

GfK Methodology

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Introduction

The GfK Group (formerly Knowledge Networks) is passionate about research in marketing, media, health, and social policy. We collaborate closely with client teams throughout the research process, while applying rigor in everything we do. We specialize in innovative online research that consistently gives leaders in business, government, and academia the confidence to make important decisions. GfK delivers affordable, statistically valid online research through KnowledgePanel® and leverages a variety of other assets, such as world-class advanced analytics, an industry-leading physician panel, an innovative platform for measuring online ad effectiveness, and a research-ready behavioral database of frequent supermarket and drug store shoppers.

GfK has recruited the first online research panel that is representative of the entire United States population. Panel members are randomly recruited through probability-based sampling, and households are provided with access to the Internet and hardware if needed.

GfK recruits panel members by using address-based sampling methods [previously GfK relied on random-digit dialing methods]. Once household members are recruited for the panel and assigned to a study sample, they are notified by email for survey taking, or panelists can visit their online member page for survey taking (instead of being contacted by telephone or postal mail). This allows surveys to be fielded very quickly and economically. In addition, this approach reduces the burden placed on respondents, since email notification is less intrusive than telephone calls, and most respondents find answering Web questionnaires more interesting and engaging than being questioned by a telephone interviewer. Furthermore, respondents have the convenience to choose what time of day to complete their assigned survey.

Documentation regarding KnowledgePanel sampling, data collection procedures, weighting, and IRB-bearing issues are available at the below online resources.

- <http://www.knowledgenetworks.com/ganp/reviewer-info.html>
- <http://www.knowledgenetworks.com/ganp/irbsupport/>

The GfK Group

The GfK Group has a strong tradition in working with sophisticated academic, government, and commercial researchers to provide high quality research, samples, and analyses. The larger GfK Group offers the fundamental knowledge for governmental agencies, academics, industries, industry, retailers, services companies and the media need to provide exceptional quality in research to make effective decisions. It delivers a comprehensive range of information and consultancy services. GfK is one of the leading survey research organizations worldwide, operating in more than 100 countries with over 13,000 research staff. In 2013, the GfK Group's sales amounted to EUR 1.49 billion.

For further information, visit our website: www.gfk.com.

KnowledgePanel Methodology Information

KnowledgePanel® is the largest online panel that relies on probability-based sampling techniques for recruitment; hence, the largest national sampling frame from which fully representative samples can be generated to produce statistically valid inferences for study populations. Our panel provides samples with the highest level of representativeness available in online research for measurement of public opinions, attitudes, and behaviors. The panel was first developed in 1999 by Knowledge Networks, a GfK company. Panel members are randomly selected so that survey results can properly represent the U.S. population with a measurable level of accuracy, features that are not obtainable from non-probability panels (for comparisons of results from probability versus non-probability methods, see Yeager et al., 2011).

KnowledgePanel's recruitment process was originally based exclusively on a national Random Digit Dialing (RDD) sampling methodology. In order to improve the representation of the panel, GfK migrated to using an Address Based Sampling (ABS) methodology for selecting panel members in 2009. This probability-based sampling methodology improves population coverage, and provides a more effective sampling infrastructure for recruitment of hard-to-reach individuals, such as young adults and those from various minority groups. It should be noted that under the ABS recruitment, households without Internet connection are provided with a web-enabled device and free Internet service.

After initially accepting the invitation to join the panel, participants are asked to complete a short demographic survey (the initial *Core Profile Survey*); answers to which allow efficient panel sampling and weighting for future surveys. Completion of the core profile survey allows participants to become active panel members. As in the past, all respondents are provided the same privacy terms and confidentiality protections.

ABS Recruitment

Our recruitment protocol relies on probability-based sampling of all U.S. addresses from the latest Delivery Sequence File (DSF) of the USPS. One of the key advantages of the ABS methodology is that it allows sampling of all delivery points in the US regardless of their telephone status. Moreover, by taking advantage of pre-identified ancillary information about addresses, our current design relies on the following stratification plan to boost representation of subgroups with higher rates of attrition:

1. Hispanic ages 18-29
2. Non-Hispanic ages 18-29
3. Hispanic ages 30+
4. Non-Hispanic ages 30+

As detailed below, specific adjustments are applied to compensate for any oversampling that is carried out to improve the demographic composition of the panel.

Every quarter, adults from randomly sampled addresses from the DSF are invited to join KnowledgePanel through a regimented series of contact attempts, including an initial invitation letter, a reminder postcard, and a subsequent follow-up letter. Moreover, with about 45% of physical addresses matched to a corresponding landline telephone number, about 5 weeks after the initial mailing, telephone refusal-conversion calls are made to households for whom a telephone number are secured. Invited households can join the panel by:

- Completing and mailing back a paper form in a postage-paid envelope
- Calling a toll-free hotline phone number maintained by GfK
- Going to a designated GfK website and completing the recruitment form at the website

Household Member Recruitment

For all recruitment efforts, during the initial recruitment survey, all household members are enumerated. Following enumeration, attempts are made to recruit every household member who is at least 13 years old to participate in KnowledgePanel surveys. For household members aged 13 to 17, consent is collected from the parents or the legal guardian during the initial recruitment interview. If no consent is given, no further direct communication with the teenagers is attempted.

Survey Sampling from KnowledgePanel

Once panel members are recruited and profiled by taking our Core Profile Survey, they become eligible for selection for client surveys. Generally, the specific survey samples represent an equal probability selection method (EPSEM) sample from the panel for general population surveys. Customized stratified random sampling based on profile data can also be carried out as required by the study design.

The general sampling rule is to assign no more than one survey per week to individual members. Allowing for rare exceptions during some weeks, this limits a member's total assignments per month to four or six surveys. In certain cases, a survey sample calls for pre-screening, that is, members are drawn from a subsample of the panel (such as females, Republicans, grocery shoppers, etc.). In such cases, care is taken to ensure that all subsequent survey samples drawn that week are selected in such a way as to result in a sample that remains representative of the panel distributions.

For this survey, a nationally representative sample of U.S. adults (18 and older) was selected.

Survey Administration

Once assigned to a survey, members receive a notification email letting them know there is a new survey available for them to take. This email notification contains a link that sends them to the survey questionnaire. No login name or password is required. The field period depends on the client's needs and can range anywhere from a few hours to several weeks.

After three days, automatic email reminders are sent to all non-responding panel members in the sample. If email reminders do not generate a sufficient response, an automated telephone reminder call can be initiated. The usual protocol is to wait at least three to four days after the email reminder before calling. To assist panel members with their survey taking, each individual has a personalized “home page” that lists all the surveys that were assigned to that member and have yet to be completed.

GfK also operates an ongoing modest incentive program to encourage participation and create member loyalty. Members can enter special raffles or can be entered into special sweepstakes with both cash rewards and other prizes to be won.

The typical survey commitment for panel members is one survey per week or four per month with duration of 10 to 15 minutes per survey. In the case of longer surveys, an additional incentive is typically provided.

Response Rates

As a member of the American Association of Public Opinion Researchers (AAPOR), GfK follows the AAPOR standards for response rate reporting. While the AAPOR standards were established for single survey administrations and not for multi-stage panel surveys; however, Callegaro and DiSogra (2008) have developed algorithms for calculations of response rates for KnowledgePanel surveys. Typically, completion rate for KnowledgePanel surveys is about 65% with possibility of minor variations due to survey length, topic, and other fielding characteristics. In contrast, virtually all surveys that employ non-probability online panels typically achieve completion rates that are in low single digits. This means aside from the fact that nonprobability panels are inherently not representative of any known populations, the effective size of KnowledgePanel ($35,750 = 55,000 \times 0.65$) would be equivalent to a nonprobability panel with 1,787,500 members that on average secures completion rates close to 2%.

Sample Weighting

As detailed above, significant resources and infrastructure are devoted to the recruitment process for the KnowledgePanel (KP) so that our active panel members can properly represent the adult population of the U.S. This representation is not only achieved with respect to a broad set of geodemographic indicators, but also hard-to-reach adults – such as those without internet access or Spanish language dominant Hispanics – are recruited in proper proportions as well. Consequently, the raw distribution of KP mirrors that of the US adults fairly closely, barring occasional disparities that may emerge for certain subgroups due to differential attrition.

In spite of the above, for selection of general population samples from KP a patented methodology has been developed that ensures all samples behave as EPSEM. Briefly, this methodology starts by weighting the pool of active members to the geodemographic benchmarks secured from the latest March supplement of the Current Population Survey (CPS)

along several dimensions. Using the resulting weights as measure of size, in the next step a PPS (probability proportional to size) procedure is used to select study specific samples. It is the application of this PPS methodology with the imposed size measures that produces fully self-weighting samples from KP, for which each sample member can carry a design weight of unity. Moreover, in instances where a study design requires any form of oversampling of certain subgroups, such departures from an EPSEM design are accounted for by adjusting the design weights in reference to the CPS benchmarks for the population of interest.

The geodemographic benchmarks used to weight the active panel members for computation of size measures include:

- Gender (Male/Female)
- Age (18–29, 30–44, 45–59, and 60+)
- Race/Hispanic ethnicity (White/Non-Hispanic, Black/Non-Hispanic, Other/Non-Hispanic, 2+ Races/Non-Hispanic, Hispanic)
- Education (Less than High School, High School, Some College, Bachelor and beyond)
- Census Region (Northeast, Midwest, South, West)
- Household income (under \$10k, \$10K to <\$25k, \$25K to <\$50k, \$50K to <\$75k, \$75K to <\$100k, \$100K+)
- Home ownership status (Own, Rent/Other)
- Metropolitan Area (Yes, No)
- Internet Access (Yes, No)

Study-Specific Final Weights

Once a study sample has been selected and fielded, and all the survey data are edited and finalized, the above design weights are adjusted to compensate for any survey-specific nonresponse. Depending on the specific target population for a given study, benchmark distributions for the corresponding population are obtained from standard government sources, such as the CPS or the American Community Survey (ACS), or in certain instances from the weighted KP profile data. An iterative proportional fitting (raking) procedure is used to produce final weights that will be aligned with respect to all study benchmark distributions simultaneously.

In certain instances when the sample design for a study involves heavy oversampling of rare subgroups, final weights may include extreme values to compensate for the imposed disproportionality. While such values are necessary to produce unbiased estimates, extreme weights can increase the variance (margin of error) of survey estimates. As a compromise, in such situations extreme weights may have to be trimmed to avoid excess variability at the expense of introducing a small amount of bias. To this end, as the final step in our weighting process, calculated weights are examined and, if necessary, outliers are trimmed at the extreme upper and lower tails of the weight distribution. The final weights, whether trimmed or not, are then scaled to the total count of all eligible respondents.

For this study, the following benchmark distributions were used for the raking adjustment of the design weights for survey respondents:

- **Gender:** Male or Female
- **Age:** 18–29, 30–44, 45–59, and 60+
- **Race/Ethnicity:** Hispanic and non-Hispanic White, Black, Other, and 2+ Races
- **Education:** Less than High School, High School, Some College, Bachelor and beyond
- **Census Region:** Northeast, Midwest, South, and West
- **Household Income:** \$0–\$10K, \$10K–<\$25K, \$25K–<\$50K, \$50K–<\$75K, \$75K–<\$100K, and \$100K+
- **Home Ownership:** Own or Rent/Other
- **Metropolitan Area:** Yes or No
- **Home Internet Access:** Yes or No