



Job #I1205

The 2010 Jewish Community Survey of Baltimore

METHODOLOGY REPORT

On behalf of The Associated: Jewish Community Federation of Baltimore, Ukeles Associates (UAI) contracted with Social Science Research Solutions/SSRS, to conduct the 2010 Jewish Community Survey of Baltimore from March 1 – June 20, 2010. The goal of the Jewish Community Survey of Baltimore was twofold: to learn the demographic characteristics of the Jewish population in the Greater Baltimore area and to understand the various needs and interests of this population.

The study collected a representative sample of 1,213 households in which at least one adult age 18 or older considered himself or herself Jewish. Interviews were stratified, using a combination of RDD, listed, and distinctive Jewish name (DJN) sample, to increase the incidence of households with Jewish members. Nine hundred six interviews (906) were completed from randomly selected landline numbers on The Associated and other Jewish community lists. Additional interviews were completed from numbers in: a residual DJN-sampling frame (n=49); a residual landline RDD sampling frame (n=142); and from a cell phone sampling frame (n=116), including 65 cell phone interviews based on cell phone numbers in the Jewish Community combined list.

This report is organized in four sections. The first section discusses the sample design. The next section describes data collection and fielding. The final two sections address weighting procedures and the response rate to the survey.

I. Sample Design

In keeping with previous studies of the Baltimore Jewish Community, the sample was drawn in succession from mutually exclusive groups as indicated below. Before drawing the sample, however, SSRS and UAI determined that a small number of exchanges (n=19) were comprised primarily of African American or Hispanic households and were assumed to be less than one percent Jewish, based on an analysis of Jewish Listed and DJN sample within these exchanges. The project team agreed that in order to increase the efficiency of the sample, it would be beneficial to exclude from the RDD and DJN frames exchanges containing 75% or more ethnic and less than 1% Jewish households.

1. **Jewish Listed Landline Frame:** This sampling frame was provided by The Associated: Jewish Community Federation of Baltimore and included names and home telephone numbers for 28,339 unique households in the Greater Baltimore area. This sample was assumed to yield the highest incidence of Jewish households. For efficiency and to reduce unnecessary cost expenditures, the majority of interviews were collected from this sampling frame. Of the 28,339 households, 377 records were quarantined into a separate listed cell phone strata (discussed below) since they were associated only with cell phone numbers. Of the households including a landline number, 3,911 were randomly selected and called

in the course of interviewing. 906 interviews were completed with respondents from the Jewish Listed Landline Frame.

2. **Distinctive Jewish Surname (DJN) Frame:** Through its sister company, Marketing Systems Group (MSG), SSRS obtained a list of all telephone numbers in the Greater Baltimore area including Baltimore City, and Baltimore and Carroll Counties. In order to avoid duplication, all numbers from the Jewish Listed Frame were removed from the general phone number list before proceeding with the sampling. A second sampling frame was derived by identifying all phone numbers listed in published directories with a distinctive Jewish surname (N=8,597). A sample of 865 records was released, of which 49 interviews were completed from the DJN sampling frame.

3. **Published RDD Sample:** After removing the DJN sample from the general RDD frame, a third sampling frame was created from all remaining telephone numbers published in a public directory (N=375,186). 15,445 numbers were drawn as the sample from this frame, from which 103 interviews were completed with Jewish households.

4. **Unpublished RDD Sample:** The fourth sampling frame consisted of all remaining phone numbers in the Greater Baltimore area (N= 213,423 remaining households). 49,729 numbers were drawn as the sample for this frame. Marketing Systems Group then utilized their CSS procedure to identify numbers that were non-working or linked to a business, and scrubbed

out from the sample 33,457 of these records. Overall, 39 interviews were completed from this sample frame.

5. In addition, and unique to the 2010 study, SSRS dialed cell phones to account for the fact that it is estimated that currently 21.6 percent of households in Greater Baltimore area do not own landline telephones.

This was accomplished in two ways. First, the Jewish Listed Frame was analyzed by telephone exchange, and all records for which there was no landline exchange were quarantined into a separate 'listed cell phone' strata. All numbers from this strata were included in the sample, thereby oversampling this strata. In total, 377 of the 28,339 Jewish Listed Frame records were found to have only a cell phone number.

In addition, SSRS dialed RDD cell phone telephone exchanges associated with the Greater Baltimore area. In all, 51 interviews of Jewish households were attained from the RDD cell phone sample.

II. Field Preparations, Fielding and Data Processing

Questionnaire:

The questionnaire was developed by UAI researchers along with The Associated and the SSRS project teams. The core of the questionnaire replicated questions appearing in previous Jewish population surveys conducted by UAI and SSRS. In addition, The Associated added questions

uniquely tailored to address areas of interest to The Jewish Federation of Baltimore. These questions focused on involvement in Jewish learning and the household’s current and past financial situation (e.g., whether financial cost prevented the respondent/household from participating in Jewish programs). The topics covered by the questionnaire were:

Topics	Household Level	Respondent Level
Residency and mobility	X	
Religious identity and parentage	X	X
Respondent demographics, household composition and adult demographics	X	X
Children under 18: Number, ages, Jewish education/upbringing	X	
Jewish information/education, ritual behavior, Jewish & Israel attachment	X	X
Childhood/teen-age experiences of respondent		X
Synagogue membership, religious service attendance, Jewish study, and Israel	X	
Effects of economic recession on participation in Jewish programs, travel to Israel, synagogue membership	X	
Volunteering	X	
Health and social service needs/status	X	
Elderly	X	
Philanthropy	X	
Additional demographics	X	

Prior to the field period SSRS programmed the study into CfMC Computer Assisted Telephone Interviewing (CATI) system. Extensive checking of the program was conducted to ascertain that all skip patterns were followed.

Pre-test:

A pretest was held on February 22, 2010 using DJN sample. Interviews were recorded and made available to UAI researchers. A summary of recommended revisions was produced and revisions to the instrument were implemented on the basis of the pretest.

The CATI program:

The field period for this study was March 10, 2010 through June 20, 2010. The interviewing was conducted by SSRS/Social Science Research Solutions in Media, PA. All interviews were conducted using the CATI system. The CATI system ensured that questions followed logical skip patterns and that complete dispositions of all call attempts were recorded.

Interviewer training:

CATI interviewers received both written materials on the survey and formal training. The written materials were provided prior to the beginning of the field period and included:

1. An annotated questionnaire that contained information about the goals of the study as well as detailed explanations of why questions were being asked, potential obstacles to be overcome in getting good answers to questions, and respondent problems that could be anticipated ahead of time as well as strategies for addressing them.
2. A list of pronunciations for specific Jewish terms that appear in the survey.
3. An interviewer guide, providing project specifications and background information about The Associated and the survey.

4. A list of “Frequently Asked Questions” (FAQs) along with standard answers to the FAQs.

Interviewer training was conducted both prior to the study pretest (described previously) and immediately before the survey was officially launched. Call center supervisors and interviewers were walked through each question in the questionnaire. Interviewers were given instructions to help them maximize response rates and ensure accurate data collection. They were also instructed to complete the basic religious screening question (“Is there anyone in the household who considers himself or herself to be Jewish?”) even with reluctant respondents, to allow as accurate an account as possible of household Jewish status even where no completed interviews were anticipated. At the end of the first week in field, team members from UAI, SSRS, and The Associated met with interviewers in order to address questions that had arisen and reiterate the study goals.

In order to maximize survey response, SSRS enacted the following procedures during the field period:

- Instituting a call rule of original plus no less than 7 callbacks before considering a sampling unit "dead."
- Varying the times of day, and the days of the week that call-backs are placed using a programmed differential call rule.
- Explaining the purpose of the study and assuring respondents that there were no ulterior motives (namely, fundraising) underlying this survey.

- Permitting respondents to set the schedule for a call-back.
- Instructing interviewers to attempt completing the single-question Jewish identity screener with all respondents, even if they were about to break-off before the screener.
- Including phone dispositions for “under 18” and “not in Maryland” for the cell phone sample so that interviewers could use these dispositions when necessary even if the respondent was not asked all of the screener questions.

Data collection:

Beyond the data collected from Jewish household respondents, the survey was designed to collect information from all respondents (Jewish or otherwise) at a level that would allow an accurate estimate of Jewish household membership in the Greater Baltimore area. In total 9,932 Jewish status screeners were collected: 1,532 screeners with households in which at least one adult in the household was Jewish and 8,400 where no Jewish adults resided in the household. In order to calculate the number of Jewish people in the population, we asked all households for the total number of adults and children who live in the household. For Jewish respondents completing the interview, additional questions were asked to determine the number of Jewish adults and children living in the household. The responses allowed us to estimate the total number of Jewish people in each household and then to sum the number of Jews and non-Jews altogether.¹

¹ Non-response to this question was high since this is the point where many of those who provided a response to the Jewish status screener broke off. Missing values were replaced for non-Jewish households with the mean values for non-Jewish households in their particular sampling frame. Missing values for Jewish households, were replaced with the mean value for Jewish households in their particular sampling frame.

Household and person level demographic information were also collected from both Jewish and non-Jewish households. The demographic information for Jewish households was collected in the main interview. Since asking all non-Jewish households for demographics would be cost-prohibitive, demographic information for this group was collected from a random subsample of households (n=1,003). This number was adjusted to represent all non-Jewish households in the weighting process.

Data Reduction:

The importance of coding, the process whereby raw data are converted into meaningful categories, cannot be minimized. SSRS employs only experienced coders. Each one is trained thoroughly by the Coding Supervisor prior to beginning work on a study. Before this training process begins, the Coding Supervisor is briefed and an in-depth review of the unique features of the study is held with the project direction staff. Once interviewing is under way, the Coding Department begins transcribing verbatim answers to the open-ended questions. Codes are constructed by the Coding Supervisor or Study Director based on a minimum sample of 20% of respondents.

Codes are built on a frequency of 3% or more. If an answer does not meet the specified frequency, list sheets of Other Responses are maintained. These listings are updated frequently. If they show an emergence of some response which justifies creation of a new category code, such a code is established. All codes are compiled in a question-by-question coding manual,

which is reviewed in a detailed training session. This training session encompasses the following areas:

- Discussion of the study's background and objectives. Each coder is made aware of how the coding function fits into the overall analytic scheme.
- Question-by-question and column-by-column instruction. The entire coding manual is carefully reviewed, with special emphases placed on any problem areas or special features of the project.
- Review of open-ended codes. This ensures that each code is thoroughly understood by the staff.

Designation of Jewish households:

In the estimates detailed below, households were considered Jewish if the respondent said that either they or another adult in the household was Jewish and no information to the contrary was available. For those screening as Jews, follow up questions were designed to discern between those considering themselves Jewish in the conventional sense and those broadly defined as Messianic, meaning their Jewish identity is rooted in a Christian tradition. For example, respondents defining themselves as “Jewish and something else” were asked how they considered themselves Jewish. If their response discussed being “completed Jews” or made reference to Jesus’ as the messiah, they were regarded as Messianic and not counted as Jewish for the purposes of the survey. In all, 24 respondents were determined to be Messianic in the course of the interview and in analysis after the fact. In addition, 39 respondents were identified as being of Jewish heritage. These were respondents who were not actively Jewish (nor anyone else in their household), but had Jewish parentage. Three cases, identified as borderline Jewish households, were coded as non-Jewish (either Jewish heritage or non-Jewish) after review of all their responses (open- and closed-ended) by UAI researchers and the SSRS research team.

For non-Jews and Jews who did not interview beyond the screener, there was no possibility of verification for their screener information. Therefore, there is a possibility that for several among those reporting no Jewish adults in their household, there may have some cases where Jews were present and vice versa.

III. Weighting Procedures

A weight was applied to all 9,932 screener interviews in order to correct for probability of selection, non-response and sampling design. The weighting procedure included the following stages:

1. Development of Universe Household Counts. The inclusion of an RDD cell phone frame means that the study is a dual-frame design, where households have a probability of being selected in more than one frame. For example, it is possible we could contact a household in both the Cell Phone RDD frame and in the Unpublished RDD frame. To account for this, we asked persons reached in the Cell Phone RDD frame for their landline telephone number, if they owned a landline phone. Those who reported that they did not own a landline telephone were kept in the frame, which was relabeled as an “RDD Cell Only” frame. Dual users, on the other hand, were moved to the Unpublished RDD frame.

In addition, the total number of counts of Published and Unpublished RDD households had to be adjusted for duplication. Since by definition, a DJN record is a Published record, the sum of

DJN records was subtracted from the total number of Published households. All Jewish Published records were also cross-matched to ascertain whether they were Published or Unpublished; these numbers were then subtracted from the Published RDD and Unpublished RDD frames.

It is critical to know the number of households that reside in the Cell Only RDD frame, since there are no local-area numbers available for such an estimate. The National Health Interview Survey provides estimates at the regional level of the U.S., but not at the state or local level. However, NHIS and SHADAC researchers developed a logistic regression model that they have since applied to NHIS data to attain state-level estimates. Following their procedure, we derived cell-phone-only (CPO) household estimates for the Greater Baltimore area. We found using the most recent NHIS dataset of 2008 that the Greater Baltimore area was 13.9 percent CPO. Given the rate of growth of these households, we estimated that presently the number is 21.7 percent. Models were run at the county level. Therefore, we developed universal household counts by county by first taking the Claritas 2010 estimate of total households, by county, and subtracting the Jewish Published records from that total, then DJN records that were de-duplicated from the Jewish Published records, and then the number of Published RDD records available. We computed 21.7 percent of the total as CPO households, with remaining households falling into the Unpublished RDD strata. We also subtracted households in the RDD frames from the excluded exchanges previously mentioned (exchanges 75 percent or higher in ethnic minority incidence and estimated to be less than 1 percent Jewish):

Strata	Total	Baltimore City	Baltimore County	Carroll County
Fed List TOTAL	28,339	7,825	20,081	433
Fed List Landline	27,962	7,721	19,814	427
Fed List Cell	377	104	267	6
DJN	8,597	2,884	4,749	964
Listed RDD	344,346	123,900	188,725	43,309
Listed RDD TOTAL	375,186	120,990	209,603	44,593
Unlisted RDD	84,672	28,738	41,309	3,037
Cell Only	128,751	62,614	58,622	7,515
TOTAL	594,705	225,961	313,486	55,258
CPO NHIS	21.6%	27.7%	18.7%	13.6%

In total, with all exchanges:

Strata	Total	Baltimore City	Baltimore County	Carroll County
Fed List TOTAL	28,339	7,825	20,081	433
Fed List Landline	27,962	7,721	19,814	427
Fed List Cell	377	104	267	6
DJN	8,597	2,884	4,749	964
Listed RDD	357,249	123,516	190,424	43,309
Listed RDD TOTAL	388,089	132,194	211,302	44,593
Unlisted RDD	91,023	45,680	42,306	3,037
Cell Only	135,718	68,961	59,242	7,515
TOTAL	620,926	248,866	316,802	55,258

1. Development of Sample Counts, Strata by County. To be able to weight the data to the universal household counts, at its very core, is a simple re-balancing procedure where the percent of sample is made to weight to the percent of the universe in the table above. This of course meant attaining the identical table in the sample. A number of steps were required to attain this “apples-to-apples” table of strata by county.

First, county had to be attained for the entire screening dataset. We used the respondent-provided county data from the questionnaire where possible, and then filled in missing data with county as it was provided by MSG in their sample feeds. However, county is not provided for cell phone sample, and therefore, we analyzed cell phone exchanges by geography and affixed their most probable county, again only if county was missing data from the questionnaire. Cell phone records whose most-probable county was out of the Greater Baltimore area were imputed at random based on the frequency of sample for which we already had county data.

Second, as with the universe counts, the sample attained from the RDD cell phone strata had to be sequestered to other strata if the data showed such a record to be a dual-use household. In other words, the RDD Cell Phone frame needed to be converted to a CPO frame. Again, data was attained from the questionnaire as to respondent's dual-use. These data were analyzed to attain the average percent CPO by Jewish/non-Jewish household status and county. Data were then imputed to missing cases based on this analysis.

To move the dual users in the Cell Phone RDD frame to other frames, we asked respondents who also owned a landline phone for their landline phone number. Those that provided a phone number were cross-matched to the other frames and moved to whichever frame that phone number resided. Non-responders were imputed into a frame based on the frequency of response from responders.

The sample table for strata by county is as follows:

Households With Corrected Fed List Redistribution	Total	Baltimore City	Baltimore County	Carroll County
Fed List Landline	1413	367	1020	26
Fed List Cell	111	46	64	1
DJN	243	85	129	29
Listed RDD	5803	1780	3335	688
Unlisted RDD	1585	640	817	128
Cell Only	777	419	313	45
TOTAL	9932	3337	5678	917

Once sample universe and sample counts, county and final strata, were attained, the formal weighting procedure could commence:

1. Correction for probability of telephone selection. (i) each case was given a weight equal to the number of phones they answer (t), capped at three, meaning this could range from one to three; (ii) each case was given a weight representing the likelihood of selection within their sampling frame ($f = n_{\text{sample}}/N_{\text{frame}}$); (iii) the likelihood that numbers in the sampling frame are eligible, as defined by being in the three-county area (r). The weight for probability of selection correction was calculated as: $B_i = (f_i * t_i * r_i)^{-1}$. This weight was utilized only in frames where respondents would be reached by multiple phones, namely the RDD frames.

2. Correction for probability of Jewish Listed selection. (i) each case in the Jewish Listed frame was given a weight equal to the probability of being selected, since Jewish Listed cell phones were oversampled at a fraction of 0.3426 while Jewish Listed landlines were sampled at a fraction of 0.0638. This weight was then balanced and all other cases (sample other than Jewish Listed sample) received a weight of 1.0.

3. Non-response (Household) correction. In order to correct for the possibility that survey nonresponse was correlated with any variable of interest, and to attain accurate household counts for demography, we employed a weighting class correction applying the two variables known for all sample members and the population, as discussed earlier in this report: county and sampling frame. This was accomplished by calculating the population household percentage for each of the 36 county-by-frame cells and then dividing, in each cell, the cell percentage in the known household population by the cell percentage in the sample. The ratio between the population cell percentage and the weighted sample cell percentage produced the primary household weight.

4. Composite household baseweight. The final composite household base weight is a product of the three corrections noted above: phone, Jewish Listed selection, and non-response. This product is then trimmed again the match total households in strata by county in the sample, including households within 75 percent ethnic minority, less than one percent Jewish telephone exchanges.

5. Weighting to known household population size. The final composite household base weight was multiplied by the number of adults in each household to attain a final composite adults baseweight that could be utilized in post-stratification.

6. Post-stratification correction. Post-stratification weighting was conducted in order to correct for biases in response patterns across various demographic groups, allowing the demographic breakdown of the final data to approximate the breakdown in the target population. For the Greater Baltimore Jewish Population Survey, the total sample for which religious information was available was adjusted by gender, adults in household, education, county, and age to match the population parameters for the three-county area on the basis of the U.S. Census Bureau's American Community Survey, 2008.

Because of the expense of administering questions to the large sample of non-Jewish households attained in the survey, we administered the post-stratification demographic questions to only a random selection of non-Jewish households. In addition, since the data would only ultimately apply to completed Jewish interviews, all interviews with Jewish households that did not result in a completed interview were discarded for the post-stratification. As such, the post-stratification procedure included 1,213 of 1,532 total Jewish screener interviews and 937 of 8,400 non-Jewish screener interviews. These sampling fractions (0.792 for Jewish households and 0.115 for non-Jewish households) were computed into an "In the Estimate" correction, which was multiplied by the final composite adults base weight, which was then used as a base weight in the post-stratification procedure.

This sample was then weighted using a raking method, an iterative process of adjusting sample to known percentages along certain parameters (in this case, gender, home ownership, education, county and age), while applying a base weight to correct for the selection process.

7. Final Weights. The final post-stratified weight was then divided into the number of adults to again produce weights at the household level. This post-stratified household weight was then rebalanced one more time to account for the known universe estimates of strata by county. A final population weight was derived from re-multiplying this final household weight by the number of adults in the household.

The unweighted margin of error based on Jewish and non-Jewish screener completes (n=9,932) is $\pm 0.41\%$. The confidence interval for the Jewish household estimate is 42,500 \pm 2,545 (approximately 40,000 to 45,000), with 42,500 as the most likely Jewish household total. The unweighted margin of error for survey completes (at the 95% confidence level) for a sample size of 1,213 is $\pm 2.80\%$. Including the overall design effect, the sampling error for the survey is estimated to be $\pm 6.5\%$ for the full sample after post-stratification ($\pm 5.3\%$ prior to post-stratification). For smaller sub-populations, Appendix Table 1, Page 21 summarizes approximate "sampling error" based upon the number of interviews and the marginal responses for the relevant variable. For example, if there are approximately 400 interviews completed in Pikesville and 41% say that they belong/pay dues to a synagogue, the survey margin of error is 41% $\pm 11\%$.

Applying the weights:

In addition to producing the population estimates, the household or person weight should be used when analyzing the data to assure the data are more representative than the raw counts. We should note that the two weights represent a somewhat different population. Using the household weight produces estimates of the distribution of responses among Jewish households (e.g., what percentage of Jewish households keep kosher), while the post-stratified person weight produces estimates for the percentages of adults living in Jewish households (e.g., what percentage of adults, living in Jewish households, reside in households that keep kosher).

IV. Response Rate

The response rate for this study was calculated to be 45.8% using AAPOR's RR3 formula.

Following is a full disposition of the sample selected for this survey:

Disposition	FED LIST	FED LIST CELL	DJN	RDD Pub.	RDD Unpub.	RDD CELL	Total
<i>Eligible, interview (Category 1)</i>							
Complete	906	65	49	103	39	51	1213
<i>Eligible, non-interview (Category 2)</i>							
Refusal	48	1	3	15	9	15	91
Break off	99	7	4	31	12	16	169
Other eligible, non-interview	8	4	0	6	0	8	26
<i>Unknown eligibility, no interview (Category 3)</i>							
Always busy	3	0	3	66	182	0	254
No answer	812	38	267	4,581	6,233	4,040	15,971
Call blocking	33	68	3	984	72	3,818	4,978
Refusal - Unknown eligibility	406	82	114	2,586	749	3,385	7,322
No screener completed	56	0	2	186	38	198	480
<i>Not eligible (Category 4)</i>							
Language Barrier	0	0	0	0	0	0	0
Fax/data line	238	5	49	1,117	3,270	41	4,720
Non-working number	828	22	144	1,133	33,618	5,015	40,760
Special technological circumstances	0	0	0	0	0	0	0
Non-residence	126	17	32	246	4,001	753	5,175
No eligible respondent	345	66	195	4354	1,500	4,584	11,044
Other	0	0	0	0	0	0	0
<i>Total Jewish ID</i>	1,111	82	59	163	72	100	1,587
<i>Total Non-Jewish ID</i>	323	34	187	4,286	1,445	2,046	8,321
<i>Not Identified</i>	6	0	5	16	11	9	47
<i>Cooperation Rate 3</i>	86.04%	89.04%	87.50%	69.13%	65.00%	62.20%	82.35%
<i>Response Rate 3</i>	52.3%	41.4%	47.0%	31.2%	42.4%	26.8%	45.8%

$$RR3 = \frac{\text{Cat 1}}{(\text{Cat 1}) + (\text{Cat 2}) + e(\text{Cat 3})}$$

Response Rate 3 (RR3) estimates what proportion of cases of unknown eligibility is actually eligible. In estimating e, one must be guided by the best available scientific information on what share eligible cases make up among the unknown cases and one must not select a proportion in order to boost the response rate. The AAPOR calculator utilizes proportional representation, which is the number of eligible cases found during the survey divided by the total number of eligible and ineligible cases (cat 1 & 2 / cat 1, 2 and 4).

Appendix 1

Margins of Error Table Estimates and Sample Size

Sample Size	50%/50%	40%/60%	20%/80%	10%/90%
Full Sample	6.5%	6.3%	5.2%	3.9%
1,000	7.1%	7.0%	5.7%	4.3%
750	8.2%	8.1%	6.6%	4.9%
500	10.1%	9.9%	8.1%	6.1%
400	11.3%	11.1%	9.0%	6.8%