 2 have a slightly higher proportion of respondents who identify themselves as "conservative," and all three balanced Rivers voted at the same rate in the last presidential election. Among younger respondents, Rivers 4 and 5 have a slightly higher proportion of "liberal" respondents than River 3B; River 5 voted significantly less than the other younger river sources. Enjoyment in following the political process is relatively high (around 50% agree that they enjoy following the political process) and does not differ among River sources.

Travel Across the board, River respondents share similar rates of passport ownership, overseas travel, and enjoyment in traveling, though Rivers 2 and 3 have higher rates of frequent flier membership as compared to River 1. Younger river respondents are perhaps even more well-traveled: River 4 has a significantly higher rate of passport ownership than all other River sources, while Rivers 4 and 5 are more likely than other sources to have taken an overseas trip in the last year and to claim that they travel for pleasure frequently.

In the first phase of this research we found that the overall respondent profile of three different sampling methodologies (River, Panel, and CATI) did not differ in any significant way, and here too, we see that while there are some differences among the balanced River samples, those differences are relatively minor and do not suggest any trends. Differences such as those around media consumption, travel, and politics do not suggest that one source is more (or less) representative than another. While testing along dimensions other than those examined above could uncover differences in respondent profiles, from the wide and random range of attitudes, experiences, and backgrounds measured here we see that multiple river samples reach roughly the same demographic profile.

It's clear that the profile of younger River respondents is different than that of River respondents overall. There is a large demographic difference when using rivers that recruit from social networks, which yield a much younger sample. While the differences observed in younger respondents (such as the proportion of single respondents and students) are to be expected – it is important to keep in mind that the overall respondent profile may be different based on sourcing.

Technology & Online Use

The majority of River respondents have extensive experience with the Internet: roughly 80% have been online for over 5 years. While the amount of time they are online varies, around two-thirds of the respondents from each River source spend more than 11 hours online (not including time at the office) in an average week.

In terms of their comfort with / use of the Internet for a range of online activities, there are relatively few differences separating the three balanced rivers: virtually all respondents use the Internet to check email, respondents from all sources show a relatively high use of the Internet for online banking and e-commerce, and lower (but still prevalent) rates of use of the Internet for online video games, social networking, and downloading/listening to music.

Compared to respondents from the three balanced Rivers, younger River respondents tend toward a higher level of comfort and familiarity with all of the online activities, especially in sharing pictures, instant messaging, blogging, playing video, listening to internet radio, downloading music, social networking, contributing content, and playing online video games. Respondents from River 4 are the most active online.

Online Stats	River 1	River 2	River 3	River 3B	River 4	River 5
Have used the Internet >5 years	75%	85%	84%	84%	79%	74%
Online > 11 hours per week	71%	65%	63%	60%	65%	64%

Online Activities	River 1	River 2	River 3	River 3B	River 4	River 5
Check email	99%	99%	99%	99%	100%	99%
Make a purchase online	81%	84%	88%	90%	83%	78%
Use online banking	73%	75%	78%	83%	75%	72%
Share pictures online	75%	73%	78%	83%	88%	86%
Instant Message	55%	51%	62%	68%	81%	75%
Read a blog	58%	51%	61%	66%	80%	69%
Stream/download video	55%	53%	51%	64%	77%	73%
Listen to Internet radio	48%	46%	49%	56%	63%	59%
Download music	46%	49%	51%	68%	76%	72%
Maintain social networking site	43%	43%	44%	63%	91%	87%
Contribute content online	50%	38%	41%	52%	77%	69%
Play video games online	58%	54%	52%	56%	75%	72%
Maintain personal/family calendar	42%	36%	34%	38%	51%	46%

Red indicates statistically significant difference to one source
Bold indicates significant difference to both sources

On other technology measures, River 3 respondents differ from the other two balanced River samples in higher rates of device ownership and services. Compared to Rivers 1 and 2, River 3 respondents are more likely to:

- Subscribe to at-home internet service, cable/satellite service, and cell phone service.
- Have higher device ownership on several technologies, including Wi-Fi, HDTV, portable music players, video game consoles, and handheld video games.

Younger River respondents differ from all three of the balanced Rivers in having higher rates of ownership of many devices, including laptops, portable music players, i-Phones, and video game consoles. They also differ from each other in several minor areas, including:

- Cable/satellite service (Rivers 4 and 5 slightly less likely to have this)
- Portable music players (Rivers 3B and 4 slightly more likely to own these)
- i-Phones (Rivers 4 and 5 more likely to have these)
- Online video gaming (River 3B less likely to do this)

Technology Ownership	River 1	River 2	River 3	River 3B	River 4	River 5
Laptop	51%	55%	57%	63%	63%	66%
Wifi / wireless internet at home	31%	34%	40%	48%	50%	46%
No internet service provider at home	3%	3%	1%	0%	3%	0%
HDTV	34%	27%	40%	37%	32%	32%
DVR	26%	29%	31%	32%	33%	32%
No cable/satellite service	11%	15%	9%	10%	16%	15%
Portable MP-3 player / IPOD	40%	43%	56%	71%	67%	60%
Rarely/never download music	54%	52%	49%	32%	24%	28%
Smartphone (Treo, Blackberry)	11%	10%	14%	17%	16%	16%
i-Phone	5%	3%	5%	4%	9%	10%
No cell phone	10%	12%	5%	4%	6%	9%
Video game console	45%	43%	53%	67%	64%	60%
Handheld video game system	25%	24%	32%	39%	43%	34%
Rarely/never play video games online	42%	46%	48%	44%	25%	28%

Red indicates statistically significant difference to one source
Bold indicates significant difference to both sources

All River samples have rates of home internet, cable/satellite, and cell phone service that are higher than the overall US population, and for many of the devices measured, rates of ownership that rank higher than the benchmark. These factors, combined with River respondents' active engagement with a wide variety of online activities, suggest that research requiring respondents with high levels of internet savvy and technology ownership would be well served by all online respondents (Panelists resemble River respondents in higher than average rates of online activities and device ownership) – and that research requiring an *extremely* high comfort with online activities and familiarity with personal electronics might be better suited for younger respondents. By contrast, online sample sources in general and younger respondents in particular may introduce too much bias into research that requires a read of the overall population (including not only representation among offline respondents but also among online respondents who are less comfortable with various online activities or less familiar with technology and personal electronics).

Attitudes

On a wide range of attitudinal statements measured, there are as many similarities as differences among individual River samples, though the biggest differences often appear when comparing the younger River samples to the balanced Rivers:

- On attitudes regarding money and finance, Rivers 1, 2, and 3 are more likely to agree that buying American is important, while the younger Rivers are happier with their standard of living. All respondents are equally likely to agree that it is worth paying extra for quality.
- Younger respondents across the board are more likely to "enjoy taking risks" and "do things that are unconventional."
- On attitudes toward various social issues, Rivers 1, 2, and 3 are more likely than the younger Rivers to agree that it's important to stay informed on current events. The younger Rivers express a greater willingness to accept a lower standard of living to conserve energy, but respondents across the board are equally likely to agree that they are concerned about global warming.
- Confirming the results from the last section, younger River respondents are more likely to have the latest electronics.

	River 1	River 2	River 3	River 3B	River 4	River 5
Attitudes toward money and finance…						
I like to shop around before making a purchase	62%	57%	66%	63%	57%	60%
I'm always looking for new ways to improve my home	48%	40%	52%	54%	37%	51%
It's nearly always worth paying extra for quality goods	43%	37%	51%	50%	45%	49%
Price is more important to me than brand names	39%	35%	39%	39%	39%	40%
How I spend time more important than money I make	48%	40%	39%	36%	46%	49%
Buying American products is important to me	45%	42%	41%	29%	31%	32%
I am perfectly happy with my standard of living	36%	29%	35%	31%	41%	43%
Attitudes toward risk…						
I usually speak my mind even when it upsets people	37%	34%	40%	42%	40%	48%
I like to do things that are unconventional	27%	26%	27%	29%	36%	37%
I enjoy taking risks	24%	21%	24%	29%	31%	35%
I prefer to buy things friends/neighbors approve of	10%	6%	8%	11%	14%	16%
Attitudes toward social issues…						
I'm very concerned about global warming	40%	38%	38%	35%	43%	44%
Willing to lower standard of living to conserve energy	18%	16%	15%	15%	24%	25%
It's important to stay informed about current events	71%	69%	79%	72%	63%	62%
Advertising directed at kids should be taken off TV	30%	28%	25%	15%	32%	36%
Attitudes toward technology…						
Computers make my life easier	75%	74%	78%	78%	76%	72%
I prefer products that offer new technology	31%	29%	39%	43%	40%	41%
I'm the first to have the latest electronics	20%	13%	16%	21%	23%	29%

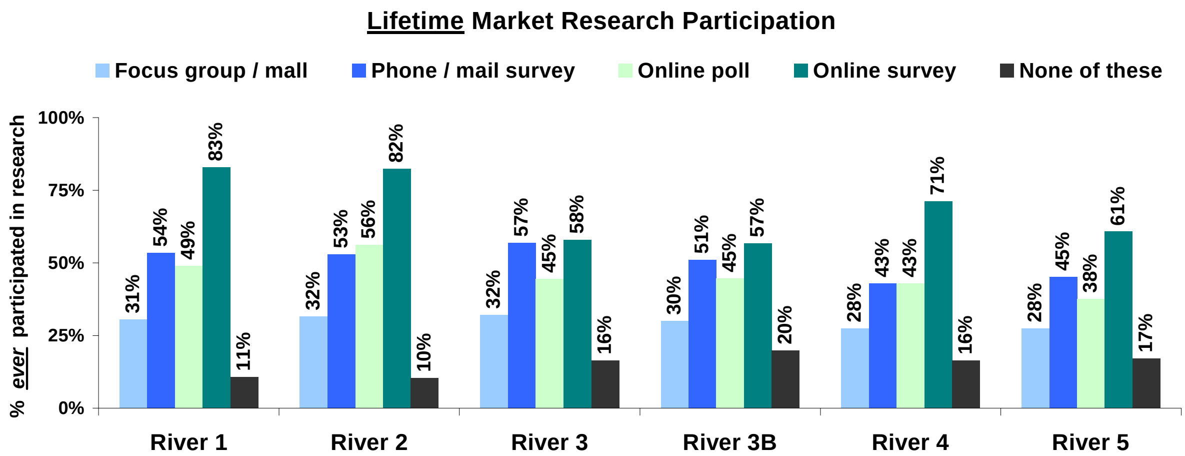
Red indicates statistically significant difference among individual River samples
Blue indicates significant difference between balanced and younger River samples

Most of the attitudinal differences observed appear to be related to the age bias of a particular source. The younger Rivers' responses to a range of attitudes indicate that they are more open to new ideas and concepts; in terms of the implications of this for survey research, they may have higher acceptance scores when asked about their willingness to try new products, particularly around technology, and they may show an increased tendency to agree with statements and behaviors that position them as more flexible and open-minded.

Respondent Survey History

It is when viewing their lifetime and recent survey history that differences between the River samples surveyed become most apparent. The results show that lifetime participation in market research is pervasive – only a small percentage of any of the River samples surveyed has never previously participated in any form of market research (such as focus groups, mall surveys, online polls, or online surveys). However, while the vast majority of respondents in all sample groups have participated in market research at some point in their lives, Rivers 1 and 2 have far greater overall lifetime participation in online surveys as compared to River 3.

Among the three balanced River sources, the results show that River 3 is most likely to reach "fresh" respondents – i.e., people who do not typically participate in online surveys. Of all River 3 respondents, 42% had *never* participated in an online survey prior to this survey, compared to only 17% of River 1 and 2 respondents.

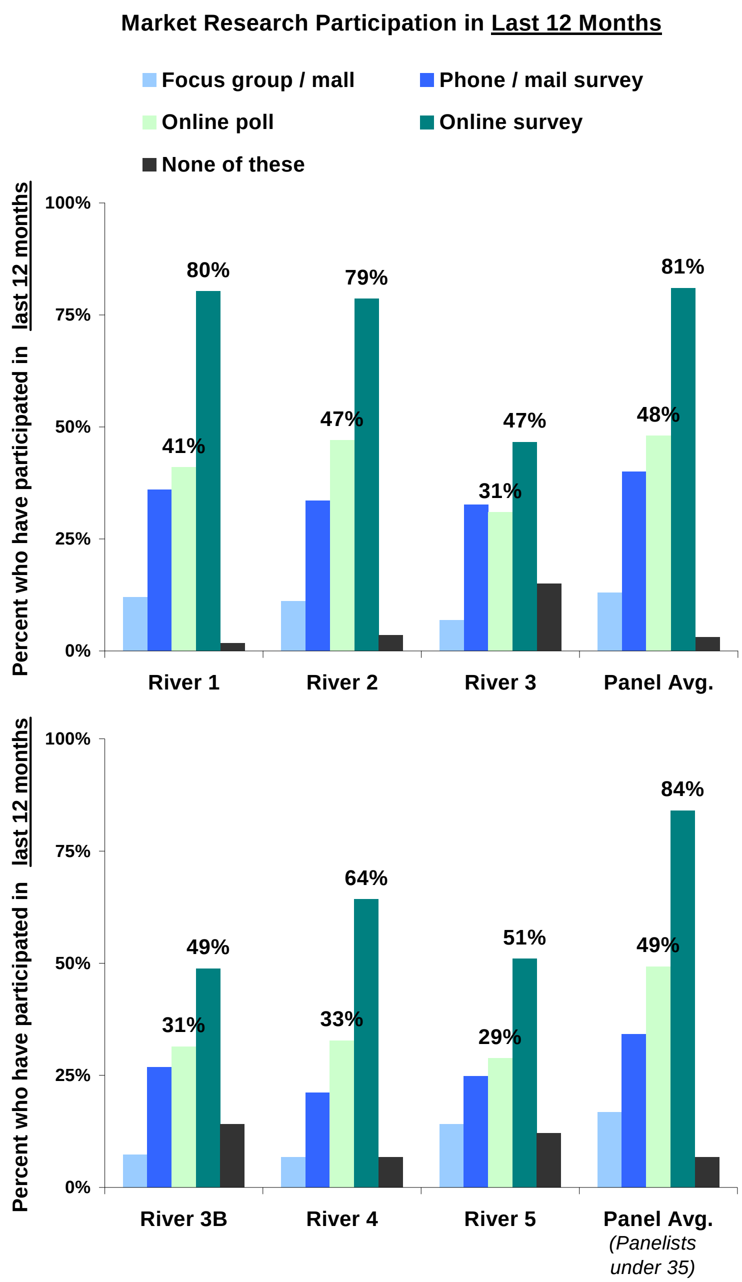


As the charts to the right show, viewing survey participation over a more recent time frame (the last 12 months) paints a similar picture of less vs. more survey exposure: Rivers 1 and 2 have higher levels of participation in online surveys as compared to River 3. In fact, Rivers 1 and 2 online survey participation mirrors the average survey participation among Panelists (as measured in the first phase of this research).

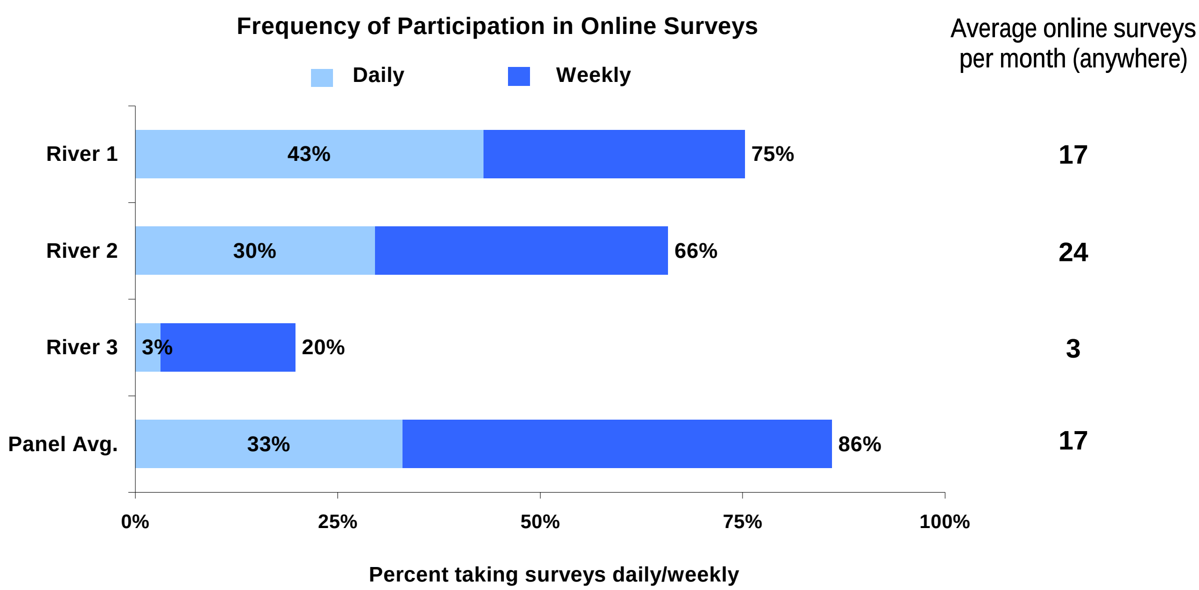
Rates of participation in online polls (which differ from online surveys in that they are limited to 1-5 questions) are also lower among River 3 respondents as compared to Rivers 1 and 2 (as well as compared to Panelists), both overall (lifetime) and in the last 12 months.

The three younger River samples have lower lifetime participation in all forms of market research, which is not surprising, given that their younger age would have provided fewer opportunities to be exposed or invited to participate in research. Other factors could also explain their lower lifetime participation, including less trust with research providers, greater concerns over privacy, and entering a mature (and therefore less novel) market research industry. (An interesting test would be whether younger respondents are more likely to participate in the newest research medium – the mobile phone).

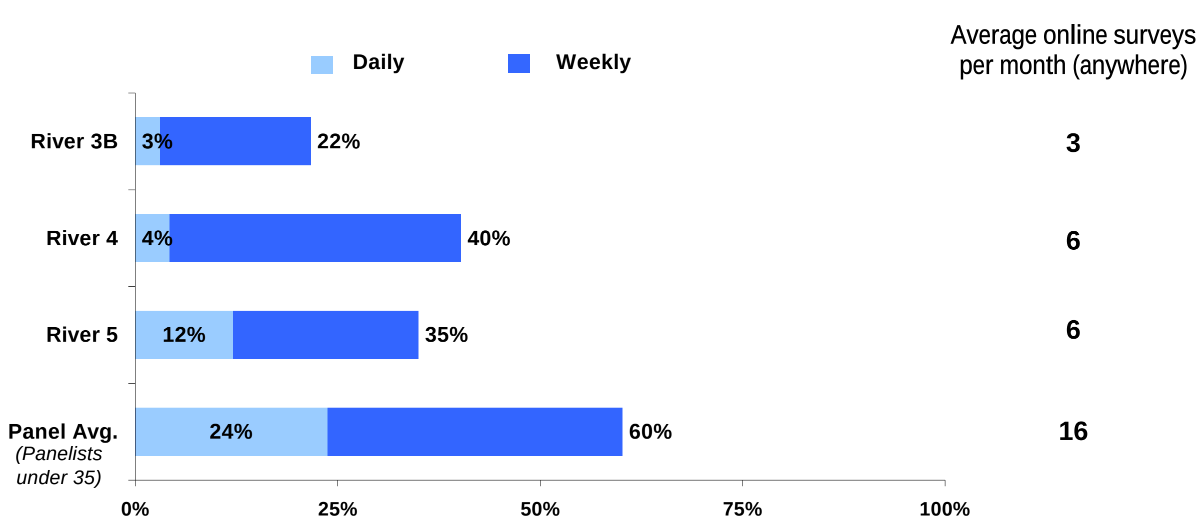
Around half of River 3B and River 5 respondents have not participated in any online surveys (prior to this one) in the last 12 months. All three younger rivers have lower participation in online surveys than younger panelists (again, from the first phase of this research).



With higher lifetime and recent survey participation, it is not surprising that Rivers 1 and 2 are also highly active online survey takers. Three-quarters of River 1 respondents and two-thirds of River 2 respondents take an online survey on at least a weekly basis, and 43% of River 1 respondents take a survey practically every day. Once again, these rivers' participation rates mirror those of the panel average, where 86% of panelists take a survey weekly and complete an average of 17 surveys per month. By contrast, River 3 has the lowest percentage of respondents participating in online surveys on a daily (3%) and weekly (20%) basis, and complete on average only 3 surveys per month.



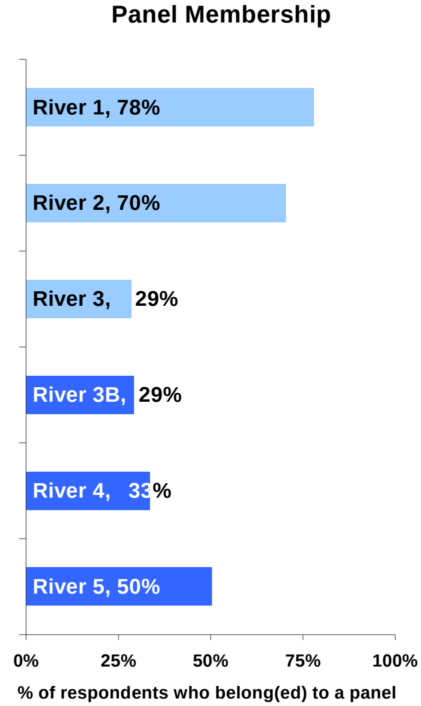
The younger River sources are generally successful at finding fresher, less active survey takers: compared to younger panelists, 60% of whom take surveys on a weekly basis and who take an average of 16 surveys a month, the younger rivers' weekly participation ranges from a low of 22% (for River 3B) to a high of 40% (for River 4), and all three younger River sources complete far fewer surveys on average every month than do younger panelists.



Survey Behavior

Survey & Panel Participation

While one of the primary goals of River sampling is to engage a different type of respondent for online research than traditional online panels, this research tested whether respondents that participate in River surveys also belong to other online research panels – and if they do, to what extent and for how long have they been participating in panels. This research shows that there is definitely some level of overlap between respondents recruited to complete one-time River surveys and those who already belong to panels.



Their participation in panels is yet another indicator that respondents from Rivers 1 and 2 are more active survey takers than the other River sources surveyed, especially River 3. Nearly 80% of River 1 and 70% of River 2 respondents currently belong or belonged at one time to an online research panel, compared to only 29% of River 3 respondents. The average River 1 and River 2 respondent completes surveys for a total of 6 research providers, while the average River 3 respondent fills out surveys for only 2 total panels/websites. In striking contrast to Rivers 1 and 2, whose higher levels of panel membership indicate the desire to participate in surveys on a regular basis, the lower panel membership of River 3 indicates that respondents recruited by this source are more interested in participating in a one-time survey, and that the vast majority (70%) have never agreed to do so on a regular, invited basis.

A subset of the respondents in the younger River samples maintain dual identities as panelists as well, though the proportion of those who currently or at one time belonged to a panel is lower than that of Rivers 1 and 2. Among River 3B respondents, 29% belong to a panel, River 4 is close behind at 33%, and half of River 5 respondents also belong to a panel.

Survey Motivations

Whether citing reasons for participating in this survey or in a panel, it is not surprising to see that incentives are the biggest motivator, with 59% of River respondents listing it as a reason for participating in this survey and 78% listing it as a reason for their participation in online research panels. Overall cash earnings remain relatively low, however, and average from $50 (in the last year) for River 3 respondents to almost $200 for Rivers 1 and 2.

The chance to share opinions and enjoyment in participating round out the list of reasons for taking surveys and panel participation, while having extra time is also a key motivator for completing River surveys.

River respondents reasons for...	Taking this survey	Participating in a panel
Earn money/rewards	59%	78%
Share opinions	31%	52%
Enjoy participating	32%	44%
Stay up to date	n/a	23%
Curiosity	34%	29%
Saw an ad	n/a	16%
WOM recommendation	n/a	14%
Had extra time	43%	n/a
Subject looked interesting	14%	n/a

River respondent average

Response Quality

As important as it is to understand who participates in market research and why they participate, it is perhaps most important to understand how respondents behave once they agree to take a survey and the resulting overall quality of their responses. Phase 1 of this research, which compared three sampling methodologies (River, Panel, and CATI), found mixed results on data quality, with each of three sampling methodologies exhibiting strengths and weaknesses on a variety of measures.

This phase of research confirms some of the same strengths and weaknesses among River respondents identified during the first phase, and with the addition of multiple River sources for comparison, uncovers some new issues as well:

- Younger river respondents overall have greater quality issues than balanced rivers
- Speeding is an issue for all but one of the River sources; it may be related to age (younger respondents tend to speed more) and other factors such as membership in multiple panels, experience with survey taking, and respondent sourcing
- The biggest quality issues for all sources are evident in inconsistent responses and failed data traps within long attribute grids

Measure		River 1	River 2	River 3	River 3B	River 4	River 5
Low incidence questions	Own Hybrid car (2.5%)	2.8%	1.7%	1.2%	2%	6.2%	5.2%
	Left-handed (11%)	12%	12%	10%	9%	9%	11%
Response to open-ended Q	% who did NOT supply thoughtful response	5%	5%	3%	4%	3%	n/a
Reverse attributes	% inconsistent price is more / brand is more important	45%	41%	39%	38%	44%	47%
	% inconsistent standard of living satisfied / not	36%	30%	30%	33%	37%	44%
Internal consistency	Kids in household	88%	92%	88%	84%	81%	78%
Speeders	% completing ~17 minute survey in less than 9 minutes	19%	22%	5%	7%	25%	47%
"Trick" question	Failure to select "strongly disagree" as instructed	13%	11%	12%	14%	24%	28%
Use of scale: 5-point satisfaction scale	% rating all parts of question same value	41%	32%	34%	33%	34%	36%
Use of scale: 7-point agreement scale	% rating all of 13-part question same value	4%	2%	1%	1%	5%	9%
	% rating all of 18-part question same value	5%	3%	1%	1%	5%	9%

Quality Measures Summary:

Low incidence questions reveal an equally high response quality across all sources in terms of proximity to benchmarks. The accuracy of the left-handed question is noteworthy as this question was asked late in the survey, and the least common answer, "left-handed," was listed as the first of three response options.

The **response to open-ended questions** yielded surprisingly positive results, as all sources had low percents of non-substantive responses (such as "nothing" or "I don't know," etc.) to the question "What made you decide to take this survey today?", despite the lack of an interviewer to prompt for a thoughtful answer.

On the **reverse attributes** measure, respondents were asked two opposing questions within the same attribute grid:

- Price is more important to me than Brand Names / Brand Names are more important to me than Price.
- I am perfectly happy with my standard of living / I am not really happy with my standard of living

Respondents who agreed with both statements and respondents who disagreed with both statements were considered "inconsistent" responders. (Respondents who gave a Neutral value of "4" to either question were eliminated from the analysis.) The reverse attributes yielded the highest failure rates for each River surveyed, with between one-third and one-half of the respondents in each sample responding to these attributes in a way that contradicted their own responses. The accuracy of response on other measures, even those at the end of the survey (such as the left-handed benchmark), suggests that the majority of respondents are not careless overall, but have difficulty with long attribute grids and assigning a level of agreement on attributes that seem vague or irrelevant. These results also highlight the difficulty in tracking changes in attitudes over time.

The **internal consistency** measure assessed respondents' ability to provide the same response to the same question asked at two different points in the survey – in this case, the number of children in the household. (The first of two questions was asked in the screener, the second at the end in the demographics section.) While not perfect on this measure, the three balanced Rivers had relatively high internal consistency. The younger River samples were slightly less consistent on this measure.

Speeders, those respondents who finish a survey ~50% faster than the average respondent, are known to cause consistency and quality issues. River 3 had the fewest number of speeders in this research, making it the clear winner on this measure. Two of the younger Rivers – 4 and 5 – fared particularly poorly on this measure; 47% of the respondents in River 5 completed the survey in half the time of the average respondent.

Trick questions are gaining greater use in surveys as researchers look to control for inattentive respondents and foster data quality. The current phase of this research reworked the data trap from Phase 1 after the results suggested that the initial data trap might have been too "tricky" for respondents. This survey instructed respondents to select "strongly disagree" on one attribute within a 13-part grid question near the end of the survey. Rivers 1, 2 and 3 performed reasonably well on this measure, with only a little over 1 in 10 respondents failing to follow the instruction. Rivers 4 and 5 failed this trap at almost double the rate of River 3B, suggesting that age alone does not explain these rivers' quality issues.

The **use of scale** measure evaluated respondents' tendency to "straight-line" on increasingly longer attribute grids:

- Respondents used the scale more uniformly on the 5-point, 3-part satisfaction question, though it was conceivable that respondents could have been equally satisfied with the items that were rated (cable, cell phone, and ISP service providers).
- On two longer attribute batteries, both of which appeared at or near the end of the survey, the majority of respondents from all River sources used the entire scale on a 7-point agreement scale with multiple attitudinal statements. Less than 1% of River 3 and 3B respondents provided the same response to each statement, a very low percentage of straight-lining. In contrast, 9% of River 5 straight-lined the same grids.

Though the following caution was offered with the Phase 1 results, it is worth repeating here that this research made no attempt to control for or ameliorate known survey design issues which may have caused quality issues – long grid questions were used at the end of the survey, while data traps were employed specifically to trick people rather than help identify valuable (and weed out inattentive) respondents. It is important therefore to remember that this (and other research) has demonstrated the importance of quality in the upfront design and selection of respondents to greatly improve the chances of the final product yielding the highest quality.

Comparison to Benchmarks

Respondents were measured on a range of issues – including media and product consumption, voting history, coupon use, and world travel – and compared to third-party data on non-demographic benchmarks to further examine the representativeness of each source to the US population.

Where possible, benchmarks were culled from census and other government sources, trade group data (for product ownership), or on large-scale nationwide surveys when independent, non-survey sources were not available.

On a range of non-technology benchmarks, the three balanced Rivers exhibited both similarities and differences – to each other and to the benchmarks.

Compared to River 2, Rivers 1 and 3 may be slightly more informed (higher newspaper readership); compared to River 1 (and the benchmark), River 3 respondents may be slightly more civic minded (with higher than benchmark presidential voting); and all River respondents are reasonably well-traveled (with high rates of passport ownership and benchmark rates of overseas travel and frequent flier membership). However, despite minor variations among the Rivers, all have low overall variance from the benchmarks.

Non-Technology Measure	Benchmark	River 1	River 2	River 3
Read daily newspaper	52%	52%	42%	51%
Read Sunday newspaper	60%	60%	52%	59%
Voted in 2004 presidential election	64%	66%	69%	72%
Hold valid passport	30%*	40%	39%	42%
Took overseas trip in last year	10%	11%	12%	14%
Frequent flier member	28%	26%	32%	34%
Coupon user	76%	72%	74%	70%
Smoke cigarettes	22%	34%	26%	30%
Left-handed	11%	12%	12%	10%
Average absolute error %		4%	5%	5%

(green indicates difference from benchmark)

On technology-related benchmarks, there is some divergence between the general population and survey respondents. The Phase 1 results revealed that online respondents in general showed a tendency toward early adoption and high rates of device ownership, and these results confirm that finding, with rates of ownership that are higher than the benchmark on the majority of devices measured.

Rivers 1 and 2 are closer to the overall benchmark average in having generally lower rates of technology ownership.

Technology Measures	Benchmark	River 1	River 2	River 3
Own laptop	35%	51%	55%	57%
Own portable MP-3 player	34%	40%	43%	56%
Own iPhone	1.5%	5%	3%	5%
Own DVR	18%	26%	29%	31%
Own handheld videogame	28%	25%	24%	32%
Own HDTV	28%	34%	27%	40%
Own hybrid car	2%	3%	2%	1%
Average absolute error %		6%	7%	11%

(green indicates difference from benchmark)

The calculation for the average absolute error is based on the averaged sum of the variance between the sample source and the benchmark.

The three younger River cells are not included in this analysis as they are demographically not comparable to the benchmarks.

Conclusions & Implications

As market researchers and online sample buyers look to expand their options for reaching fresh new survey respondents, they may be tempted to plunge into any River. However, this research would suggest that it is not possible, or even safe from a quality and respondent perspective, to dive deeply into all Rivers.

A primary concern raised by this research regards sourcing, which is critical in determining how broadly and deeply a given River source reaches and therefore represents the online and overall population. Recruiting through only a few sites or a few types of sites can skew demographics with corresponding impact on attitudes, device ownership, and even response quality. Sourcing biases can be categorized into three areas:

- Demographic skews (impacting age, attitudes, product ownership, etc.),
- Survey participation (with the wealth of concerns that over-surveyed respondents bring to the table), and
- In-Survey behaviors (more speeders from social networks, etc.)

While narrowly sourced rivers might be an option if the goal is to reach a targeted profile, is not adequate for ensuring overall representation. Thus, sample buyers must first clearly define who they are trying to reach for each research study, and then understand how the respondent sample will be sourced. Rivers that recruit from a variety of online and offline sources will ensure the most even representation.

As we first reported after the Phase 1 results and as confirmed by Phase 2, online respondents in general – including river and panel – are heavier technology and online users with higher than average rates of service subscription and device ownership. This is even more pronounced among younger respondents. Again, while this likely would not impact most research situations and in fact might have advantages when the goal is to reach a technically savvy crowd, this tendency toward technology adoption might create too much bias for research that seeks to read the overall population, including those who are not as comfortable using personal electronic devices and performing online activities. This technology bias might also lead to overstated product penetration.

Differences in survey history are among the biggest variations observed in this river-to-river comparison. Market research is pervasive, and the chances of finding absolutely "fresh" respondents who have never taken any surveys (but are willing to take surveys) is becoming more and more rare. But some rivers behave more like panels (which is no surprise given how they are recruited), which means that the same respondent completes multiple surveys in a short timeframe and participates in multiple panels. These respondents have a greater tendency to speed, and therefore present greater chances for quality issues. Rivers that do not recruit respondents from panels and that are constantly evolving (such as adding new reward options, seeking out new respondent sources, building an engaging and easy respondent experience) provide the best opportunity for attracting new, non-professional respondents.

Finally, response quality is an issue in varying degrees for all River sources, though it is more pronounced among younger respondents and some of the balanced River samples. While respondents performed well on measures such as low-incidence and open-ended questions; rates of inconsistency, data trap failure, straight-lining, and speeding were higher than desirable, especially among younger respondents. Of particular concern in some samples is the high occurrence of speeding, which this (and other) research has shown to contribute heavily to overall data quality issues. Sample buyers should be careful to look at this issue as well as other more traditional data quality measures (such as data traps, patterned responses, and low-incidence questions) to evaluate the overall quality of a respondent.

For further information on this and other research on River respondents, please contact:

Melanie Courtright | Vice President | 214-222-6176 | m.courtright@corp.aol.com

Denise Brien | Senior Research Manager | 703-265-1237 | denise.brien@corp.aol.com

Marjette Stark | Senior Vice President | 703-265-0262 | marjette.stark@corp.aol.com